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Original Articles.

THE ESSENTIAL NATURE OF CROUPOUS PNEUMONIA.

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THE study of pneumonia, which has been prosecuted with so much energy ever since the dawn of pathology as a science, failed until recent years to suggest any other conception of the disease than that of an inflammation of the lung, with its accompanying inflammatory fever. Here and there, it is true, the idea has been expressed that the fever is the primary affection, and that the lung changes bear some such relation to it as the rash of scarlatina, for example, bears to the fever that attends it. The term "lung fever" is a survival of this view. It has even been maintained that the process is essentially a form of erysipelas, modified by the peculiar structure in which it has its seat; and, again, that it is a herpes zoster of the lung, having a nervous origin.

But these suggestions found little encouragement, and the weight of authority remained in favor of regarding the disease in precisely the same light as an inflammation would be regarded in any other part of the body. So recently as 1866, the late Dr. Flint, in his work on the "Practice of Medicine," adopted the term pneumonitis, "in conformity with the plan of distinguishing inflammatory affections by the suffix itis."

Bacteriological investigation during the past few years has resulted in the general concession that pneumonia is of microbic origin, and the special organism has been recognized and isolated. But it is held that the rôle of the microbe is to set up a local process that is still regarded as an inflammation.

However, the moment we consider inflammation as having its seat in the lung, we are confronted by the fact that here is a condition not found elsewhere in the body (unless approximately in the liver); viz., a double circulation, one nutrient and the other functional. All our ideas of inflammation in general cluster about the circulation by which the part is nourished. To be identical, therefore, with the inflammatory process as elsewhere observed, pneumonia should interest primarily the nutrient blood supply which is derived from the bronchial arteries. We should find the walls of the air-cells swollen, infiltrated, broken down in places. In fact, in view of the intensity of the local process and the massive exudate by which it is characterized, we should expect very serious damage to the delicate structures involved. Yet the truth is that after a few days the exudate disappears and we find the cell walls completely intact. It seems, therefore, that the process must have to do chiefly with the functional blood supply, and that the exudation takes place from the pulmonary capillaries, while, the nutrient circulation remaining undisturbed, the integrity of the structure is preserved.

In this view the process could be called inflammation only by courtesy. The air-cells are filled with an adventitious substance under circumstances that favor irritation, and there is more or less loss of epithelium from their walls: but this is secondary and incidental. There is no such profound lesion of the intervesicular structures as would explain the local and general results.

The discovery of the pneumococcus has enabled us to say that pneumonia is an infectious disease, depending upon the action of this organism. This is a great advance, but it still leaves the questions open: How does the micrococcus bring about the local and general conditions? How does it find its way to the lung, and when it gets there how does it act? There is a hiatus here which I hope the discussion of this evening will do something toward filling up. Indeed, it is the chief object of this paper to draw out the views of those present upon these points, and to see if there cannot be framed a theory that will correspond with the known facts and afford a connected view of the successive steps in the pathological process.

There are only three channels by which the microorganism might reach the seat of its activity in the lung. These are the blood-vessels, the lymphatics, and the air passages. With regard to the first of these, it has been amply demonstrated that the pneumococcus may find its way into the blood-vessels, and may set up a peculiar action in localities that are shut out from all communication with the exterior of the body. Thus, it is sometimes found in the fluid of pericarditis and in the pus of meningitis, the lung not being at all implicated. We must therefore concede the possibility of its reaching the lung in this way; but is this the usual route? Against this supposition is the fact that in the vast majority of cases of pneumonia the local infection is strictly limited to the lungs, although, as we have seen above, the organism is capable of attacking other structures. Moreover, if we admit a selective action on the part of the lungs, whereby the coccus is attracted, as it were, to the pulmonary structure (as the gonococcus, for example, is to certain localities), we still have to account for the fact that, as a rule, the morbid process begins in a single focus in the lung and spreads from that as a centre, instead of attacking different places in the lungs, as it would be likely to do if the organisms were floating in the blood. When we add to this what the researches of Kanthack[1] prove—that, if in a case of pneumonia the pneumococci are found in the blood and can be cultivated from it, the prognosis is bad; while under usual conditions so large a proportion of cases of pneumonia terminate favorably—we have a strong probability, to say the least, that the blood-vessels are not the usual channel of infection.

As to the lymphatics, the same reasoning holds good, and, in addition, we have the extreme improbability that the organisms could pass the barrier of the lymphatic glands.

This brings us to the air passages as the most likely channel of infection. The provision of nature for preventing access of foreign material to the air cells is so complete that they are very seldom invaded by even

[1] London Lancet, 1896, p. 293.

the finest particles that are carried in the atmosphere. Doubtless this provision is operative to a very great extent in protecting the lungs from the ingress of pathogenic germs. These may appear in the mouth and pharynx, where the epithelium is of the pavement variety; but when they reach the point where the ciliated epithelium begins, the outward movement imparted by the action of the cilia opposes their further progress. But for this we should find all manner of germs disseminated over the whole extent of the respiratory tract, instead of being confined to the regions above the glottis.

But this protection is not absolute at the best, and is liable to be impaired by any cause that affects the bronchial mucous membrane. Thus the efficiency of the ciliary movement is lessened during the early dry stage of a common cold and in bronchial catarrh. But in any case there is no difficulty in admitting that micrococci existing in the upper air passages may, under favoring conditions, find a way open to the alveoli through the respiratory passages. This being so, and the pneumococcus being widely disseminated in the mouths of healthy persons and presumably in dried sputa outside the body, the access of such organisms to the air cells through the respiratory passages is a condition of infection which may be supplied at any moment.

As a corroborative of this view of the mode of access of the infecting germ, it is interesting to observe that as in two-thirds of the cases foreign bodies passing down the trachea find their way into the right bronchus, owing to its greater width, so we find in practice a very considerable preponderance of right-sided pneumonias, the result probably of the same anatomical condition by which germs on reaching the bifurcation in their passage downward are influenced to pass into the right bronchus rather than the left.

Passing now more into the region of theory, the following seems to me the probable course of events after a germ has become lodged in an air vesicle. First of all, the intruder excites a degree of irritation that involves the adjacent capillaries, separated as they are from the interior of the air cells by only the most delicate of structures. The result of this irritation is an exudation into the cell. Possibly the fact that the blood supplied to the pulmonary capillaries is venous instead of arterial may have something to do with this. The germ now finds itself immersed in a fluid most admirably fitted to act as a culture medium, and the temperature and the conditions generally are precisely those most favorable for its multiplication. Just what is observed in artificial cultivations outside of the body occurs in the air cell, and we soon have the cell filled up with exudate and the exudate swarming with pneumococci. The overflow from one cell starts the process in adjacent cells; a lobule filled with exudate overflows into the bronchiole leading to another lobule, and so on until an entire lobe becomes involved.

Meanwhile, just as in the artificial culture, a toxin is being formed, and as rapidly as it is produced it is taken into the circulation. Here again the anatomical conditions favor the morbid process. No arrangement that can be conceived would be more perfectly adapted to the rapid absorption of the poison. The transfer of this material into the blood produces the familiar symptoms of infection—the chill, the rise of temperature, the nervous shock. So long as fresh supplies of toxin are being formed, or, in other words, so long as the consolidation is spreading, so long the toxæmia will be maintained. But here again, as in artificial cultures, there is a limit beyond which the process cannot extend. A given quantity of a culture medium can maintain the life of a given number of germs only for a certain time. Beyond that time the changes produced in the medium render it unfit as a soil for the further growth of the organism, and the death of the latter puts an end to the process. With the supply of toxin cut off, the temperature falls. If the invasion has been regular and rapid, coming to an abrupt termination with the complete consolidation of the lobe, the supply of toxin will cease abruptly, and we shall have defervescence by crisis. If, on the other hand, the effusion into the air cells has been gradual and the process of consolidation slowly carried forward, the supply of toxin will continue in one part while it fails in another, the process will be prolonged, and the defervescence will be by lysis.

This does not exclude the theory of the production of an antitoxin. Indeed, numerous observations, and especially those of the Klemperer brothers, of Munich, go to show that a transient immunity is created by an attack of pneumonia, and that this immunity may be transferred to another subject by serum inoculation. This could scarcely be explained except on the theory of an antitoxin, and I can see no obstacle to accepting both theories in explanation of the clinical phenomena in question. In other words, the defervescence may be the result of two causes—the failure of the supply of toxin and the action of an antitoxin.

It will be urged against this view of what takes place in the pneumonic lung that there is no necessary relation between the amount of lung involved and the degree of toxæmia. This is emphatically true as a simple proposition; but in this, as in all other forms of toxic infection, different persons show remarkable differences in susceptibility to the poison, and at the same time the poison itself varies extremely in virulence. To this we may add that in all probability there are comparatively few cases in which a single form of organism is responsible for the affection, most exhibiting two or more varieties of micrococci with differing infective energy. Furthermore, accepting the theory of an antitoxin, the period at which the formation of this substance begins in a given case and the rate at which it progresses become at once factors in determining the general condition of the patient at a given time. Keeping these points in view, we may safely say that, other things being equal, the systemic impression will be closely proportioned to the extent of the local invasion.

Occasionally in the progress of a pneumonia gangrene of a portion of the lung takes place. We may assume that in these cases a branch of the bronchial artery becomes involved in the process, thus shutting off the nutrient circulation from the corresponding area of lung tissue. That this does not occur more frequently shows how passive is the rôle played by the pulmonary parenchyma. A process of less intensity involving the nutrient vessels would account for the permanent changes which are found in chronic pneumonia, which is a true inflammation of the lung.

Suppuration with the formation of abscesses in the lung tissue is now and again observed. This is probably due to a mixed infection, in which other pathogenic germs take part with the diplococcus and produce a more intense degree of local irritation.

The evolution of new germs having ceased, and the system having recovered in a measure from the depression of the toxæmia, the process of removal of the exudate from the air cells begins. This is accomplished chiefly by absorption. In the course of a few days, if all goes well, the cell is entirely relieved of its contents, its walls remaining intact and ready for an immediate resumption of function.

The sum of the argument, finally, is that from its peculiar construction the lung is enabled to afford a field for bacterial culture and to supply a culture medium, and this without calling upon its own nutritive resources or directly compromising its own tissues. It

is the fact that in the lung there are empty spaces accessible to bacteria, and separated from an unlimited blood supply by only the thinnest and most permeable wall, that makes the phenomena of pneumonia possible. It is the further fact that the framework between these spaces has its own separate blood supply apart from the vessels involved in the pneumonia process that prevents a sweeping destruction of lung tissue.

In rare instances in the course of pneumonia there is a simultaneous infection of a number of serous or synovial membranes. Such a case was the subject of editorial comment in the New York MEDICAL RECORD for September 5, 1896. In this example there was effusion into the pericardium, into both pleura, into the peritoneum, into the knee-joints. The fluid in each of these situations was found to contain an abundance of pneumococci. In seeking for an explanation of such general infection, we should need to go no further than to assume a destructive process, however limited, by which the interior of an air cell should be made to communicate with an adjacent vessel, thus throwing the contents of the cell, teeming with bacteria, into the general current of the circulation.

In conclusion, I grant that much of what I have said is of the nature of pure speculation. The evidence is mostly circumstantial. To what extent it will bear examination will, I hope, be determined by the discussion that is to follow.

Should the theory be sustained, if only in outline, it would follow that the most natural direction for therapeutic effort would be that of attempting to render the exudate inimical to the development of micrococci.

This might be effected by acting through the blood, but better and more directly by inhalations. Stipp, Theodore Clemens,[1] and others have reported very remarkable successes from inhalations of chloroform. It is true that these were employed with a view to the sedative and anodyne effects, but insomuch as chloroform is a very efficient germicide (a small fraction of one per cent. being sufficient to sterilize a culture medium), it may well be that the hastening of the crisis so generally observed was due to this action rather than to the one the observers had in view. If given before the air cells were completely occluded, the chloroform would come into immediate contact with the exudate, and sterilization of the latter and arrest of germ development would result.

In the single instance in which I have employed this treatment, defervescence took place on the fourth day, forty hours after the inhalations were begun. The patient was a lady, seventy-five years of age, and the pneumonia occupied the lower half of the left lung. The chloroform was diluted with half its bulk of alcohol, and was given for ten minutes of each hour. So much air was admitted that the patient experienced nothing more than a decided drowsiness during the inhalations and lasting for a few minutes afterward.

Possibly other agents of a character to be inhaled might be substituted for chloroform with advantage, but thus far this has been the only agent employed.

As, according to Sternberg, the pneumococcus lanceolatus will not grow in a medium that contains the slightest trace of a free acid, it may be that the addition of a volatile acid—such, for example, as acetic—in quantity not sufficient to be irritating, would add to the efficiency of the inhalation.

Intracranial Lesions of otic origin are diagnosticated in only two-thirds of the cases, according to post-mortem statistics gathered by Weichselbaum in Vienna, and based upon over forty thousand autopsies. Four and one-half per cent. of deaths were found to be due to this cerebral affection.

[1] Allg. med. Central-Zeitung, Berlin, 1859.

THE SURGICAL TREATMENT OF TUBERCULOSIS.[1]

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MANY years before the discovery of the tubercle bacillus, scientific men had come to the conclusion that tuberculosis was not a uniformly incurable disease. Cicatrices and calcified foci were found in the lungs post mortem in subjects dead from other diseases, while enlarged and "scrofulous" lymph nodes, with or without suppuration, as well as joints affected with "white swelling," were frequently cured under general treatment directed to body nutrition, together with local measures whose object was rest to the diseased part. The treatment was empirical, but was based upon common sense. The knife was resorted to when abscesses were pointing. When a joint was pretty well disintegrated, some of the bolder surgeons performed resections, which frequently were unsuccessful and were followed by amputations. Operations for bone inflammation when abscesses had not formed must have been rare.

Following the wonderful discovery of Koch, numerous investigators found that a large percentage of lymph-node joint and bone disease was in reality local tuberculosis, while there was scarcely any tissue of the body which might not be the seat of the infection. The clinical recognition of the trouble became more and more a matter of certainty, and our efforts to eradicate the morbid process grew more effective, because they were undertaken with a fuller knowledge of what was to be achieved.

At the present time it is safe to say that tuberculosis is amenable to treatment in direct ratio to our ability to attack it locally. Thus, tuberculosis of the lungs is much more difficult to cure than tuberculosis of the knee-joint, while tuberculous meningitis is an almost hopeless condition. In this respect the disease differs widely from another disorder, the lesions of which often resemble it. I refer to syphilis, the manifestations of which, though often favorably influenced by local treatment, are almost uniformly helped by systemic medication.

The local treatment of tuberculosis must depend largely upon the tissue involved and its accessibility. The methods advocated in this paper are those which in my own experience have led to success. For the most part they are not original, though their application in some cases may be so called. I shall say a few words on the treatment of tuberculosis of skin, bone, joint, kidney, and pleura.

In tuberculous skin disease, whether it be lupus or some other form of ulceration, we have the malady in an easily accessible region. Unless a deforming scar is feared, a wide excision or a thorough and, if necessary, repeated burning with the thermo-cautery will usually stamp out the trouble. Should the disease show itself in the skin of the face, it is well to test non-deforming measures for a short time before resorting to such radical treatment. I have found that it is possible to secure perfect healing with minimal cicatrization, when the ulcers are not too large, by the following means: The diseased parts are to be enveloped for twenty-four hours in a soaking wet dressing of some bland fluid, a weak aluminium acetate lotion being my favorite. At the end of this period the skin is carefully cleansed with ether, and then a solution of iodoform in contractile collodion is painted upon the diseased area. More collodion mixture should be applied daily for several days, according to the progress of the case. If improvement ceases or retention of discharge under a crust is present, then another wet

[1] Read November 28, 1896, before the Howard Medical Society of New York.

dressing must be applied for a day, when the iodoformized-collodion treatment is to be continued. I look upon it as very important that the collodion should be unmixed with castor oil, and that its contractile qualities should be most pronounced, so as to blanch the skin. The treatment succeeds partly by reason of the iodoform, and partly because the minute crypts and tracts of ulceration are closed by their own walls, which are pressed together by the contractile film and no longer invite retention.

Tuberculosis of bone must be differentiated principally from neoplasm and from syphilis. The evening temperature and the existence of marked pain and tenderness, besides the history of the case, will usually exclude neoplasm; but it is not always possible before operation to exclude syphilitic osteitis with suppuration at the centre.

To read an exhaustive paper on the treatment of bone and joint tuberculosis would occupy the time of many meetings of our society. I shall therefore confine myself to a few points.

Just as in consumption of the lungs there is first a period of hyperæmia, then consolidation, and, finally, necrosis and ulceration, so in tuberculous osteomyelitis we have an analogous process terminating in necrosis and abscess. Again, as in lung tissue, so also in bone tissue, the process may be checked before pus formation. The disease then will exist as an inactive focus, which may for a long time cause no pain and no inconvenience. This spot of disease may, however, become active upon slight provocation, and tissue destruction may then progress with great rapidity. Our treatment must, therefore, be carried out according to the location of the trouble with regard to surrounding important structures. Tuberculosis in the shaft of a bone may often be treated for a long time by rest and the local application of cold, in the hope that the process may become dormant; while if we know that there is active bone disease near a joint which is as yet unaffected, the indication is for surgical interference before the joint becomes diseased. When the process in such instances is confined accurately to isolated foci, they may be removed entire, only healthy tissue remaining. It has repeatedly been my fortune to prevent by operations of this kind the danger of joint involvement, just as one may prevent peritonitis by the early removal of an inflamed but non-perforated vermiform appendix. Indeed, I have operated in such cases when the focus was in such a location as to make an accidental opening of the joint during the operation unavoidable. An iodoformized gauze plug sealed this opening, however, and was kept in place till granulation of the wound was well established, the articulation escaping involvement.

When infection commences in the synovial membrane of a joint, there is first a pouring out of fluid, which fills the sac more or less tensely. If this fluid is non-purulent, a speedy cure, which may remain permanent, may sometimes be effected by antiseptic irrigation with a five-per-cent. carbolic solution, afterward in its turn washed away with normal salt solution. For this purpose two sterile cannulæ are inserted into the joint, the liquid running in at one and out at the other. The little operation must be performed with scrupulous care, however, because of danger from sepsis, and also because carbolic acid left in the joint may, particularly in children, give rise to constitutional symptoms.

When a joint is destroyed so that it function is permanently gone, resection of the bones, with thorough clearing away of diseased capsule, usually gives promise of a useful limb. This is more necessary when there is evidence that tuberculous bone cavities are in direct connection with the joint.

I do not mean to be too sweeping in advising the excision of joints, because it is well known that mechanical treatment, which usually means local rest by means of apparatus, will often accomplish much. I would like, however, to say a word in particular on excision of the knee for tuberculosis in adults, because I believe that this operation is not performed often enough.

Frequently it happens that the patient himself, preferring anything to a surgical operation, will for years nurse a limb which is a constant menace to his life. Such a knee will be partly serviceable for a few weeks at a time, when, owing to a slight blow or an overstrain, the disease lights up afresh and the patient goes to bed or makes use of a splint and crutch. The general health suffers, and even on the good days the thermometer shows elevation of temperature. The only thing to hope for in such cases is a stiffening of the joint, and it is true that proper fixation will often accomplish this result. If, however, there is ever so little motion, the cure is not complete, while the danger of an awakening of the dormant tuberculosis by a slight blow or other injury is ever present. A patient with such a knee is truly an invalid, being able to walk but a short distance at a time, in constant fear of injury, and acquiring the characteristic tuberculous pale and waxy look. To such a one excision will prove the greatest of blessings. Usually within three months from the time of operation he will be able to walk comfortably, and, confidence being restored, exercise becomes once more a pleasure. The color returns to his cheeks, the entire expression changes, and life is again worth living. I have found this class of patients more grateful than any others—even those who have gone through a life-saving operation for acute disease, because they are rescued from a life of suffering and are made healthy, while the robust man who is suddenly stricken with a life-threatening ailment often enough chafes at the necessary restraint and the possible deformity following his recovery.

When the kidney is the seat of tuberculosis, it should be treated largely according to the type of disease present. If there is perinephritic abscess, evacuation of the pus sac is in order. When we have true kidney abscess with or without stone, it is far safer to get rid of the offending organ, unless our patient has the misfortune to suffer from bilateral disease. When there is no abscess, but bloody urine with pus and bacilli, the case may be not so hopeless, for it shows that the site of disease is washed by the urine, the ulceration being, as it were, superficial. I have treated one man, thirty-six years old, who had long-continued hæmaturia with enormous numbers of tubercle bacilli, and both of these signs disappeared completely after a rather long-continued course of diuresis by the ingestion of water. This man disappeared from my observation after about three months' treatment with Klebs' tuberculocidin, and I afterward learned that he had gone to a hospital, where operation was proposed and was by him refused. Three years later, when I had long looked upon him as dead and buried, he walked into my office apparently well, merely to show himself. I examined him with interest, and took a specimen of his urine, which was normal. Careful examination failed to disclose the presence of bacilli.

I shall conclude with the brief report of a case of pyothorax, which came under my observation on November 2, 1892. I was called in consultation by the patient's physician to see J. H——, a little girl, four years old, whose right chest was full of pus. The subjective symptoms had been slight and the temperature not high, the existence of the disease having been revealed in the routine examination. The next day we operated, making the incision well down and slightly back of the post-axillary line. No rib resection was done. The cavity was washed out with five-

per-cent. carbolic, then with plenty of Thiersch's solution, and two rubber tubes were inserted. A very thick dressing was applied, after we had by experiment determined in which position of the child's body the Thiersch's solution injected would best run out. It was my advice to adopt in this case the method of Koenig, not to wash out again but to leave the original dressing in place as long as possible, placing the child in the position to aid drainage, as determined at the operation, for several minutes once every hour. The treatment was well carried out, and no change of dressing was made for six days. In ten days more the child was perfectly well, and the wound had closed permanently.

I examined a specimen of the pus, by boiling it with a sodium-hydrate solution and concentrating the sediment. It contained many tubercle bacilli. The brilliant result can be explained by supposing that a fairly complete disinfection took place at the operation, and that the lung expanded so quickly and completely as to leave but little space for stagnating pus. The drainage by gravity, according to Koenig, and the abstinence from irrigation after the day of operation, I consider of importance.

It is probable that, as our science advances, more and more remote portions of the body will become accessible for the employment of local remedial measures, and until a specific shall be discovered which will be to tuberculosis what mercury is to syphilis, it is perhaps well to work with the rule in mind, which I may be pardoned for repeating: Tuberculosis is amenable to treatment in direct proportion to the accessibility of the part involved.

LENTICULAR MYOPIA AS A CAUSE OF SO-CALLED "SECOND SIGHT."

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A GREAT deal more is said among the laity than in the profession about the ability of old people to read without glasses. The reasons for this are not far to seek. Very many of the people who are able to read fine type in old age without glasses are simply short-sighted. The myopia, although it may have existed from a very early age, is not generally recognized by those who speak of their ability to see without glasses, and who think that their sight is rather better than the ordinary, because such persons are generally able to go about, see large objects, and even recognize faces at some distance, without glasses. They do not have a high degree of myopia. This apparent wonder is, therefore, not one to ophthalmologists, and no serious consideration is usually given it. Those who have not given optical defects any careful consideration, even if they be physicians or surgeons, may not know that a myope who requires, say, a glass of six or eight inches focal power to see objects well at a distance must necessarily, even in advanced age, be able to read fine type at six or eight inches from the eye, because the antero-posterior diameter of the eye is adapted to the divergent rays that proceed from near objects, and because this abnormal length more than balances the effects of time on the muscle of accommodation and the crystalline lens, which practically shorten the eye and cause presbyopia, with its necessity for convex glasses. But there is quite a number of cases, not myopic originally, in which the patient after middle life discards the ordinary glasses for presbyopia, and reads for years without glasses. Lenticular myopia occurs in such eyes: that is to say, the lens becomes elongated by swelling. This swelling, however, if it simply produce capacity to read fine type without glasses, is not attended with opacity: cataract does not occur, although, as is well known, all opaque lenses become increased in refractive power. The condition now spoken of is, so to speak, an abortive cataract, a swelling of the lens without opacity.

Since very few of these cases have been carefully observed, or, at least, since they have not been reported before the transition period or afterward, I publish the following, which illustrates what happens in all cases of this class:

Hyperopia, Presbyopia; Hyperopia becomes Myopia, with Ability to Read Fine Type without Glasses.—Sarah X—— consulted me on April 29, 1878, with reference to glasses. She was rather a delicate woman, of forty-one years of age. Her eyes were watery. She had worn glasses for reading for three years.

Vision was $\frac{2}{10}$ in the right eye, $\frac{2}{10}$ — in the left eye. With a glass of $+\frac{1}{36}$, the vision became $\frac{2}{20}$ in each eye, and with a convex glass of ten inches focal distance she could read No. 1 Jaeger at eight inches. These glasses did very well for eight years, when she again consulted me. She was then able to read No. 1 Jaeger at eight and three-fourth inches with her glasses. A glass of + 4 diopters was ordered, with which she could read No. 1 Jaeger at eight inches and ordinary type easily. No change was made in the glasses for looking at a distance, which were still serving her well.

On October 19, 1896, the patient again came under my observation. She said she had not used glasses for reading for more than a year, because she could read very easily without them. The vision in the right eye was $\frac{2}{15}$. With — 2 diopters it became $\frac{2}{30}$. In the left eye her vision was $\frac{2}{20}$, and with a — 3 diopter it became $\frac{2}{40}$. She had but half a diopter of corneal astigmatism, with the rule. With + 2 diopters she could read No. 1 Jaeger at eight inches with the right eye, being an increase in the refractive power of exactly that, as it was a glass of 4 diopters that she formerly used for reading. With the left eye she could read No. 1 Jaeger fluently at eight inches with no glass, and ordinary type very easily.

The ophthalmoscope showed absolutely no lesion—the lenses were clear, the retina was sound. It is reported as a case of lenticular myopia, occurring after middle life, producing ability to read without glasses. It is a fair type of quite a proportion of cases of second sight, although, as was said in the beginning, most old people who are able to read fine print without convex glasses are usually myopic, and have acquired no new capacity by the advance of age. Their congenital or early acquired myopia, due, not to swelling of the lens, but to a lengthening of the whole eyeball, balances the flattening of the eye (lessened refraction), known as presbyopia.

Metastasis of Carcinoma of the Uterus to the Vagina by Inoculation.—Niebergall (*Archiv für Gynäkologie*, B. liii., H. 3, p. 491) makes an interesting addition to a previous report of a case presenting carcinoma, sarcoma, fibroma, and mucous polypus of the uterus. Total extirpation had been practised on account of carcinoma of the uterus, from which a sarcoma had already been spontaneously expelled. The patient was subsequently quite well for more than a year and gained considerably in weight and strength. At the end of this time increased vaginal secretion and burning micturition were noticed. Examination now showed, at a point within the vagina where the margin of the speculum had rested in the former operation, a small ulcer, which after excision with the thermo-cautery proved to be a carcinoma of the same character as that which had been present in the uterus.

MALIGNANT ENDOPERICARDITIS, WITH RECOVERY.

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MEDICAL literature contains a few well-authenticated cases of recovery from malignant endocarditis and to this brief array the writer wishes to add one more, as he believes, well-attested case, which was in addition a pericarditis and a myocarditis.

"From an anatomical point of view recovery is not impossible," Rosenstein[1] wrote twenty years ago, "especially when the process has not gone beyond the first stages. And even if an ulcer do form, it may heal to a scar and recovery thus set in, if general infection was not the result or the origin of the endocardial disease. As a matter of fact, however, there is no case of recovery on record, and after the diagnosis has been once firmly established the prognosis must be regarded as extremely unfavorable." Rosenbach[2] points out that the dangers are not determined by the presence of the bacteria or the fact that the ulcerations have attacked the valves, but by the circumstance of the patient being a pyæmic subject. He goes on to cite the reported cases of recovery, but believes these to have been mistaken diagnoses.

Probably no differential diagnosis the practitioner is called upon to make is fraught with more difficulty than certain of these cardiac cases. Many run their fatal courses without presenting any discoverable physical signs, and it is left to the necropsy to prove the existence of the typical pathological conditions.

Then, again, when the cardiac signs are present and the patient is in an apparently septic condition, is this condition one of true sepsis? What might be mistaken for a septic condition engrafted upon a simple endocarditis or even an endopericarditis? There might, for example, exist a coincidence of intercurrent inflammations of the lungs or serous membranes, typhoid fever, or, more commonly still, malaria. There is also the possibility of a simple endocarditis being complicated by some distant focus of suppuration giving rise to the septic condition in a case presenting all the typical physical signs and the constitutional symptoms of a malignant endocarditis.

The diseases which often perplexingly resemble the condition under consideration are typhoid fever and malaria. The fact of the various forms of onset led Brunton[3] to classify them according to type into cardiac, typhoid, pyæmic, and aguish. Bristowe[4] has reported a case in which there was a gradual onset for several weeks with an intermittent fever, which closely resembled and was mistaken for malaria. This terminated fatally. The classical form of the disease, with its abrupt onset, extreme prostration, remittent or intermittent fever, enlarged tender spleen, ecchymoses, and suppurating foci, must of necessity run a rapid and fatal course. Stern and Hirschler,[5] however, report a case of recovery after ecchymoses, and Pye-Smith[6] another in which emboli had formed in the various arteries and produced aneurisms.

Jaccoud,[7] greatly impressed with the varieties of type, distinguishes three forms of malignant endocarditis, or, as he prefers to call it, infectious. 1. The classical form above described. 2. A less sudden, less acute form. Prodromata continue for six or eight days. The periods of fever are at first intermittent, and, except the case presents the typical physical signs, the diagnosis is very difficult. We must, however, differentiate this form from typhoid and malaria, and from rheumatism on account of the vague pains in the limbs. It is well to remember that pain in the joints is frequently the expression of a septic process and not due to rheumatism. 3. The third form is still more difficult of diagnosis. For several weeks there are periods of intermittent fever. There are three or four days of fever and an apparent return to health; then the fever returns. It is this form which is especially liable to be taken for malaria, on account of the fact that quinine confirms the mistaken diagnosis, as the remission is naturally attributed to the effect of the drug. While Osler's dictum that a fever which resists quinine is not malaria is a good practical rule, it is thus seen that the converse is by no means true. Still, the onset in these cases is slower than that of either typhoid or malaria. Jaccoud formerly believed that there was a relation between the variety of fever and the particular microbic cause. Now, however, he does not believe that a constant relation exists.

Osler[1] has recorded two cases of endocarditis with intermittent fever in which the disease lasted ten months in one case and eleven in the other, both finally terminating fatally. In these cases there was a daily fever for many months, in which the temperature ranged from 102.5 to 104° F., occasionally preceded by a distinct rigor, more frequently by slight chilliness. Sweating, sometimes severe, followed the febrile periods. There was progressive failure of strength, with varying intervals of improvement. The physical signs were an apex systolic murmur and a dilated left heart. In both cases there was a development of embolic symptoms toward the close.

Many cases of malignant endocarditis resemble phthisis. The character of the temperature and often the facial aspect, the hectic flush, the prominent cheek bones, and great emaciation all tend to suggest tuberculosis. The exclusion of a primary source of this disease elsewhere, as from the lungs, carious vertebræ or sternum, leaves open the possibility of an idiopathic tuberculous condition, endocardial or pericardial. Hayem and Tissier,[2] discussing tuberculous pericarditis, believe that this form of the disease is usually and perhaps always the result of extension by contiguity, whether from a carious sternum or spinal column, or from an adherent and tuberculous pleura, or from tuberculous bronchial glands. Parker and S. West[3] both believe that purulent pericarditis may be primary, sometimes that it is not associated with suppuration elsewhere. Slev states that tuberculosis is almost as frequent a cause of pericarditis as rheumatism. Usually the infection comes by way of caseous mediastinal lymph glands and less frequently by way of the pleura. In a few cases it forms a part of the general tuberculosis of the serous membranes.

The effusion in these cases is variable, from plastic to that of liquid consistency and great amount. The fever, so Slev[4] believes, is very irregular, more so than in pericarditis as usually manifested, but this symptom can scarcely be of much value, considering the great irregularity of the temperature in malignant cases generally.

Sansom[5] records a case in which the diagnosis of ulcerative endocarditis was made and a good recovery followed the use of thirty-grain doses of sulpho-carbolate of sodium and inunctions of carbolized oil. While the valvular lesions which were supposed to depend upon an old endocarditis were not removed,

[1] Ziemssen's "Encyclopedia of the Practice of Medicine," vol. vi., p. 80.

[2] Rosenbach: Deutsche med. Woch., 1887.

[3] Brunton: "Diseases of the Heart," p. 508.

[4] British Medical Journal, vol. i., p. 800.

[5] Wiener med. Presse, 1887.

[6] London Lancet, October 6, 1890.

[7] L'Union Médicale, February 28, 1889

[1] The Practitioner, London, March, 1893.

[2] Revue de Médecine, January, 1889.

[3] British Medical Journal, December 1, 1888.

[4] American Journal of the Medical Sciences, Philadelphia, January, 1893.

[5] London Practitioner, January, 1888.

all the evidences of acute lesions in the heart and septic infection were entirely relieved and the patient left the hospital well. Not long afterward she again returned with symptoms similar to those of the previous attack, which were not relieved this time by the same treatment. The autopsy confirmed the diagnosis of ulcerative endocarditis. McClun[1] reports a case with recovery which was greatly benefited by inhalations of carbolate of iodine.

In certain cases of long-standing valvular lesions, markedly those of the aortic and sometimes of the mitral orifices, there occur attacks of valvulitis, which are frequently accompanied by a varied and often perplexing array of symptoms. Most frequently they fit into the symptoms of acute simple endocarditis and with careful treatment do well, but the duration is always protracted. More rarely the fever is intermittent, sweats are common, and even severe rigors may occur. Such cases may closely resemble malaria, and the exclusion of this and any other assignable cause for the prostration leads us to the conclusion that it is a slowly progressive malignant case. This is the variety of which Pepper and Stengel[2] have reported three cases and which the Germans know as chronic recurrent endocarditis. Quite recently I saw with Alfred Stengel, in the wards of the Philadelphia Hospital, a patient closely fitting this description. The man seemed to be very slowly convalescing after weeks of prostration. He had long suffered from aortic regurgitation. The myocardium or pericardium were affected but slightly, if at all.

Pepper[3] says: "I have repeatedly had reason to suspect that a febrile process which did not seem referable to a renewed valvulitis was due to an extension of inflammation to the intima of the aorta; and quite recently a case of mitral disease terminated fatally where during a course of several years there were outbreaks of repeated chills followed by high fever, subsequently to which areas of severe arteritis appeared, leading successively to aneurism of the popliteal, femoral, and axillary arteries. Embolism of the central artery of the left retina also occurred." This case with the one before cited illustrates the class well, but it is remarkable in its chronicity and the extensive changes in the arterial coats.

The history of the writer's case is as follows: Louis G——, aged twenty-six years, white, had suffered from varioloid when nine months old, and at six years from what the doctor pronounced and what seemed to fit the description of inflammatory rheumatism. At eight years he had a severe attack of scarlet fever. He never had seemed to rally completely from the rheumatism, and following this he was never able to join his companions at play without fatiguing rapidly and being attacked by spells of giddiness, palpitation, and dyspnœa. In these attacks everything would become momentarily black before him. As he grew up he seemed to grow stronger, but was always looked upon as a weak, nervous boy. He learned the trade of a leather-bag maker, an occupation which he was able to follow for several years without losing a day, despite the fact that it required him to stand upon his feet all of the time. The patient's facial aspect was one of deep anxiety. There were fibrillary tremors in the tongue and the muscles of both extremities. Ankle clonus could be elicited and there was marked hyperæsthesia. For some time he had complained of all the food he swallowed sticking in the œsophagus and being dislodged with difficulty. For one month he had grown alarmingly weak. He could not sleep at night, and would start suddenly out of his doze of disturbed dreams and clutch at his chest to relieve the feeling of precordial distress which seemed to have awakened him, a sensation which he described as one of tightness or constriction. He began to suffer from rigors of varying severity, followed by high fever and drenching sweats. Finally, a week before he was first seen, on November 14, 1895, he had been seized with an attack of syncope while about to rise from the dinner table. This was followed by a severe vomiting spell. A severe serous diarrhœa set in, in which the patient was at stool as often as fourteen times in six hours. Pains in the calves of the legs, the muscles of the forearm, the shoulder girdle, and the pectoral muscles now became marked. He had of late been complaining of these vague pains in the arms, which had not been severe. Attacks of syncope followed every effort to raise himself even slightly from the prone position.

On inspection, the emaciation was considerable, the superficial fat being very scant. The chest was flat and the supra-clavicular fossæ were deep. The left side was the more prominent, the strong diffuse apex beat being visible at the seventh rib, displaced downward and to the left. Epigastric pulsation was intense. There was also marked pulsation of the cervical vessels and of the right subclavian.

The skin was cold and covered with beads of sweat; there was also a diffuse pustular eruption, most marked on the face and thorax.

On palpation the forcible apex beat was communicated strongly to the hand and together with this a very pronounced thrill, which was not lost to palpation anywhere over the cardiac area. The spleen was much increased in size and exquisitely tender on pressure. It was plainly palpable with the subject in the recumbent position. The liver was not enlarged. There was a mild degree of intestinal tympany, but no tenderness over the right iliac fossa.

On percussion the note over the lungs was good. The heart gave evidences of great hypertrophy with dilatation. The apex was at the seventh rib, five inches from midsternum. The right border of absolute dulness extended to one and three-quarter inches beyond midsternum at the fifth rib. On auscultation of the apex a very loud pericardial friction was heard and felt. Change of position made this only slightly less audible. A double endocardial apical murmur could be made out. The systolic was well transmitted to the inferior angle of the scapula. At the pulmonary area there seemed to be blowing murmurs with both sounds, probably hæmic in origin. These were also heard over the pulmonary vessels. The second sound was much accentuated. At the aortic area there was heard a loud regurgitant murmur with much roughening of the first sound. When first auscultated the pericardial rub was so intense as almost completely to hide the pronounced endocardial murmurs, which were elicited and confirmed only after repeated examinations.

The tension of the arteries was very high. There was a typical Corrigan pulse, with its remarkably sudden recession. The carotids pulsated strongly and the heart sounds were well transmitted. The jugulars conveyed to the ear the double murmur and in addition received an impulse from the carotid arteries. The dysphagia mentioned above has been classed as a symptom of pericarditis and has been referred to the pressure on the œsophagus of the sac distended with fluid. Walshe takes the view that it is of nervous or dynamic origin. The fibrinous character of the exudate in this case, in which the dysphagia was such a prominent symptom, would serve to add weight to Walshe's view. It may be well in passing to refer to Pettit's observation that furunculosis may be a cause of malignant endocarditis. This patient had suffered from furunculosis for six weeks before his taking to

[1] London Lancet, 1887.
[2] University Medical Magazine, May, 1895.
[3] Pepper: "American System of Medicine," vol. ii., p. 303.

bed. The severity of the condition of the stomach, with which the prostration began, grew rapidly, until at the end of sixteen days rectal feeding had to be resorted to. The already emaciated patient seemed to lose weight daily. The spells of dyspnœa accompanied by severe palpitation became more and more frequent. The pulse in these attacks was the typical gallop rhythm of the overtaxed and degenerating heart muscle. The heart impulse grew much weaker and the heart sounds were scarcely heard, although the pericardial friction, neessarily weaker, was still plain. The septic condition seemed in full control at this time. The rigors were more or less severe and were invariably followed by a drenching sweat and fever, which for many days reached an average of 103.6°, 104° F. being the maximum. The morning temperature was always subnormal, 97.6° F. being the lowest point reached. The patient passed from a condition of mild delirium into a comatose state, and could be aroused but with difficulty. For three days even the slightest medication by the stomach was impossible and hypodermic injections of strychnine and nitroglycerin were freely made and nutrient enemata given. Alcohol sponge baths were given frequently and very gentle massage practised. After the third day egg water was retained in very small quantities, and by almost infinitesimal gradations the stomach became more retentive. The hypodermic injections and the rectal enemata were kept up for eighteen days. Then followed a long struggle to nourish this patient, and, while at no other time was the stomach so persistently rebellious, spells of vomiting were frequent and seemed to thwart every effort to increase the patient's strength. In February, however, food was well borne and vomiting occurred but four times. In March there were but two attacks, and no others occurred during the convalescence. With the increase in the ability to retain food, milk was given in large quantities and alcohol was pushed until the patient was taking over one quart of whiskey a day without the slightest toxic effect. Besides the great irritability of the stomach, which the close nervous connection between the heart and that organ so readily explain, in the distribution of the filiments of the pneumogastric, the absolute inability of the patient to secure sleep had to be confronted. Gradually, however, improvement took place in spite of most discouraging drawbacks, and finally the patient was allowed to sit up for the first time on May 20th. He had been compelled to remain in bed from November 15th to this date. It is somewhat remarkable to note that in all this time he did not suffer from a single bedsore.

During the long course of this case fifteen blood counts were made and the amount of hæmoglobin was estimated. The results are appended and show graphically the alarming increase in the anæmia and a possible mild degree of leucocytosis. February was the month in which the limit of the disorganization was reached and the first increase in the blood count noted. From this time there was a progressive gain, clearly illustrated by the results of the examinations as well as by the patient's increasingly encouraging condition.

Four bacteriological examinations of the blood failed to reveal the presence of pyogenic micro-organisms. The urine contained albumin, the quantity varying in the repeated analyses. A slight hæmaturia occurred twice. Epithelial casts were present for months, but disappeared with convalescence.

The character of the temperature in this case accords in one important particular with the observations of a number of others. The height of the fever did not exceed 104° F. This is a fact frequently noted in these very chronic cases of malignant cardiac disease. The morning temperature was for some weeks invariably subnormal. Ophthalmoscopic examination revealed a pale physiological disc. There were no traces of retinal hemorrhage. There was some pulsation of the retinal vessels.

No.	Red Blood Corpuscles Per Cubic Millimetre.	White Blood Corpuscles Per Cubic Millimetre.	Per Cent. of Hæmoglobin.	Date.
1.....	3,200,000	6,900	51	November 16th.
2.....	3,010,000	6,350	45	December 1st.
3.....	2,576,500	6,000	43	" 19th.
4.....	2,589,300	6,100	39	January 3d.
5.....	2,251,000	5,876	31	" 20th.
6.....	2,100,000	6,290	26	February 1st.
7.....	2,560,000	6,350	32	" 18th.
8.....	2,750,000	6,425	38	March 2d.
9.....	2,955,000	6,536	41	" 21st.
10.....	3,206,500	6,850	45	April 1st.
11.....	3,400,000	6,700	46	" 15th.
12.....	3,040,000	6,580	49	May 3d.
13.....	3,870,000	6,940	55	" 20th.
14.....	3,952,000	7,125	60	June 5th.
15.....	4,015,000	7,205	64	" 25th.

The severe serous diarrhœa with which the patient was seized early in his illness proved a formidable symptom. It, like the fever, was intermittent in type. For days he would be free from it and then an attack would come on suddenly. From January 20th to February 10th these attacks became frequent and most alarming in character. After this date they were more easily controlled. The question arose, What was the origin of this diarrhœa? It might have been purely nervous in type or again due to the septic condition. More likely still, it might have been caused by embolic infarcts. This was also the cause, without doubt, of the exquisite tenderness of the spleen above referred to. It is possible that capillary infarcts of the brain also occurred, thus accounting for much of the muttering delirium and varied nervous symptoms. However, the severe degree of cerebral anæmia together with the systemic prostration would also readily explain this condition. On July 5th the patient was allowed to go out of doors for a short time. His exercise was gently increased and by August 1st he felt able to perform light work. He had taken on flesh quite rapidly and at this date weighed one hundred and thirty pounds. This was an increase of four pounds over his usual weight in health. On inspection at this time the body was seen to be well nourished. The supraclavicular fossæ were shallow. There was good resonance over the lungs and fremitus was not increased. Inspiration was strong and slightly increased; expiration was normal. The apex was strong and slightly diffuse at the seventh rib, five inches from midsternum. There was a barely perceptible epigastric pulsation. The first mitral sound was strong and booming, with a powerful diastolic blowing murmur. The aortic first sound was strong and there was a marked regurgitant murmur. The pulmonary second sound was accentuated. The carotids and right subclavian arteries pulsated strongly. The pericardial friction, while it could still be heard, had lost its terrific intensity. This seems to grow less very slowly. The aortic regurgitation is causing no symptoms further than giddiness on the slightest over-exertion, thus keeping him constantly reminded of his danger limit. The fibrillary tremors in the calf muscles from which he had been a long sufferer, and which an observer has likened to the tremors of pseudohypertrophic muscular atrophy, have quite disappeared.

This case was treated with strychnine from the very start and the dose increased from one-thirtieth to one twentieth of a grain every two hours. When it became impossible to give this by the stomach it was administered hypodermically. Digitalis was faithfully tried,

but, not seeming to give any relief, was finally discontinued. To secure the possible good of antiseptic remedies, the bichloride of mercury was given in twenty-fourths, at first *t.d.* and then every four hours. It was from nitroglycerin that the most relief was secured. This was given in two drops of the one-per-cent. solution, *q.d.* Alcohol, as has been stated above, was pushed to its limit, and every effort made to sustain the patient by careful feeding, milk being depended upon in the main. The writer believes that much was also accomplished in this case by alcohol sponge baths and gentle massage. All efforts made to check the drenching sweats by agaricin, which has been so loudly extolled, and by camphoric acid and belladonna all failed utterly. Quinine was given in routine for many months.

We find in looking over the literature of the treatment that there is a great diversity of opinion as to the relative merit of a various host of drugs, and, as in every condition of which this may be said, we are forced to conclude that medicinal treatment is not satisfactory. Every reported case seems to be a law unto itself in this respect.

Jaccoud[1] believes in the use of salicylic acid for its antipyretic and antiseptic effect. Others recommend salicin as being less of a heart depressant. Quinine has its strong advocates, and yet Jaccoud believes it to be worthless; and Koryani[2] declares that no remedies have proven of value and directs symptomatic treatment. McClun's[3] patient recovered upon inhalations of carbolate of iodine and Sansom's[4] upon thirty-grain doses of sulphocarbolate of sodium and inunctions of carbolized oil.

William Russell,[5] of Edinburgh, advises antirheumatic remedies and iodide of potassium internally and blistering the precordia. Dreschfeld,[6] of Manchester, recommends large doses of quinine with arsenic. In general, however, there seems to be no especial relation between the reported cases of recovery and the remedies given.

The etiology of this attack is unquestionably dependent upon two factors—the rheumatic seizure in the patient's sixth year, with the subsequent history of weakened nerve and muscle force, and the frequent spells of giddiness, dyspnœa, and momentary blindness, all pointing to the fact that there was at this time an endocarditis set up which left the patient with an aortic lesion and weakened endocardium. Whether the malignant character of the endocarditis in the present attack was due to the furunculosis which, as has been said, was present, or whether this was merely the expression of the septic condition is an open question. The rheumatic pains before described may have been the expression of a renewed attack of this disease and the consequent cause of the malignant endocardial condition, or, again, these pains may have been of purely septic character.

The Effect of Drugs upon the Secretion from the Tracheal Mucous Membrane.—Dr. James Calvert (*Journal of Physiology*, 1896, xx., Nos. 2 and 3, pp. 157–164) concludes that: 1. Alkalies increase the secretion. 2. Potassium iodide increases the secretion. 3. Emetin also increases the secretion in a marked degree. 4. Saponin does not increase the secretion if given in small doses, while in large doses it causes diminution of the secretion. 5. Cold applied to the abdomen increases, while heat applied in the same way diminishes, the secretion.

[1] L'Union Médicale, February 28, 1889.
[2] Wiener med. Presse, 1887.
[3] London Lancet, 1887.
[4] London Practitioner, 1888.
[5] London Lancet, August 31, 1895.
[6] British Medical Journal, London, December 21, 1895.

DERMATITIS HERPETIFORMIS.

By ALBERT E. CARRIER, M.D.,

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Case I.—Mr. F—— was referred to me for treatment by Dr. Theo. A. McGraw, January 12, 1896. He was a well-preserved man, had always enjoyed good health, was over seventy years old, in good circumstances, and not in active business.

Four years ago he received an injury which resulted in an abscess of the tibia of the right leg at its lower third. An operation was made, resulting in cure. Nervous exhaustion followed the operation, and uneasy sensations have been present in the parts ever since. The family history is good. He has never had any disease of the skin.

The present attack began about three weeks before he came under my care, commencing as a severe pruritus of the arms, legs, and back of thorax, with pain in the hip, wrist, and ankle joints. The pruritus was followed in a few hours by erythematous patches from the size of a pea to that of a fingernail, appearing in crops. Twenty-four hours later vesicles appeared in the centre of the macules, spreading at their circumference until blebs were formed which occupied the whole site of the original lesion. When the blebs were ruptured an excoriated base remained. There were no lesions upon the face, nor below the ankles and wrists. The blebs when fully developed had tense walls, sometimes fluted, had clear contents, and were not surrounded by an erythematous border. Dark pigmented sites remained after healing. Severe pruritus attended the lesions.

The conditions as related had existed from the outbreak of the disease to the time he came under my care, new lesions appearing from time to time to take the place of those that disappeared. On my first examination I found, in addition to the blebs, large red, infiltrated, scaly plaques, covering the dorsal surfaces of both hands and looking like patches of chronic eczema. Itching in these plaques was intense.

The patient complained of a feeling of tension of the whole cutaneous surface; said that it felt as if the skin was creaking when in motion. The most prominent lesions, however, were the blebs. Mr. F—— was a man of good habits, a very moderate smoker, and a single glass of wine at dinner was the extent of his indulgence in stimulants. A very careful examination failed to bring to notice any pathological condition that would hold the relation of cause to the skin affection. Five days after he came under my care a change occurred in the character of the lesions, small red macules appearing and small conical papules; the lesions were grouped, and in places the papules were so closely set as to form dime to dollar sized plaques. The papules were of the color of the normal skin, but the plaques had a pinkish hue. Small vesicles in groups also appeared over the back and chest, but did not develop in the macules. The macules, blebs, and papules were distributed over the limbs and abdomen, while the vesicles were on the front and back of thorax. Pruritus was intense in all the lesions. The patient at this time presented very little healthy skin, there were pea to cherry sized blebs, excoriations where the blebs had been ruptured, and pigmented macules where they had healed; dime to palm sized erythematous macules; papules single, in groups, or forming plaques; vesicles single or in groups; excoriations; crusting of vesicular and bleb lesions—the whole making a most characteristic picture. Very little change occurred during the following week. At the end of this time the lesions were smaller in size on the chest and upper extremities,

[1] Read before the Michigan State Medical Society.

while they seemed to increase in size upon the lower extremities, several large blebs forming on the legs. From this time until March 23d the appearance of the skin remained about the same, new lesions appearing as the old ones disappeared: blebs, however, being fewer in number and much smaller, while vesicles were very numerous. At times the eruption would follow the course of a cutaneous nerve. At no time during the course of the disease were the palms, or fingers, or feet, or neck affected. On April 18th my patient sailed for Europe entirely free (for the time being) of his skin affection.

Case II.—Mr. A——, twenty-six years old, a merchant, a man of good habits, with a good family record, was referred to me by Dr. E. L. Shurly in 1889 for a skin disease that had troubled him over five years. At no time during this period had the skin been entirely free of the eruption. The lesions had been principally vesicular, quite small, dome-shaped, and clustered in groups of from three to a dozen, with clear contents. Pruritus always preceded the eruption from four to twelve hours and continued until the vesicles were ruptured. The sites selected for the outbreak seemed to be the extensor surfaces, although many lesions were found on the back and abdomen. The hands, feet, face, and neck were free. I found on my first examination, besides the lesions named, a number of dollar-sized infiltrated, red, scaly patches on the extremities and groups of pustules that had developed from the vesicles, patches of excoriation surrounded by vesicles or pustules, and here and there a group of small papules. The disease was worse in warm weather and itching was intense in all the lesions.

A careful examination of the patient failed to elicit anything that would give me a clew to the etiology of the disease. I found that very small quantities of any stimulant would make the trouble worse, and within a very short time. My patient used neither tobacco nor liquor. As he derived no benefit from several months' treatment, I suggested that he take an ocean voyage and while abroad to consult Kaposi. No diagnosis was made by Kaposi, but his treatment was about the same as had already been used, no benefit resulting. Mr. A—— went to England, where he consulted Malcom Morris, who pronounced the disease dermatitis herpetiformis and sent him to the arsenic springs in the south of France. No benefit was derived from the springs and he returned to me, and business calling him to Chicago I referred him to Dr. Hyde, who concurred in the diagnosis, and suggested a line of treatment which was followed for some time without any benefit. My patient married and his disease disappeared, and he has remained well ever since.

I have reported these cases as a text. It is now over a decade since Dr. Duhring first called attention to the disease under consideration, and, despite the fact that a few prominent dermatologists have refused to recognize it as an entity, the consensus of opinion of competent observers places it as a disease of the skin, in the totality of its symptoms entirely distinct from any other dermatological affection. It is true that in different attacks the lesions and their behavior may be the same as if occurring in some other disease of the skin, and, if they are watched but a short time, or are seen only in a single attack, there may be a liability of not recognizing the affection and placing it as an eczema, pemphigus, or erythema multiforme. The disease is not a very common one.

I have records of twelve cases, five of which have come under my care during the last two years. This is no evidence that the disease is becoming more frequent, but only that I am coming to recognize as dermatitis herpetiformis what earlier in my practice has been regarded as some other affection of the skin. With the exception of two of my cases (one of which was that of a paralytic, the other that of a sufferer with chorea), all of my patients were in apparent good health, and while some of the attacks lasted for months, and even longer, no effect was produced upon the general health other than would naturally result from the loss of sleep and the irritation of the intense pruritus, always present no matter what the lesion was. The disease is a dermatitis, and is manifested by multiform lesions, either in the same attack or in different attacks in the same individual. In one of my cases the first lesions were blebs and the disease was diagnosed and treated as pemphigus, and, it being seen in that stage only, it could not be recognized as anything else. Later, however, erythematous patches and small vesicles occurred, and it then had the appearance of an eczema, and the intense pruritus was favorable to such diagnosis.

A careful study of the lesions at this time showed a peculiarity in their behavior which is not found when they occur in other affections. It was noted that they came in crops, and that they were grouped. A crop of patches of vesicles or papules of the size of a pea to that of a ten-cent piece, covering an extremity or over the thorax or back, would appear during a night, the patches made up of three or more individual lesions. Later these gave place to crops of erythematous patches, the size of a pea to that of a dollar, which in turn were supplanted by vesicles or papules and sometimes by pustules. Severe pruritus was always present, no matter what the lesion was. It is easy to see how a single attack of the disease with a single anatomical lesion, such as a bleb or vesicle, might be mistaken for some other affection, but recurring attacks with different lesions should stamp the affection as dermatitis herpetiformis, if the lesions have the behavior stated.

The course of the individual lesions is acute, but that of the disease is chronic, and relapses are the rule. The etiology of the disease is obscure, but from the similarity of the symptoms and lesions to affections such as pemphigus, herpes zoster, and erythema multiforme, in which disturbance of the nervous system, either sensory, trophic, or vasomotor, seems to stand in a causal relation to the disease, we are led to the supposition that dermatitis herpetiformis should be traced to a similar origin. Corroborative symptoms, however, are found in only a few cases. In one of my cases paralysis has occurred, and one patient suffered from chorea, but the others failed to manifest by any symptom evidence pointing to any pathological condition of the nervous system that might stand as a cause of the outbreak. Dr. James McF. Winfield, in a paper read before the Pan-American Medical Congress, reported a series of four cases in which glycosuria was present, and he used this fact as an argument in favor of the nervous origin of the disease.

It is undoubtedly true that some cases trace their origin to pathological conditions of other organs than the nervous, and are cured permanently by the removal of these conditions.

Treatment.—A disease whose origin is so obscure is of necessity difficult of management, and I know of no line of internal or external medication that can be said to be fairly successful in all cases. Those cases that are due to a reflex will probably be cured by a line of medication directed to the removal of a gastric, hepatic, or renal disturbance that may exist. As the disease is essentially chronic, any line of treatment decided upon must be carried out persistently. In all cases particular attention must be given to hygienic conditions; the environment, habits, exercise, and diet must be regulated. Little is to be said re-

garding internal medication. A remedy that has been pretty extensively used is arsenic, and, as it is known to act favorably in the prevention of bleb formation in cases of pemphigus, we are led to think that in the disease under consideration in which the lesions were blebs or vesicles it might prove a valuable remedy. Whenever its use has been decided upon, it should be pushed to its full toleration and persisted in for a protracted period until it is positively shown that it is not influencing the disease favorably. Do not be too sanguine of benefit resulting from the use of arsenic, as it oftener fails than benefits. Iron, quinine, strychnine, and belladonna have all had advocates, but in my hands have not proved of much value. The valerianate of zinc in one-grain doses several times a day I have found of value in relieving the mental symptoms. Local treatment is of great importance. Pruritus is intense in every lesion, whether macule, papule, vesicle, bleb, or pustule, and calls loudly for relief. It has been my experience that no good results from the use of soothing applications, such as are of value in eczemas with similar lesions. Remedies that are harsh and irritating are of greater value, the object being to impress the nervous system profoundly, rather than to palliate the disease by soothing remedies. There will be times in the course of the affection when sedatives will be employed temporarily, but as curative agents they will be useless. Sulphur, ichthyol, and the preparations of tar I have found in the order named the best local applications. To get the best result from these remedies they must be rubbed over the surface thoroughly, not simply smeared over the eruption. The vesicles or blebs should be ruptured, either before the remedy is applied or by the friction used in its application.

Sulphur I use in ointment, ten to twenty-five per cent., and have it applied night and morning, or when the lesions are vesicular I use powdered sulphur in the morning and the ointment at night.

Ichthyol I use in lotion or ointment (ten to twenty-five per cent.), using the lotion several times during the day and applying the ointment at night. Resorcin, thymol, menthol, etc., I have also used, but from none of them have I had the good results that have followed the use of sulphur. What I said regarding persistence in the use of arsenic internally holds true in the use of a local remedy. No benefit results from the frequent change of remedies, either internal or external.

Baths, which are of so much value in pemphigus, I have found of little value in treating dermatitis herpetiformis, and use them only for purposes of cleanliness.

Disease of Basedow and Alopecia.—Dr. Berliner (Aix-la-Chapelle) reports, in the *Gazette hebdomadaire de Médecine et de Chirurgie*, a case of Basedow's disease, complicated with total alopecia. In spite of the cure of the exophthalmic goitre, entire baldness persisted. Dr. Rille (Vienna) observed a case of scleroderma with general alopecia. He thinks we shall have to admit, with Kaposi, that the two affections are the result of trophic troubles of central origin. Dr. Caspary (Königsberg) thinks that neurasthenia, nervous affections, and anæmia are rather the result than the cause of general alopecia. Dr. Galewsky (Dresden) has obtained favorable results by applications of chrysarobin. The hair that grew fell out a year later. The action of chrysarobin indicates, perhaps, the parasitic nature of general alopecia. Dr. Köbner (Berlin) thinks that, while some cases are of nervous origin, others are certainly parasitic. Dr. Kohn also reports a case of the disease of Basedow with general alopecia.

THE PATHOLOGY, DIAGNOSIS, AND TREATMENT OF ATROPHIC CATARRH.[1]

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"I pity the man who can travel from Dan to Bersheba, and cry, 'Tis all barren!'"—*Sterne.*

Various names have been given to the condition that we find in the diseases classed under the title of this paper. Among them we find atrophic rhinitis, atrophic catarrh, dry catarrh, ozæna, etc. The conditions we shall speak of are not diseases of themselves, but the result of diseases, some of them dating back to early childhood.

In science every effect is produced by a definite cause, the same cause operating under the same conditions always producing the same effect. In medicine we find a number of causes and forces, physical, chemical, microbic, and vital, operating to produce not a single effect but a combination of effects. When a number of these effects are grouped together and have been noticed in a number of individuals, either with or without a pathological lesion, it is called a disease. Some conditions which receive names and win their way into medical nosology often should not receive such a dignity, but should be regarded simply as conditions or sequences of an organ or apparatus of the body dependent upon previous diseases, of which they are only the results.

Sir Morell Mackenzie defines atrophic catarrh as follows: "Chronic inflammation of the lining membrane of the nose, in which this secretion, instead of flowing away, dries on the surface, giving rise to adherent brown or green flakes or crusty masses of dried mucus, which are apt to undergo decomposition and cause a disgusting and characteristic stench, known under the name of ozæna. There is often atrophy of the turbinated bodies and of the subjacent bony structure, while the nasal passages and meatuses are proportionately increased in capacity."

This definition is a good description of the conditions that exist, but it does not define them from the standpoint of pathology and pathological anatomy.

Pathology.—Pathology is understood by a large number of medical men as meaning simply the pathological anatomy or abnormal condition of an organ or tissue as seen through the microscope. If the microscopist detects no deviation from the normal in the tissue of the organ under examination, he jumps at the conclusion that it is healthy and in proper working order. The pathology of an organ or apparatus has reference to its abnormal function or action, from direct or remote causes operating upon and modifying or altering the normal or physiological function. Histology and pathological anatomy deal with the structure of the part, while physiology and pathology deal with the function of the part. Pathology bears the same relation to pathological anatomy that physiology does to histology. The two former deal with abnormal matter, while the two latter deal with normal matter. The views that I shall give you in regard to the etiology, pathology, and pathological anatomy of atrophic catarrh are very different from those you get from the text-books, but I think I can make my reasons for differing from recognized authority clear to every one. I use the term atrophic catarrh in its broadest sense, to include the various varieties.

Atrophic catarrh, instead of being a distinct disease, is the result of two previous diseases or conditions, or rather it is the third stage of a disease.

[1] Read before the Northern Tri-State Medical Association.

Atrophic catarrh never begins as atrophic catarrh. Atrophy is never the beginning. The three stages are as follows: First stage, that of purulent catarrh, usually of childhood. Second stage, hyperplastic catarrh, not hypertrophic catarrh. Third stage, atrophic catarrh.

We are very unfortunate in being compelled to use the word "catarrh" in speaking of diseased mucous membrane. Catarrh means flowing downward. Bosworth and others tell us that in "catarrh" we have a diminished rather than an increased flow of liquid. The word "rhinitis" is just as unfortunate, as it signifies inflammation, and we very seldom have true inflammation in catarrhal diseases. So we are compelled to use the word "catarrh" in referring to diseases of the nasal mucous membrane.

Purulent catarrh is about the only one of these diseases in which we have inflammation, and the only one in which the term "rhinitis" can be properly applied. In this, the first stage of the condition under consideration, we have a true catarrhal inflammation. In it we have all the cardinal principles of inflammation, including pus and microbes, with molecular death and destruction of tissues.

Emmett says we cannot have inflammation without molecular death.

Roswell Park, before the American Surgical Association, May 30, 1895, said: "Without infection no genuine inflammation: with infection inflammation, and, what always goes with conflagration, more or less destruction: congestion and exudation practically never lead to destruction: inflammation always does."

I think we cannot go far wrong in this matter if we accept the definition of inflammation proposed, for instance, by Metschnikoff, which is in effect as follows: "Inflammation generally must be regarded as a phagocytic reaction on the part of the organism against irritants. This reaction is carried out by the mobile phagocytes, sometimes alone, sometimes with the aid of the vascular phagocytes or of the nervous system. The irritants herein alluded to are of course micro-organisms. It is necessary to emphasize the fact that the essential phenomena of inflammation represent an actual struggle between the phagocytes and the irritant, or, as Virchow has aptly termed it, a "battle of the cells," and that pus and pus cells represent simply the débris, and are really the dead bodies of animal cells which have perished in the struggle."

Let us briefly refer to the structure of mucous membrane, as this is the part principally affected. Mucous membrane is described as comprised of three layers:

1st. A superficial layer, composed of epithelial cells.

2d. The mucosa proper, a layer composed of white fibrous and yellow connective elastic tissue embracing within their meshes blood-vessels, smooth muscular fibres, and different varieties of small glands, and presenting minute processes or villi. In this layer we have the mobile phagocytes.

3d. An internal layer of loose connective tissues, the submucous cellular tissues.

Purulent catarrh is more apt to occur in childhood than at any other period of life, yet it may occur at any time of life.

Now, what takes place in a case of purulent catarrh? First, we must have an irritant. This irritant consists of some form of pyogenic organism, some variety of the streptococcus or staphylococcus: the exact form that the disease assumes depends upon the variety of micro-organism present. This micro-organism finds lodgment upon the mucous membrane or within the follicles; then the mobile phagocytes come to the relief of the membrane and the battle commences, and as the result we have a large amount of débris thrown off, consisting of pus, dead epithelial cells, and mucous corpuscles. If the battle is allowed to progress, it results in the almost entire destruction of the epithelial layer of the membrane.

Beal and Tyson have shown that the mobile phagocytes of mucous membrane, in the healthy condition, become epithelial cells and take the place of the old worn-out epithelial cells. If the irritation is slight, they are modified and are thrown off as mucous corpuscles, but if the irritation is severe, and the battle rages long, they are aborted and are thrown off as pus cells. Nature in her efforts attempts to assist the phagocytes, throws out serum and lymph, which in time become organized and press upon the second layer of membrane, and then, after the battle is over, we have a condition of hyperplastic catarrh. The membrane becomes thickened and enlarged, but is denuded of its epithelium. This gives us the second stage or hyperplastic catarrh.

In hyperplastic catarrh we have a thickening of the membrane from the organization of the products of inflammation. New products are formed in the second layer of mucous membrane: these press upon and cause absorption of the membrane, interfering with its function; the secretions are modified, and we have a condition very different from that of hypertrophic catarrh, in which we have hypernutrition. As a result there is no increase of new tissue in the hyperplastic stage. There are simply over-nutrition and consequent overgrowth of existing elements dependent upon increased supply of nutrient pabulum.

In hyperplastic catarrh, with loss of the epithelial layer and pressure upon the follicles and other portions of the second layer, absorption and atrophy take place. After a longer or shorter length of time, the new hyperplastic material undergoes absorption, so that we have only a remnant of the nasal mucous membrane remaining. This gives atrophic catarrh. Hyperplastic catarrh is the result of purulent catarrh; the result of hyperplastic catarrh is atrophic catarrh. Atrophic catarrh is never the result of hypertrophic catarrh. Atrophic catarrh is a partial destruction of mucous membrane rather than atrophy. It is sometimes both combined.

I think that I have shown clearly that atrophic catarrh does not commence as atrophic catarrh, but is the result of hyperplasia, which is the result of purulent catarrh. If we trace back the history of any case of atrophic catarrh, we shall always find the history of the "snotty-nosed child." The period of purulent catarrh, when unaccompanied by proper treatment, lasts from five to twelve years. That of hyperplasia from eight to ten years before the atrophic stage sets in. I have never found a case of atrophic catarrh that I did not believe came from a case of purulent catarrh, through its hyperplastic stage. We may not always be able to trace their history through all the stages, yet it is a fact, notwithstanding, that the three stages must exist.

Diagnosis.—An anterior examination of the nostrils will reveal the presence of more or less greenish-yellow crusts. These crusts present an appearance which is absolutely characteristic of atrophic catarrh, differing from the crusts found in ulceration and necrosis, which are mingled with blood, unhealthy pus, and necrotic tissue. These crusts are formed from the evaporation of the water of the thin secretion from the atrophic membrane. If these crusts are not removed but are allowed to remain they become very thick, and sometimes fill up the entire nasal cavity. After remaining in contact with the membrane for some days, decomposition takes place between the crusts and membrance, which becomes very offensive. If the crusts are removed or come off, and the cavity is thoroughly cleaned, the odor ceases, while in ozæna from scrofula the discharge is always offensive; also in syphilitic ozæna. The mucous membrane is never

ulcerated in atrophic catarrh. The appearance of the nasal mucous membrane depends upon the length of time that the atrophic stage has existed. In the early period it is almost normal in appearance; in the latter periods its membrane presents almost a bloodless appearance and adheres closely to the bone. The bone sometimes appears shrunken and the nasal cavities appear large and roomy.

Treatment.—The first thing in treatment of atrophic catarrh is to clean the nasal cavities of all crusts and to see that they do not re-form. Without thorough cleanliness nothing can be done to cure atrophic catarrh.

There seems to be a prevailing opinion among physicians that atrophic catarrh cannot be cured; that all that can be done is to keep the nose free from crusts and give the patient temporary relief. Our books and teachers tell us that this is all that can be done.

After a number of years' experience in the treatment of atrophic catarrh I am prepared to say that not only can it be relieved but it can be cured in almost every case. It will take long and persistent daily treatment, extending over from one to three years. It is not necessary for the physician to make the treatment during all this time. With proper appliances the patient will be able to do most of the work, calling on the physician only once a week or once in two or three weeks. For the first few weeks the physician should make the treatments.

The crusts should not be removed by force. An atomizer should be used with an antiseptic and alkaline solution. Dobell's solution or some of its modifications can be used for this purpose. Seiler's tablets answer a good purpose, but I prefer the following:

℞ Resorcin	ʒ ss.
Sodium bicarbonate	gr. xv.
Sodium biborate	gr. xv.
Glycerin	ʒ i.
Aqueous extract of hamamelis	ʒ ij.
Water	enough to make half a pint.

This should be warmed and the nose thoroughly sprayed with it every day. I have a tablet made containing five grains of resorcin and two grains each of bicarbonate of sodium and biborate of sodium. One of these tablets is dissolved in one ounce of water, or, still better, in a saturated solution of hydronaphthol.

One of the foregoing solutions should be warmed and the nasal cavities thoroughly sprayed with it at least once every day. After the solution has been used thoroughly, the parts should be sprayed with warm vaseline containing ten drops of campho-menthol and five drops of eucalyptol to the ounce. This treatment should be persisted in till all the crusts come away and are prevented from re-forming. Then the patient is ready to commence active treatment. If the case is a mild one and not too far advanced, resorcin is one of the best applications to use. The resorcin wash should be used and then the nasal cavity thoroughly sprayed with vaseline and resorcin (one per cent.). As resorcin is insoluble in vaseline, it is first dissolved in hot glycerin and then mixed with the vaseline; in some cases thymol is also added in the proportion of five grains to the ounce. This treatment will clean the cavities thoroughly, act as a disinfectant, and promote the growth of healthy tissues. In old advanced cases, in which the membrane has atrophied to such an extent as to appear like parchment, with little or no secretion, I get better results with judicious use of trichloracetic acid.

I know of no remedy in the entire materia medica that is so useful in the treatment of all nose and throat troubles as trichloracetic acid. Dr. Stein, of Moscow, says that in solution of 1 to 500–2,000 it will keep all suppurative processes in abeyance for a week. In weak solutions it is one of the best antiseptic remedies that I ever employed, and it also causes stimulation to atrophic membrane to a greater extent than any other application with which I am acquainted.

Dr. Stein says: "Weak solutions of trichloracetic acid used in the nose in simple atrophic rhinitis for a considerable time sometimes produce such a decided hypertrophy of the turbinated membranes that it may become necessary to cauterize them in order to secure free breathing. No other medicine of which I am cognizant produces such a remarkable effect, and thus this agent is particularly applicable in the treatment of ozena. In true ozena I now apply stronger solutions than I did at first, *i.e.*, one-half to ten per cent. The odor is not so quickly nor so thoroughly abolished by any other medicinal agent as by the acid. Here it is certainly a specific."

From my use of trichloracetic acid during the past six years I agree with Dr. Stein in every particular. I keep a number of solutions of the acid on hand, varying from one to fifty per cent. After the nose is thoroughly cleansed with the resorcin solution, the part is dried with absorbent cotton, and then a two-per-cent. solution is applied on a probe with cotton to the diseased membrane: the strength is increased as the effect becomes less active, spraying afterward with the vaseline and resorcin.

We sometimes find a portion of the mucous membrane entirely denuded of epithelium and in which the glands are all destroyed, leaving a thin dry layer of membrane covering the bone. In these cases the treatment mentioned will not stimulate the part nor cause new epithelium to cover the atrophic part. In such cases it is necessary to stimulate the edges of the diseased part and cause the mobile leucocytes to collect at or near the edges. In time the entire surface becomes covered over with a thin mucous membrane, which after a further interval becomes thicker and furnishes sufficient moisture to prevent the formation of incrustations. In treatment of these cases I follow the method of the horticulturist when he finds a tree denuded of its bark, *i.e.*, blazing. Nature has made an effort to repair the injury by throwing out a secretion around the edges, which organizes and partially covers up the denuded surface by the formation of a thin bark. At this time the horticulturist scratches the edges of the thin bark and nature covers up still more of the surface. If this is continued, in time quite a large space will be covered up with this thin bark, and gradually it becomes thicker and almost removes the appearance of injury.

I proceed as follows: I clean the part thoroughly with the resorcin solution; then take a twenty-per-cent. solution of trichloracetic acid and apply to the edges of the atrophic space, not allowing it to come in contact with any other portion of the membrane. This produces slight irritation and causes the nutrient pabulum of the blood and also the mobile leucocytes to collect beneath the coagulated rind formed, and to become organized under its protection. The part should be well covered with solid vaseline and resorcin. If this treatment is followed up from time to time, the part, if not too large, will become completely covered, and the membrane be capable of performing at least a portion of its function. I have treated a number of cases by this method with good results.

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The Hands should be kept habitually clean. It is an extremely bad habit to "puddle in pus" perpetually. Of course, one cannot always avoid touching pus, but one can easily dress suppurating wounds or open small abscesses without getting infectious matter upon the fingers.—Ochsner.

Progress of Medical Science.

Intestinal Digestion.—The conditions which interfere with intestinal digestion are: 1. Those which arrest or delay the food in the stomach: (*a*) Mechanical stenosis of the pylorus; (*b*) motor insufficiency and dilatation. 2. Conditions affecting the gastric juice: (*a*) Achylia gastrica; (*b*) hyperchlorhydria. 3. Enteroptosis, causing obstruction at any one of the six main points of fixation. 4. Possible atrophy of the intestines. 5. Any condition which diminishes the amount of bile and of the pancreatic and intestinal juices normally found in the intestines.—Frank H. Murdoch, *American Medico-Surgical Bulletin*, November 28, 1896.

Indications for and against Operation in Cancer of the Uterus.—Dr. Emory Lanphear (*Medical Era*), from an experience of nearly one hundred hysterectomies for cancer of the uterus, reaches the following conclusions: "Radical operation is indicated: 1. As soon as a diagnosis of carcinoma of the cervix is made provided the disease is unquestionably not too far advanced for any possible benefit at the time of first examination. 2. Whenever there is a fungous growth upon the cervix (especially in a patient near the menopause), which persists in spite of treatment, even though there is no ulceration and but little tendency to spread. It is probably the papillary form of carcinoma cervicis (cauliflower cancer); and there is always involvement of the mucous membrane of the body, so that high amputation will not cure. 3. When there are one or more nodules in the mucous membrane of the cervix, which soon ulcerate and destroy the mucosa. Such trouble is almost invariably the nodular variety of carcinoma of the cervix. 4. When there is an infiltrate in or beneath the cervical mucous membrane, just within the os, which soon breaks down and destroys the cervix by erosion. It constitutes the variety known as cancer of the cervical mucous membrane ("eating cancer"), and may have progressed far before the os shows any marked change when viewed through the speculum. 5. When there is evidence of the existence of cancer of the parenchyma of the uterus (usually fibro-sarcoma), even if the cervix seems to be perfectly normal. Such cases are not rare. 6. Whenever at the menopause a glandular endometritis becomes inveterate, showing a tendency to degenerate into a typical malignant adenoma—that is, adeno-carcinoma (glandular carcinoma or primary cancer of the mucous membrane of the uterine body)—as indicated by (*a*) the appearance of irregular hemorrhages; (*b*) the presence of a serous, reddish, odorous discharge; and (*c*) paroxysmal pain. 7. In all cases in which there is even a strong suspicion of malignant disease. In early operation lies safety. I can quite agree with Pozzi that 'it may even happen that as a last resort against persistent hemorrhage alone, we are obliged to perform vaginal hysterectomy with only the diagnosis of probable cancer.' Operation is not indicated: 1. Whenever the disease is so far advanced that the uterus is fixed in the pelvis. 2. Whenever it is certain there is extensive cancerous infiltrate in the broad ligament. 3. Whenever the cancer involves the bladder. Implication of the posterior vaginal wall or even of the anterior part of the rectum is not necessarily a positive contraindication to operation. 4. When the 'cancerous cachexia' has become pronounced. 5. When the patient is too weak from repeated exhausting hemorrhages. 6. Whenever the diagnosis of sarcoma of the uterus is quite certain. In such cases there is always recurrence after removal, and the subjects die quickly. Palliative operation, such as curettage, burning with Paquelin cautery, etc., are indicated: 1. When there is marked sepsis, removal of the sloughing mass with the sharp curette, and the subsequent use of douches of solution of permanganate of potassium followed by insufflations of pyoktanin will greatly prolong life. 2. When there is excessive hemorrhage. In such cases curettage followed by cauterization and the after-treatment just mentioned will be of much benefit. 3. When pain is very severe. Even hysterectomy as a mere palliative measure is sometimes advisable, the pain being much less marked in recurring carcinoma in the pelvis.

Sterilization of Ligatures.—According to *Le Scalpel*, M. Saul proposes to the Medical Society of Berlin to sterilize catgut, which has not been disinfected by boiling water or by sublimate, by boiling alcohol. The boiling alcohol does not alter the product. He suggests that the catgut be boiled in the following mixture: Alcohol, eighty-five grams; water, ten grams; phenic acid, five grams. M. Tretrop proposes a simple process which can be applied to all ligatures, catgut silk, hair, and caoutchouc. Recognizing the necessity for absolute sterility, many surgeons reject the products of commerce and sterilize their own ligature and sutures. M. Tretrop has obtained excellent results with the following process. This method is advantageous, as it requires no apparatus, no heat, and no difficult manipulation. Turn five volumes of the formol of commerce, together with from forty to one hundred of formaldehyde, into one hundred volumes of distilled water. The threads to be sterilized are placed in a small flask in a glass which is completely filled with the solution until the mouth of the flask is immersed. He covers the mouth with a piece of filter paper moistened in a solution of formalin, 5 to 100. This cover protects against atmospheric particles. He keeps the flask at the temperature of the room. In his experience this varies from 12° to 18° C. It is to be noted that the rapidity of sterilization by means of formol increases with the temperature. After twenty-four hours he causes the solution to run off by inclining the flask at first and afterward raising the cork lightly. He watches carefully that his finger does not come in contact with the neck of the flask. He replaces the formol by ordinary alcohol, which dissolves the little formalin remaining in the sterilized threads. He removes the alcohol used for lavage as he did the formol, and replaces it by new alcohol. He covers the flask with filter paper again, and the materials thus prepared keep indefinitely. According to Vallmer, who first devised this use of formol, the absorption of the latter by catgut will not commence until after fifteen days.—*La Médecine Moderne*, March 14, 1896.

Gonorrhœal Rheumatism.—Dr. A. Dezanneau (*Le Scalpel*, October 4, 1896, p. 90) says that the habitual failure of internal medication in the treatment of gonorrhœal rheumatism is well known. The salicylate of sodium has no action; colchicum, veratrine, and alkalies in larger doses either do not act or act very feebly. Salol exerts a certain influence but irritates the kidneys. The iodides are liable to set up a urethritis, according to Balzer: moreover they produce gastric troubles and anæmia in certain patients. As to local treatment Dr. Dezanneau assures us that the new method of terebinthine baths give marked success. The technique is as follows: The terebinthine mixture employed by M. Balzer, who is the originator of this method, is:

℞ Watery emulsion of green soap.
Spirits of turpentine.....āā 100 grams.
Shake the mixture before using.

The terebinthine baths are employed in two forms—local and general. The latter is indicated in certain

cases of polyarthritis, when articulations are very far apart and when the position of the diseased joint makes the local bath inconvenient, as the shoulders, the hips, or the sterno-clavicular articulation. For this general bath one uses from one hundred and fifty to five hundred or even eight hundred grams, according to the susceptibility of the patient, as these baths produce sometimes a marked smarting. The bath should be used as warm as possible. The amount of the mixture and the temperature should be increased progressively as the patient becomes accustomed to them. The duration of the bath is from ten to twenty minutes. Sometimes the general bath causes a smarting of the skin and genital organs, which can be obviated by the application of vaseline. The local baths are employed when the diseased parts are near together and when the situation of the articulation favors it, as the knee, the elbow, etc. Local baths are better, because the strength of the solution and the temperature of the bath can be increased. Certain precautions should be observed in the giving of these baths: for example, one should not commence this treatment until after the disappearance of the acute phenomena, and the susceptibility of the patient should be tested before increasing progressively the quantity used. The turpentine bath has at the same time a revulsant and an absorbent action. The beneficial effects of the heat should not be overlooked. Surgical interference is not indicated except in purulent arthritis.

Kerosene Poisoning.—Dr. Johanessen reports a fatal case of poisoning from petroleum. He says that a distinction must be made according as to whether the petroleum vapor is inhaled, or the oil has been rubbed into the skin, or has been taken internally. It would appear, according to Lewin's researches, that among workers in petroleum no ill effect is produced—that is, as long as the vapor is inhaled in the open air; but in factories similar symptoms are produced as by ordinary gas. A feeling of exhilaration is first induced, then heaviness in the head, vertigo, loss of consciousness, or anæsthetic sleep. Cyanosis, contracted pupils, and vomiting may occur. Once a fatal result was seen. Chronic bronchitis with anæmia may appear after long exposure to the vapor. Results similar to the above have been obtained in animals. Hyperæmia, minute hemorrhages, a considerable hyperplasia of the pulmonary epithelium were among the chief morbid changes. Petroleum applied to the skin may induce moderately serious symptoms. A diffuse inflammation of the cutis may occur in severe cases. Petroleum has been taken internally with suicidal intention or by misadventure. The symptoms have not always been in proportion to the amount taken. There are two sets of symptoms: 1, Gastro-intestinal, the kidneys being also involved; and 2, nervous. In the former case there is vomiting as well as the local irritation in the mouth and gullet. Diarrhœa, with colic, may supervene. In the cerebral form there are headache, anxiety, vertigo, and the pulse is small and infrequent; collapse may occur. It resembles a medium degree of alcoholic poisoning. Tetanic convulsions have been seen. A marked petroleum smell has been noted in the sweat and also in the urine, which may sometimes smell of violets. The urine may also contain albumin and formed elements. In no previous case has an immediate fatal result been reported. The author refers to two recorded cases in children, both of whom recovered. The author's case occurred in a rachitic child who had suffered from diarrhœa. The amount taken was unknown. Vomiting ensued, and the stomach was washed out and clysters were used. Two hours afterward the child was unconscious, and three hours after admission into the hospital it died in coma. No pathological changes sufficient to account for death were found. The case appeared to be one of a cerebro-spinal intoxication. Frequent pulse, difficult breathing, and comparatively low temperature were observed.—*Berliner klinische Wochenschrift.*

The Circulation of the Blood in the Brain During the Epileptic Attack.—We learn from the *Occidental Medical Times* that Dr. A. Todorski has made a number of experiments on dogs in the laboratory of Professor Bechterew, in which he measured, during the epileptic attack, the arterial and venous blood pressure, as well as the cerebro-spinal pressure, which latter was taken in the foramen vertebrale from behind and above the arch of the atlas. The spasms were produced either by stimulation of the cerebral cortex, by means of the faradic current, or by venous injection of essence of absinthe. In cases in which the epileptiform spasms were produced by faradic stimulation of the cerebral cortex in dogs not under the influence of curare, an increase in the arterial presure, taken in the internal carotid or crural artery, set in some seconds after the stimulation or at its commencement; at the same time there was an elevation of the venous pressure (taken in the internal jugular and the longitudinal sinus). The venous pressure remains increased as long as the faradic current is applied. During the period of tonic spasms, a similar increase in the arterial and venous blood pressure is observed, reaching its maximum at the beginning of the clonic contractions. The arterial pressure diminishes before the venous blood pressure shows any diminution. The venous pressure again becomes normal at the end of the comatose state. The same observations were made on curarized dogs, and after section of the vagus and sympathetic, thus showing that the increase in the venous blood pressure in the brain was not due to obstruction to the flow of blood into the chest and abdominal cavities by the excessive muscular contractions. The increase in the pressure of the cerebro-spinal fluid during faradic stimulation runs parallel with the arterial and venous pressure. This increase lasts frequently longer than that of the arterial and venous pressure. The author concludes from these results that the rush of blood to the brain during the epileptic attack produces an increased secretion of cerebral lymph. When the epileptiform spasms were produced by injection of essence of absinthe, it was observed that the curve of increase of the cerebro-spinal pressure frequently showed an upward tendency immediately after the injection, while the arterial blood pressure fell. Whenever the increase in the cerebral pressure reached a certain height, the epileptic attack would set in, while the cerebro-spinal pressure would rise still higher. Otherwise, the results were the same as when stimulation was made with the faradic current.

Prevention of Mastoid Disease.—Dr. Burnett maintains that acute mastoiditis is an entirely unnecessary result of acute otitis media, and never occurs except as a consequence of improper treatment of the primary acute inflammation of the middle ear and the nasopharynx, usually inflamed at the same time. The treatment of an acute otitis, he claims, should be largely negative, especially after discharge sets in, as the result of either paracentesis or spontaneous rupture of the membrana tympani. This view is based on the fact that the acute otitis media is due to the presence of a pathogenic germ, generally the streptococcus, in the middle ear, whither it has gone from the nasopharynx. Inflation of the nasopharynx under such conditions tends not only to drive more such germs into the middle ear, but the germs already there into the mastoid cavity. Inflation of the nasopharynx also tends to force pathogenic germs into the

unaffected ear, if there be such, and set up inflammation there. To relieve carache in acute otitis media, a few drops, warmed, of a solution of carbolic acid (1 to 40) may be applied to the canal and membrana tympani, if it can be borne. Dry heat over and about the auricle, however, is often sufficient to give relief, and it never irritates. Leeching, counter-irritation, and all forms of anodyne drops are not only useless, but further irritate, cause artificial inflammation in the canal and membrana, and mask the true state of affairs. If pain in the ear continues and spontaneous rupture of the drum membrane does not occur in from six to twelve hours, paracentesis of the membrana tympani should be performed. This should be preceded by the instillation of a few drops of an antiseptic solution into the auditory canal. Immediately after paracentesis or spontaneous rupture of the membrana, nothing should be syringed, mopped, swabbed, or blown into the ear. The auditory meatus should be stopped with antiseptic gauze—preferably iodoform or carbolic-acid gauze—and let alone for twenty-four hours. The discharge which now sets in is beneficent and should be favored by the drainage obtained with the gauze, as just stated. If any other procedure is adopted, staphylococci, ever present on the skin of all of us, are likely to get into the auditory canal, upon the membrana, through the perforations, and into the middle ear and mastoid cavities. Secondary infection is thus set up, chronicity is established, and the physician in charge of the case is confronted with the direful sequelæ named above. The occurrence of acute mastoiditis as a sequel of acute otitis media has been especially frequent since the introduction of hydrogen binoxide into aural surgery. This can be explained by the expansive action of the drug named, which forces pus from the middle ear into the mastoid cavities.—*The American Journal of the Medical Sciences.*

Tuberculous Cervical Glands and Carious Teeth.—Dr. Starck was able to demonstrate, in forty-one per cent. of his cases of tuberculous cervical glands, the existence of carious teeth. The glandular disease corresponded in location, in time of development, and in intensity with the condition of the teeth. Caries of the teeth of one or the other side of the jaw was associated with enlargement of the glands of the same side, and caries of the front teeth existed in conjunction with enlargement of the anterior glands, while caries of the molars was combined with enlargement of the glands about the angle of the jaw. Previous to the development of the glandular enlargement, there was frequently a history of toothache or caries. Caries of many teeth was usually associated with enlargement of a chain of glands, while caries of a single tooth and slight enlargement of the glands existed together. He reports two cases in which he was able to demonstrate positively that carious teeth had been the point of entrance of the tuberculous poison. One was that of a boy, aged eighteen years, the other that of a girl, aged fourteen years. They had no hereditary predisposition to tuberculosis and previously had always been healthy. In both cases the glandular enlargement ensued subsequently to toothache. In the case of the boy, in two molar teeth numerous tubercle bacilli were demonstrated. In the case of the girl, between the roots of a molar tooth was seen a macroscopic suspicious granulation tissue, which, on microscopic examination, was found to consist of tuberculous nodules and giant cells. In this case, although operated upon, a recurrence ensued after an interval of a year and a quarter. In three other cases such intimate connection between caries of the teeth and tuberculosis of the teeth could not be proved, though it was probable. The carious glands and the enlarged glands should be removed at once, whereby the liability of general implication of the body is reduced to a minimum. A proper hygiene of the teeth is urged, to avoid the occurrence of such glanduar enlargements.—*Münchener medicinische Wochenschrift.*

Carcinoma of the Cervix Uteri in a Girl of Fourteen.—Dr. W. L. Little (*New Orleans Medical and Surgical Journal*, December, 1896) reports that he was called to see the patient in question, on May 15, 1895. She was anæmic, had but little appetite, and every month would complain of headache, backache, and general languor. He diagnosticated the case as one of chlorosis. After treatment, menstruation set in. Soon after this she suffered from menorrhagia and dysmenorrhœa, and subsequently had leucorrhœa. An examination was made, and cancer was suspected. After consultation this diagnosis was confirmed, but, because of extensive adhesions involving the cervix uteri, vaginal walls, and surrounding tissues, operation would have been futile. Later, the tissues began to break down from ulceration and the discharge became more characteristic, the rectal walls becoming implicated. These conditions became more aggravated, until the patient died, on October 23, 1896.

A Statistical Study of Epidemic Measles.—As a result of a careful study of epidemic measles, with especial consideration of the epidemic observed at Munich in the year 1887, Möller (*Archiv für Kinderheilkunde*, B. xxi., H. 4, p. 241) formulates the following conclusions: There is no such periodicity of epidemics of measles, with constant intervals, as to justify the acceptance of a law of periodicity. The occurrence of an epidemic of measles requires the introduction of the contagium and the presence of a number of persons not previously affected with the disease. Besides, the epidemic occurrence of measles depends upon the coincidence of yet unexplained accessory causes varying with the season of the year. Whether or not the warmer period of the year, directly through the higher temperature, or indirectly through attenuation of the contagium in consequence of freer ventilation of living rooms, exerts a favorable modifying influence upon the morbility of measles has not yet been determined. The mortality of measles in Munich has reached two maxima during the year for a period of twenty years, a smaller in December and a higher in May and June. The mortality of measles in Munich during the first and more especially during the second half of the decennium from 1880 to 1890, while almost treble the average for the preceding decennium, declined considerably in the succeeding years. No period of life possesses entire immunity from infection with measles, although the predisposition is less in infancy. Almost the total mortality in Munich is confined to the first five years of life; the first and second years present approximately the same absolute mortality. The relative mortality in Munich is for the first year fifty-five times, for the period from the second to the fifth year twelve times as high as that after the age of five years. Although in consequence of the shortening of the interval between epidemics the average age of morbility has fallen, a lowering of the average age of mortality has not taken place in Munich. Both sexes suffered alike in Munich in regard to the morbility of measles. The absolute as well as the relative mortality in Munich displayed considerable differences in different parts of the city. It rose and fell with the number of births. The explanation for the greater fatality in the suburban portions of the city populous with children is to be found in want of care and insufficient nutrition. Primary thoracic rachitis trebles the disposition of the patient suffering with measles to catarrhal pneumonia and doubles the gravity of this complication.

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PUBLIC MONEY FOR PRIVATE USES.

AT a recent dinner given by the Society of Medical Jurisprudence Mayor Strong made some very pertinent remarks on the private abuse of public charity in connection with the use of the city's money for the support of the many institutions that are constantly begging for special appropriations. He said very truly: "We should, as a municipality, cease to give city money to institutions that are organized to be carried on and supported by private subscription. We find in many instances that after three or four years these institutions come to the board of estimate and make claim to a share of the money set aside for the use of deserving institutions."

After asserting that the money thus obtained is seldom if ever used for the purposes indicated, he continued:

"The city is being preyed upon by a number of private institutions that, through the aid of the legislature, appear as claimants for some of the money devoted to charity and charitable work, and whose officers do not devote that money, when they get it, to the purpose of assisting the poor, as they assert they will apply it. It is you doctors and lawyers who can go before the board of estimate, and, by putting in a proper protest at the right time, can prevent these private institutions from getting public moneys that they use to pay off debt on real estate owned by them, or to increase their real-estate holdings, instead of giving it to the poor they profess to aid. They come and ask the board to award them sixty cents or fifty cents or thirty cents per head for the inmates in their institutions, and do not turn a cent of it over to the assistance of these inmates. The city should be compelled to abandon this system of aiding institutions organized with the specific pledge that they are to be supported by voluntary and private subscriptions."

All this is perfectly true, and it is encouraging to know that a high official acquainted with the internal workings of this gross abuse should thus emphatically call public attention to the matter. It is evidently the committee which can talk loudest and longest and which has the strongest pull with the commissioners that gets the best showing. The medical profession, at least, is sick of the cant about the deserving poor who can only be reached through special channels of discriminating charity. Nowadays discriminating charity, so-called, is a well-recognized plea for every form of covert swindling. The city's money is openly used for the promotion of private enterprises to advance designing doctors and hypocritical managers. Only last year a bill was rushed through the legislature to help support an institution having no claims whatever on charity and whose chief medical officer uses said institution in a most disgraceful manner as a means of advertising an absurd specialty. Other instances of this sort might be mentioned, but they are too well known to the profession to need special reference. If these fake enterprises are not self-supporting, they deserve a natural death. The poor have always been well cared for independently of this loud-mouthed and pretentious missionary work. There are too many hospitals already, while the dispensaries, public and private, exceed every necessity for which they were founded. In spite of all these facts the Board of Estimate has just granted the sum of one million and a half and over for the clamorous supplicants. If each one of the begging private charities, clinics, medical schools, and the like were compelled to present their special claims fairly and squarely before the public as a proper preliminary for obtaining necessary protests, much of this growing abuse might be effectually nipped in the bud.

THE DOCTOR'S MISTAKES.

WHILE it is unnecessary to deny that all human judgment is fallible, it is eminently judicious on the part of such as are called upon to venture opinions on probabilities to lessen as much as possible the chances of proving a rule. In the case of the doctor, the difficulty in fitting a prognosis to an ultimate fact is oftentimes insurmountable. The law of chances, with its multiplicity of controlling circumstances, is always against positive and unqualified assertions. The patient himself, with his hereditary proclivities, his individual environment, and his inherent vital power, is always an uncertain factor in a calculation of results. Even taking all such conditions into account, the best of men err. No one can be so sure that he is right that he has never had reason to regret that he has been too direct and too positive in the expression of an opinion. Our patients are never charitable in condoning this fault, but always hold it against the man who commits it. The more he attempts to explain, the worse off he is. The results of an autopsy are past all arguments for reconciling prognostications with facts. If the patient lives when otherwise he should die, he never loses his lucky privilege of talking back. His family and friends forget the joy of his recovery, often in spite of fate, in the satisfaction of getting even with the physician who gave up his patient so prematurely. The sympathies are always on the side of the man who wins, and, while no one regrets his reason for felicitation, the absence of one less witness against us might under other circumstances be borne by us with becoming resignation. The lesson is learned too late, that of saying and promising too much, and in thus doing more than our real duty to our patients. When we

cannot control the causes of disaster, it is worse than folly to predict results. If we mistake a seventy-year clock for a twenty-year one, the pendulum in the former generally swings on until it runs down in its own regular way. It is the vital pendulum, after all, that must be studied, and until it actually stops it is never safe to say what is or what will be.

In all our relations with our patients, it is the safer and better rule to be more than cautious in our temptations to think aloud in their presence. A discrete general guards his line of possible retreat with as much care as that of attack, concluding that while it is quite bad enough to be defeated, it is still worse to be hopelessly bagged by the enemy. The older practitioner need not be told that the practice of his art is constantly beset by startling surprises. Patients not only get well who should die, but many die without ostensible scientific reasons. To reconcile these constantly recurring experiences makes him an ever-ready trimmer to circumstances and an adept diplomatist with shifting fortune. While apparently knowing everything, he finds it eminently fitting his actual position to know little and say less. The loophole of expediency is as essential to him as are his advice and prescription to his patient. He learns to be astonished at nothing and always on the lookout for the unexpected. A sudden death is always explained with greater plausibility by the man who never declares his positive prognosis than by the one who has previously committed himself to its impossibility. So also with a doubtful diagnosis. It is always wiser to wait and see the eruption than on general reasoning to promise its appearance, to be sure that pus is present before risking a dry tap. The qualifying "if" comes in everywhere and every time. If the patient does not die, he may live; if pus is not present, the signs are simply misleading; if the case is not one of measles, the clinical history is wrong and the patient has not been exposed; if it is not diphtheria, the bacteriological examination is at fault; if the wound does not heal, the sutures were not thoroughly aseptic. When nothing is promised, nothing is expected. We must balance one condition by the other, and the more evenly we do this the less often will the physician be charged with what he cannot reasonably help. A guarded mouth never needs to explain why the foot dropped in.

YAWS.

Most readers probably have an indefinite idea as to what constitutes the disease termed "yaws." They know the term as a synonym of frambœsia, and are aware that the latter name is derived from the resemblance which the fungus-like outgrowths or vegetations bear to the raspberry. Recent graduates can tell you offhand that it is a contagious disease of chronic course, occurring in India, the West Indies, and upon the west coast of Africa, where it exists in endemic form; but do not ask them to go into the etiology. Indeed, unless the student has come from one of these far-off lands himself, he will scarcely be able to give a good description of the affection or shed light upon its behavior with or without drug administration. It is therefore with considerable satisfaction that we see the term "yaws" at the head of an article bearing the name of Sir Jonathan Hutchinson, in *The Medical Press and Circular* of November 18, 1896. The writer here expressed the conviction that there is no such disease as yaws, and he asserts that he has long been of the opinion that the latter is simply syphilis modified by climate and race.

The term frambœsia, he recalls, was applied to outbreaks of syphilis in Scotland many years ago, when the eruptions were associated with papillary overgrowth giving the appearances which were thought to resemble raspberries. Frambœsia-like eruptions are met with in syphilitic subjects at the present time in England, and lesions of a granulomatous nature are not uncommon in European syphilitics.

If a negro with yaws starts across the Atlantic, his disease develops into unmistakable syphilis before he has been long on his voyage. This is the reason that cases do not arrive in England to become the subject of scientific investigation. While not admitting the identity of the disease with syphilis, many physicians in countries where it flourishes admit the efficacy of mercury. Reinfection is admitted for yaws, but the same is true of syphilis, and in the literature of the subject the distinguished author finds no differential feature which clearly points to the disease in question not being syphilis.

News of the Week.

The Charing Cross Hospital in London is said to be in financial straits, and the hospital authorities have made a modest appeal to the charitable public for half a million dollars to get them out of their distress.

A Medical Report Without the Sanction of the Medical Staff.—We have received a document signed by the entire consulting medical staff of the Hebrew Sheltering Guardian Orphan Asylum, viz., Carl Beck, M.D., W. T. Alexander, M.D., Henry S. Oppenheimer, M.D., James G. Wallach, M.D., H. T. Brooks, M.D., George H. Fox, M.D., A. T. Swan, M.D., William S. Gottheil, M.D., stating that the medical report in the recently issued annual report of the said asylum was made without the knowledge or consent of the medical officers of the institution (!). The consulting medical board desires to disclaim all responsibility therefor. Who then is capable of bearing the responsibility? The doctor is growing to be a useless appendage even to a hospital!

Christmas in the Hospitals.—The Polyclinic Hospital was destroyed by fire, which spread from a burning factory in the rear, on Christmas morning. There were fifty-five patients in the building at the time, but all were removed in safety to a neighboring hotel. Two bodies of patients recently dead were also removed without accident. In the afternoon of the same day there was a small fire in St. John's Guild Free Hospital for Children in West Sixty-first Street.

It was extinguished by means of a few pailfuls of water and very little damage was done. There were more than thirty patients in the building, but it was not found necessary to remove them. A small fire in some old clothes in a closet in the Brooklyn Orphan Asylum on Christmas evening did no damage beyond scorching the woodwork of the closet, but it created intense excitement for a while among the children.

The Plague in London.—There have been two cases of the bubonic plague in London, occurring in the persons of two sailors recently arrived from Bombay. The cases occurred in September and October, and no others have been discovered since that time.

International Medical Congress.—The managers of the surgical section of the Twelfth International Medical Congress to be held in Moscow, Russia, in August, 1897, have invited Dr. Stephen Smith to accept an honorary presidency and preside at one session of the section.

The Albany Medical College Alumni Association of Greater New York.—At the annual meeting of the above-mentioned association held at the residence of the president, Dr. John W. Warner, No. 107 West Seventy-second Street, New York, on December 17, 1896, the following officers were elected for the ensuing year: *President*, William H. Thomson; *Vice-President*, Reuben B. Burton; *Secretary*, Warren C. Spalding; *Assistant Secretary*, Henry T. Brooks; *Treasurer*, Edward F. Quinlan. The annual banquet will be held Thursday, January 21, 1897.

Prohibition Whiskey.—At the Benwood oil field in Monroe County, O., four men have been killed and a dozen others poisoned by a substitute for spirits said to be composed of alcohol, cinnamon, and sugar. It was supposed to be diluted with water before being taken. The liquid was sold by a local grocer, and does not seem to have been put up in conformity to the pure-food law.

Philadelphia County Medical Society.—At a stated meeting of the Philadelphia County Medical Society, held on December 23d, Dr. Silas D. Updegrove read a communication entitled "A Uniform Standard of Medical Education for the Degree of Doctor of Medicine." Dr. F. Savary Pearce read a paper entitled "The Protean Influence of Pregnancy upon Idiopathic Epilepsy." Dr. Mordecai Price read a paper entitled "A Report of Cases in Abdominal Surgery, with Remarks."

Execution by Gas.—Some time ago the Allegheny County (Pa.) Medical Society appointed a committee to make an exhaustive investigation of the present methods of executing condemned criminals, and to recommend a substitute for hanging or killing by electricity. The committee has now concluded its investigations, and will recommend that gas be substituted for the rope and electric chair. It is claimed that condemned prisoners could be put to death by this agent painlessly during sleep. It is proposed that the society draft a bill for presentation to the Pennsylvania legislature this winter providing for the change.

More Resignations from the Staff of the "Medico-Surgical Bulletin."—The following are the additional resignations from the editorial staff of the *American Medico-Surgical Bulletin:* Drs. William H. Porter, William C. Guth, Thomas S. Southworth, Adolph Zeh, T. Halsted Myers, John Hoch, and Adolph Barron.

The Plague at Bombay is increasing. An Associated Press dispatch, dated December 28th, states that there have been 2,094 cases and 1,494 deaths from that cause up to date. The exodus from the city continues, and the newspapers threaten the natives with martial law unless they conform with the sanitary regulations.

A Medal in Commemoration of Dr. Muhlenberg, the founder of St. Luke's Hospital in this city, was presented on December 28th to the board of managers by the American Numismatic and Archæological Society.

Trouble in a Hospital.—The physicians and nurses of the New York Medical College and Hospital for Women have had a disagreement with the trustees and have severed their connection with the institution. The hospital belongs to the homœopathic school.

The New York Polyclinic Hospital, which was burned on Christmas morning, is to have a new site and a new building as soon as the necessary funds can be obtained. For the present the trustees will secure temporary quarters as near as possible to the site of the former building.

Death of a Bone Setter.—"Dr." Charles Sweet, who at one time enjoyed a great reputation throughout New England as a natural bone setter, died at his home in Lebanon, Conn., on December 22d, at the age of eighty-five years. His cures, which were effected chiefly by the forcible breaking up of adhesions in cases of fibrous ankylosis following fracture, won him fame and considerable money. All the members of his family were "gifted" in the same way as himself.

Mrs. Garrett Anderson, M.D., has been elected president of the East Anglian branch of the British Medical Association, much to the disgust of some of the misogynists of the profession in England.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending December 26, 1896. December 21st.—Passed Assistant Surgeon R. M. Kennedy, ordered to the Naval Hospital, Norfolk, December 28th. December 22d.—Surgeon Charles T. Hibbett ordered to the Norfolk navy yard. Surgeon N. McP. Ferebee detached from the Norfolk navy yard and ordered to hold himself in readiness for sea. December 23d.—Surgeon R. Whiting detached from the *St. Mary's* and ordered before the retiring board at Washington, December 28th, then placed on waiting orders. December 24th.—Passed Assistant Surgeon R. P. Crandall detached from the Naval Hospital, New York, and ordered to the *St. Mary's*.

The County Medical Society on Leprosy.—At the regular meeting of the Medical Society of the County of New York, held December 28th, the committee on leprosy, consisting of Drs. George B. Fowler, Fox, Piffard, and A. A. Smith, presented its report. The substance of the report was that, while leprosy may undoubtedly, under certain circumstances, be communicated by contact, yet the disease is not dangerously contagious, and that the adoption of a policy of segregation here would be unnecessary and unjustifiable.

Succi, the Faster, recently gave a fasting exhibition in Paris, at the conclusion of which he became insane and was taken to a hospital. He was born in Italy about forty years ago, and during the past ten years had given fasting exhibitions for a living and was said to have made a moderate fortune in that way. In 1890 he gave a six weeks' fasting exhibition at a vaudeville house in this city. His claim was that he had discovered, while travelling in Africa, a plant the juice of which had the property of retarding tissue changes, so that it was possible to exist and maintain one's strength for a long time without food by taking a small quantity of this juice, which he called his "elixir," from time to time.

Pasteur's Final Entombment took place in Paris on Saturday morning, December 26th. It was intended to have the ceremony take place on December 27th, the anniversary of his birth, but as that day was Sunday it was decided that it should be on the day preceding.

Poisoned by Headcheese.—Twenty-five men of the cavalry detachment stationed at West Point were made seriously ill by some canned headcheese which was served to them at supper on December 21st.

Influenza is reported to be more prevalent in Berlin at present than for two or three years past.

Typhoid Fever at Mount Sinai Training School.—There have been recently twelve cases of typhoid fever among the sixty-six pupils in the training school for nurses connected with the Mount Sinai Hospital in this city. It is not known how the disease was acquired.

Medical Inspection of Schools.—Dr. George B. Fowler writes: "In your notice of the medical inspection of schools on page 931 of your last issue, you erroneously state that the appropriation was granted to the board of education. The fact is that the whole scheme originated with the board of health and the appropriation was granted to it. The process is being carried out by said board, and the co-operation of the board of education was sought and, after considerable explanation, was granted."

The Pan-American Medical Congress.—A curious boycott seems to have been placed upon the Mexican meeting by the medical press of this country. We have seen no report of the meeting in any of our esteemed contemporaries, save a letter in the *Medical News*, copied by the *Columbus Medical Journal*, in which two or three slight inaccuracies in our own account, due to the unavoidable haste of preparing a telegraphic report, were faithfully reproduced. We cannot understand this universal silence, but we think our contemporaries have been somewhat discourteous toward our Mexican confrères, as well as neglectful of the small number among their readers who have not the privilege of keeping up with the times by gleaning the weekly budget of news always found in the MEDICAL RECORD.

Preserved Meat in France.—After January 1, 1897, the stock of preserved meat for consumption in the French army can only be replenished with meat preserved in France or the colonies, or in countries under her protection, such meat to be furnished by native cattle, and the preserving to take place under the supervision of the State or in a State establishment.—*Médecine Moderne.*

The Hughlings Jackson Lecture.—The Neurological Society of London has voted to institute an annual lecture bearing the name of the first president of the society. Unlike most annual lectures established to perpetuate the memory of some great man or benefactor, this will be begun in the lifetime of the one to be commemorated, and the first lecture will be delivered by Dr. Hughlings Jackson himself.

Wisconsin State Hospital for the Insane.—Dr. Alfred W. Wilmarth, first assistant physician in the Pennsylvania State Hospital for the Insane at Norristown, has been elected superintendent of the Wisconsin State Hospital for the Insane at Chippewa Falls. Dr. Wilmarth was formerly assistant superintendent of the Pennsylvania Institution for Feeble-Minded Children, at Elwyn.

Philadelphia Pediatric Society.—The Philadelphia Pediatric Society was organized at a largely attended meeting held in the hall of the College of Physicians on December 22d. Constitution and bylaws were adopted, and the following officers elected for the ensuing year: *President*, Dr. J. P. Crozer Griffith; *First Vice-President*, Dr. E. Graham; *Second Vice-President*, Dr. Arthur V. Meigs; *Third Vice-President*, Dr. F. A. Packard; *Secretary*, Dr. Alfred Hand, Jr.; *Treasurer*, Dr. C. F. Pettibone; *Executive Committee*, Drs. Alfred Stengel, J. Madison Taylor, Charles W. Burr, William B. Atkinson, and Thompson S. Westcott.

"Science Made in Germany."—In my last letter I referred to the fact that a German ophthalmic surgeon had been called to examine Queen Victoria's eyesight. We have now had another example of "science made in Germany." The justly celebrated Dr. Koch has just sailed from here for the Cape to investigate, at the instigation of the Cape government, the rinderpest, which is now devastating South Africa. With all due respect to the Berlin savant, surely the methods of investigation are now such common property, and there are among us so many well-known pathologists, that it would have been possible to find many who were quite as capable of undertaking such an inquiry.—*London Correspondence of the Therapeutic Gazette.*

The Associated Alumni of the Mount Sinai Hospital, newly organized, have elected the following officers: *President*, Dr. Albert H. Fridenberg; *Vice-President*, Dr. Richard H. Cunningham; *Secretary*, Dr. Martin W. Ware; *Treasurer*, Dr. Edwin Hernberger.

Medical Inspectors for Public Schools.—The Philadelphia board of education has elected Dr. Katherine Kollock assistant professor of physiology and hygiene in the Girls' High School. Her duties will include the medical supervision of the pupils attending the school. In commending this action of the board of education, Dr. William H. Ford, president of the board of health, expressed the hope that in time similar supervision will be extended to every school in the city.

A Duellist Doctor.—That it is not always well for a physician to enjoy a reputation for duelling was illustrated last week in the upper part of the city. The report goes that a graduate of a German university, whose face bears the scars of many a *mensur*, had recounted his exploits and prowess to a druggist's clerk with whom he had a personal difference of opinion. It is even stated that a threat had been made to add the aforesaid dispenser of drugs and toilet articles to the already long list of victims whose blood had tinged the waters of the Necker and the Rhine. It was therefore not so much to be wondered at that, when awakened in the dead of night by a pounding on the drugstore door, accompanied by sundry deep-toned shouts, the clerk should have become terror-stricken on catching sight of his most dreaded foe through the window pane. He rushed to the telephone and a hurry call was sent in to the nearest police station for a squad to arrest a would-be murderer. It required but a few minutes for a detachment of bluecoats to reach the scene, when it was learned that a desire to save life and not kill had actuated the physician in his efforts to gain entrance to the pharmacy. A certain drug was needed for a dying woman in the vicinity. The police remained while the drug clerk put it up. The patient recovered and the doctor laughed last.

College of Physicians of Philadelphia.—At a stated meeting of the section on general surgery of the College of Physicians of Philadelphia, Dr. Randolph Faries reported a case of indirect inguinal hernia in a child two weeks old. Dr. Thomas S. K. Morton exhibited a case of cured dermoid cyst of the orbit. Dr. Max J. Stern exhibited for Dr. John B. Roberts photographs and a skiagraph of a case of Charcot's disease of the knee. Dr. Thomas G. Morton exhibited a case of locomotor ataxia presenting an arthropathy at the right knee, the patella being displaced to the outer aspect of the joint. The condyles of the femur were apparently enlarged and the calf of the leg was also of unusual size. Dr. Stern reported a case of osteotomy for deformity following fracture of the lower end of the radius, and exhibited skiagraphs, photographs, and a plaster cast. Dr. A. C. Wood read for Dr. C. B. Penrose the report of a case of pancreatic cyst cured by operation. Dr. W. W. Keen reported a case of a large pancreatic cyst, abdominal section and drainage, recovery. A dinner, given by the college on December 15th, was largely attended. The special feature of the occasion was the presentation of a bust of Dr. Henry J. Bigelow by Dr. John B. Roberts in behalf of a son of Dr. Bigelow. The gift was gracefully accepted by the president of the college, Dr. J. M. Da Costa. Toasts were responded to by Drs. S. Weir Mitchell, who made a humorous narration in verse: Dr. William Osler, of Baltimore; Drs. Horatio C. Wood, William W. Keen, and George E. de Schweinitz. Extemporaneous remarks were made by Drs. Abraham Jacobi and John S. Billings, of New York, and Dr. Robert Fletcher, of Washington, D. C. At a stated meeting of the section on gynecology on December 18th Dr. Alexander J. C. Skene, of Brooklyn, read a paper entitled "Notes on the Diagnosis and Treatment of Diseases of the Female Urinary Organs." Following the address a well-attended reception was held at the University Club.

Obituary Notes.—Dr. Charles Heitzmann, one of the best-known pathologists and dermatologists of this country, died in Rome, Italy, on December 6, 1896, of chronic myocarditis.—Dr. James H. Trumbull, of Chili, died in Iquique on November 12th. He was born in New England and was graduated from Yale College in the class of '48. He studied medicine in the College of Physicians and Surgeons in this city and went to Chili immediately after graduation in 1852. He had resided in that country since then, being one of the leaders in the profession in Chili.—Dr. Selden W. Jones, of Leavenworth, Kan., one of the oldest practising physicians in the State, died on December 16th. He was a native of Boston, Mass.—Dr. Frederick Arnold Manning died on December 3d, in Denver. He was born in Eddyville, Ia., May 4, 1859, and was graduated in medicine at the College of Physicians and Surgeons, New York. He served for eighteen months on the surgical house staff of the New York Hospital. He then entered practice in this city and was appointed to various hospitals in positions of trust. In the summer of 1894 he was attacked by pulmonary tuberculosis and in 1895 he went to Colorado in search of health. The form of his disease was, however, active from the start and the climatic advantages were unable to check its progress. Dr. Manning was a brave, kind-hearted, unselfish man, and will be sincerely mourned by all who knew him. He was a member of the leading medical societies of this city. He leaves a wife and child. He was buried at South Coventry, Conn.—Dr. George Urquhart died at Wilkesbarre on December 19th at the age of sixty-eight years. He was graduated from Jefferson Medical College in 1850, and was among the first physicians to volunteer to go to Gettysburg to care for the wounded after the great battle.—Dr. J. W. Cole, of Hazelton, died on December 15th of pneumonia at the age of thirty-five years.—Dr. James Robinson died at Philadelphia on December 13th, at the age of fifty-one years. He was born in Ireland, and graduated from Jefferson Medical College in 1887. He had been for a number of years a pastor in the Presbyterian Church.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Special Meeting, November 27, 1896.

R. W. PRYOR, M.D., CHAIRMAN.

The Treatment of Puerperal Eclampsia.—DR. J. CLIFTON EDGAR read the paper (see p. 913, vol. 50),

Eclampsia Can be Prevented.—DR. EDWARD P. DAVIS, of Philadelphia, opened the discussion. Two years ago he had spoken in New York on the toxæmia of pregnancy, and he might say that experience since had strengthened his belief that eclampsia was largely preventable. The amount of urine was, as a rule, a valuable index to the amount of solids, a scant quantity pointing to deficient excretion and the necessity for special diet or preventive measures. Tarnier's statement that the mortality at his clinic had been thirty-eight per cent. until he had adopted in all cases of deficient elimination a rigid milk diet, when it fell to nine per cent., was a most forcible illustration of the value of preventive treatment.

Dr. Davis called attention to the fact that symptoms relating to the nervous system, as melancholia, were frequently the first indications of deficient elimination. The warm bath at night took the place of chloral or bromides in inducing sleep and at the same time aided elimination. It was well to give every pregnant woman a diet list.

The interruption of pregnancy when the pre-eclamptic condition was present, in the light of modern science, was not debatable. It was the imperative duty of the obstetrician. He had found dilatation more equal and complete under dilating-bags than when the hands alone were used.

Before speaking of the treatment of the eclamptic attack, he wished to say that those who followed out the idea of a toxæmic cause would have few cases among their own patients. But there were consultation cases in which eclampsia had already developed. Certainly emptying the uterus was important. Controlling the convulsions was immediately indicated. Cæsarean section would be the ideal method of emptying the uterus at once if the child were the chief consideration, but it was likely to be dead when the obstetrician was called, or stood but little chance of living afterward. Consequently the life of the mother was first to be considered, and if a surgical operation were required it was better to make a clean Dührssen incision into the neck of the womb.

Regarding veratrum viride, he agreed with the author that it belonged to the apoplectiform cases alone. Salines were indicated. Atropine was to be used in pulmonary œdema. Digitalis and strychnine gave better results than the latter drug alone. On other points the author agreed with Dr. Edgar. Since it had become his custom to have the elimination of pregnant women watched, he had not seen a case of eclampsia except in consultation practice.

Empty the Uterus Too Soon Rather than Too Late.—DR. CHARLES JEWETT, of Brooklyn, believed in prophylactic measures, remedial and dietetic, when the urine and other facts pointed to deficient elimination and threatening eclampsia, but when these measures failed to produce a response he emptied the uterus, and preferred to empty it too early rather than take the chances involved in allowing the symptoms to go on. The viability of the child was worth little prior to the ninth month, in the uræmic mother. For dilatation the water bag was, all things considered, worth more than the hand, but there were cases which yielded so readily to the hand that it constituted the more rapid and satisfactory means. For the control of eclampsia in labor, chloroform was very valuable, but it added danger if its use had to be continued long. Veratrum viride was the most valuable of the drugs. Dührssen's incisions should be reserved for emergency. He believed venesection would come into more general favor, especially when the attack was attended by a good deal of cyanosis. Saline injections had been of great value in his hands. He had relied largely on water as a diuretic in prophylactic treatment. While milk diet was of value, yet in his experience it had not been sufficient without other food to support the patient more than two weeks. His experience had not been so favorable with trinitroglycerin as with veratrum.

Surgical Methods in Obstetrics.—DR. EGBERT H. GRANDIN thought there was little ground for difference of opinion with regard to the prophylactic treatment of eclampsia. He was satisfied that Dr. Davis did not make use of too strong a statement when he said that eclampsia was a preventable disease. A pregnant woman duly watched by her attendant ought not to have eclampsia, or, if premonitory symptoms developed, she ought not to die. In the past we had been taught too much to watch for albumin and too little to watch for urea. Toxæmia and not albuminuria was the term which should be employed. The term urinæmia and not eclampsia should be drilled into the mind of the student.

The speaker said he now came to the question which interested him most, and yet he approached it with diffidence, since quite lately in this city a leader in the obstetrical world had referred rather sneeringly to the surgical tendency of the younger obstetricians. It was the surgical tendencies, together with the aseptic tendencies, which had made the lying-in room to-day as different from that of the past as the heavens were above the earth. It was the distinctly surgical tendencies of the younger gynecologists and obstetricians which were robbing labor of its dangers. As he stood prepared again to advocate the surgical tendencies, it was with the diffidence which the pupil should always yield to the master.

The following statements were based on his personal experience: Given a woman with impending eclampsia, and the rule of action should be surgical as speedily as the surgical instrument which the Almighty had given us, the best of all, the hand, could do it. There was no time for Barnes' bags, nor for other dilating-bags. After the seventh month and a half of utero-gestation, in primiparæ as well as in multiparæ, the hand, and the hand alone, barring exceptional cases, could, in a shorter time than any drug could possibly do, place the woman in such a position that the mortality rate, as pointed out by Dr. Edgar, was reduced to seven per cent. He was, however, in full accord with all that the reader had said in deprecation of the irrational use of the hand. He also objected to the use of that old and abominable term, *accouchement forcé*, which apparently had been the cause at the late Geneva conference of scarcely a voice being raised in favor of rapidly emptying the uterus. The procedure which he advocated, and which had been described by Dr. Edgar, was not *accouchement forcé*. There was nothing forcible about it. It was simply a muscle yielding to applied pressure. The uterine muscle would yield to the applied pressure of finger after finger even as would the sphincter ani, only it took a little longer. When time was not a factor, the gauze tamponade should always be used for six or eight hours to secure preliminary softening of the cervix and lower uterine segment. In every case in which urgency did not allow of this preliminary tam-

ponade, any man who could not dilate the cervix and empty it within thirty minutes, in ninety-eight and a half per cent. of cases, did not know how. And absolutely no force should be used at all. Due care should be taken entirely to paralyze the cervix and lower uterine segment before any attempt was made to extract the child, which should always be done by version when there was sufficient liquor amnii present to allow it. Delivery must be effected rapidly, else the cervix would recontract. Then the colon should be washed out with gallons of water, as much as sixteen to twenty gallons. This would also cause a more profuse diuresis than a Turkish bath. With such treatment one would find even the mortality of seven per cent. in eclampsia disappearing. He was opposed to Cæsarean section, and had made deep incisions into the cervix but once. He believed in the use of drugs after the uterus had been emptied, but he did not believe in waiting before this for their slow action, when the uterus could be emptied within thirty minutes by the hand and the eclamptic seizures reduced thereby to one-sixth in frequency. If one was not afraid of the surgical tendency in obstetrics and would leave ruts, he would rarely lose a woman in eclampsia, and he might save a third of the children.

Dr. Lusk's Reply.—Dr. William T. Lusk was the next speaker. In reply to his interrogatory, he was informed by Dr. Grandin that it was to a stenographer's report of some remarks which he had made that Dr. Grandin had referred. Dr. Lusk then said he presumed that nobody had been more consistent than he had been from the time of his first essay at teaching, in maintaining that the proper treatment of eclampsia was, whenever the symptoms were sufficiently threatening, or whenever they were threatening at all during pregnancy or labor, to empty the uterus. He was glad to learn that the younger men were keen in mind in that respect. But surgical evacuation of the uterus, or call it by any other name, was abortion, and we did not want to practise abortion unless we had reason for doing so. We did not want to empty the uterus unless there were some symptoms. He presumed Dr. Grandin would agree with him on that point. Yet within twelve months a woman had been brought to him for consultation as to emptying the uterus when there was not a single symptom, but only a trace of albumin in the urine. All knew that during the second half of pregnancy a large proportion of normal women had a slight trace of albumin in the urine. This called, perhaps, for watchfulness and diuretic treatment, but it did not call for surgical treatment.

With regard to prophylaxis, one of the speakers had said, and correctly said, that it was not alone the albumin which should be considered, but all the constituents of the urine. But mention was made of a fall in the amount of urea, while the fact was ignored that urea was not poisonous at all, and the amount of urine was not considered. In some older works on physiology four hundred grains were laid down as an average amount of urea passed daily, yet a woman had been brought to him for consultation as to emptying the uterus because she was passing only two hundred grains of urea a day. The amount of urine was from fifty-two to sixty ounces, and there was not a single symptom. The family was anxious, but he advised waiting, and said that if she reached the thirty-sixth week he would not care if labor was induced. His advice to try milk diet was followed, and immediately the urea increased from two hundred to four hundred grains a day, allowing that the percentage in the urine was the same. She went to term and bore a healthy baby. The course pursued in this case was what he meant in contrast to surgical tendencies. If that woman had had any puffiness of the eyes, dizziness, headache, symptoms of poisoning, he presumed he would have been as ready to empty the uterus as Dr. Grandin would be. But he did not consider emptying the uterus so innocent a thing, in spite of the surgical skill of the younger men of the present time: it was not so innocent as it had been represented. Within a few days a woman had been brought to him to have a fœtus removed. She was somewhat undersized, but the pelvis was normal, and he saw no reason for inducing abortion. When she was informed of this she began to cry, and explained that she had been under great anxiety because her dearest friend had come to the city to be relieved of her baby, and mother and baby were brought home in a coffin. Yet that abortion had probably been induced with great skill. He could recall another case: the uterus was emptied surgically, was packed with gauze; the work was done admirably, and the uterus needed to be emptied: but in spite of the gauze packing there was such hemorrhage that for twenty-four hours the woman was between life and death. He could not help believing, therefore, that unless all these cases were treated by one man such accidents would occur.

Dr. Lusk had been accustomed to Barnes' bags, and liked them, but when Dührssen's incisions were introduced he thought he would use them in order to save time in urgent cases. But, being cautious, he had waited and watched the discussions upon the method since, and had found that not all of those who had tested it had been satisfied with the result. There had been cases of severe and even fatal hemorrhage. He was glad to hear Barnes' bags referred to to-night, as one might have supposed that to some their existence was unknown.

Toxæmia of Pregnancy Divided into Mild and Severe Forms.—Dr. James W. McLane said the cases under discussion had presented themselves to him in two grades. The first, perhaps the most common variety, were cases of mild toxæmia associated with slight albuminuria. These, he supposed, were the cases to which Dr. Lusk had just referred, in which the amount of albumin in the urine was small: there were few nervous symptoms, and the patient, if carefully watched and kept on a milk diet, usually went on through her pregnancy with safety. Possibly as she neared the end and her diet was not restricted, she might show some nervous symptoms which would require interference, but by that time the fœtus was viable and could be removed by the induction of labor. He was not in the habit of treating such patients medicinally. He simply put them on a milk diet and confined them abed a part of the day, for it seemed that if any one thing would increase the albumin in the urine of these patients it was overexertion, especially in walking. There was no objection to their driving out. The bowels were kept free, and the skin active by a daily bath.

Eclampsia not Altogether a Preventable Disease.—The other class of cases was quite different from those just described, and Dr. McLane could not agree with those who believed that eclampsia was altogether a preventable disease. He had seen patients in whom the most careful examination of the urine two or three days prior to the breaking out of the eclamptic seizure failed to reveal anything. He was unable to see how in such cases the accident could be considered preventable. The toxæmia in them was probably compound, for he did not believe we had yet discovered the particular poison, if there was one, which caused the eclamptic seizure. He thought we might well believe that it was made up of a number of toxins, that these were present in the blood during pregnancy, and something, the nature of which we did not know, might be added to them suddenly and produce the explosion. We saw some of these cases just before the convulsion,

and in them we found a hard, full, bounding pulse, a flushed face, usually severe headache, dimness of vision, possibly vomiting, and all within the course of a short time. Personally he knew of nothing which gave so good results in such cases as the immediate abstraction of blood. He preferred venesection to cupping, taking away from twelve to sixteen ounces. He did not mean to say that the venesection would cure the patient, but it gave time in which to do what else was necessary. He would call this the acute variety of cases.

Dr. McLane was a firm believer in the induction of premature labor, but he also believed in watching the case and carrying it along to the period of viability, when the child could be saved. He did not believe at all that the child was damaged by the mother's condition. Some of the best children whom he had watched growing up in the city were children whom he had brought into the world prematurely for this very condition. One woman had twenty-seven convulsions, yet he delivered her prematurely of a vigorous child.

One method of treatment which had not been mentioned, but one from which he had obtained excellent results, was to rupture the membranes and let the waters escape. The action seemed to be similar to that of venesection. Thus obtaining immediate relief, one could then proceed to delivery.

He had been very much surprised at Dr. Grandin's statement with regard to the facility with which the cervix could be dilated in cases of eclampsia. Such had not been his experience. He had seen cases in which it was impossible for the strongest hand to effect dilatation within thirty minutes except by rupture of the uterus; and he had seen the uterus ruptured under such circumstances. He did not believe it was good practice to proceed in this manner, for the reason that these patients were in a state of wonderful nervous tension, and even the passage of a catheter without giving chloroform, or a vaginal examination, would bring on a convulsion. To attack the uterus in this vigorous manner must disturb the nervous system very much. He would prefer to proceed by a gentler method to get the uterus open, by the use of Barnes' bags.

After delivering the woman he allowed her to bleed a little from the womb, had some one sit by the bedside and, when a seizure threatened, give her a few drops of chloroform to inhale. Meanwhile she was rolled up in a hot pack, hot salt water was thrown up the bowel, and the action of the chloroform was promoted by morphine. He had had no experience with veratrum viride, for he had not seen a woman with a pulse after labor and convulsions to whom he would like to give this drug. At first the pulse was strong and full, but after the seizure it was anything else; it was small and feeble.

The temperature was a guide to prognosis. It was high when the patient was going to die. He had seen it as high as 107° F. in the rectum before death, and 108° F. an hour after death.

In conclusion he said that the impression which these cases had always made upon him was that the sooner we got the child out of the uterus the better for the woman, provided the means which we employed were not too severe; that the women who had done best were not those who had been treated by rapid, forcible dilatation, for they were the ones whom they had lost in the hospital—some from rupture of the uterus, some from shock.

Regarding pilocarpine, he had supposed it had been dismissed from obstetrics. He regarded it as one of the most dangerous drugs in the pharmacopœia, and since we could get diuresis without it he thought it was best, for him at least, to let it alone. He had known it to produce fatal œdema of the lungs in one woman who had a fair chance to recover.

Dr. R. A. Murray said he also had found the quickest effect from rupture of the membranes, thus relieving tension. Next in value was withdrawal of blood from the arm. In one or two cases he had stopped the convulsions by using the catheter to withdraw urine which had been retained by pressure of the womb upon the vesical neck. The specific gravity of the urine should be considered in relation to the quantity passed daily. He fully agreed with Dr. Grandin with regard to manual dilatation and rapid delivery. He had accomplished it in less than an hour in three different cases within the past six months, for threatening convulsions in primiparæ. But thirty minutes were required in one case which was more urgent than the others. He would defy any man to rupture the uterus with the fingers. But it could be done in extracting the child. Chloroform and previous venesection aided greatly in getting the dilatation up to the point where the two fingers could be introduced. If time would permit, Barnes' bags should be used. After dilatation had been thoroughly accomplished, delivery should be made rapidly under chloroform, else the cervix would recontract.

Dr. Murray could not agree with the last speaker that the convulsions in the mother did not harm the child. He had seen eclamptic seizures in children, similar to those which had occurred in the mother, several days after birth. In a paper which he had once read, the fact was pointed out that more of these women who survived had Bright's disease subsequently than of those women who passed through pregnancy without a convulsion.

Thirty Minutes Enough.—Dr. P. A. Harris agreed fully with Dr. Davis, that children born of women suffering from the toxæmia of eclampsia had diminished vitality and gave more than the average mortality. He had resorted to incisions of the cervix in only one case, that of a woman on whom trachelorrhaphy had been performed, leaving the cervix rather close and demanding the incisions to start dilatation. Regarding manual dilatation, he had published a method at the first Pan-American Medical Congress with which he had since had considerable experience. Only last March he had read a paper before the Philadelphia Obstetrical Society, containing the histories of ten cases in which he had employed the method, four for eclampsia, six for placenta pravia. In only one was more than an hour, seventy-five minutes, required for both dilatation and delivery. Usually only fifteen to twenty minutes were required for dilatation, and twenty to twenty-five for delivery, including extraction of the placenta. Only one mother was lost, the cause of death being the disease, not any accident connected with delivery. He thought Dr. Grandin ought to be supported in his remarks on rapid delivery by those who had had similar experience with some manual method.

Rapid Dilatation Failed.—Dr. Bernard Gordon said he knew of a case in which four physicians tried rapid manual dilatation: all failed. They found the os too rigid, and, fearing hemorrhage if incisions should be made, they performed Cæsarean section. The mother and child died. The statement that the physician would be to blame, if a woman under his observation should die of eclampsia, was unjust to the profession, since we knew not the cause of eclampsia.

Dr. J. Clifton Edgar, in closing, said: "We are very grateful to the various speakers for the general discussion which the paper has called forth, and to Dr. Davis in particular, for referring to the train of nervous phenomena as symptoms of the pre-eclamptic condition which were omitted in our paper. Our answer to him is that we have come to rely so much upon

the physical signs that the nervous symptoms seemed of minor importance. Still, we admit that these very nervous symptoms which Dr. Davis has so graphically described are in some instances the earliest clinical index of an approaching eclamptic seizure that is offered us.

"Regarding the use of the hydrostatic bags of Barnes, we have found them of use only as preliminary measures, namely, to prepare the cervical ring for a more rapid and thorough subsequent dilatation.

"Cæsarean section, as a means of rapid delivery in the presence of an eclamptic attack, we absolutely reject. Charpentier shows, as we pointed out in our paper, that the operation still carries with it a maternal mortality of 36.26 per cent., in eclampsia. Moreover, in the absence of pathological conditions of the cervix, we believe there is no cervix that cannot be dilated either by manual methods or by incision in time to meet every indication.

"We are in accord with Dr. Davis as to the value of atropine given by needle, not only for the œdema of the post-eclamptic state, but also for its ante-eclamptic action. The point to which Dr. Davis refers, and which we wished to make the prominent one of our paper, was that the only successful preventive treatment of puerperal eclampsia rests in the early recognition of the pre-eclamptic state, as shown in the early diagnosis of eliminative insufficiency.

"The axiom that it is far better for the patient suffering from eliminative insufficiency to induce labor too early rather than too late, which Dr. Jewett has proposed, we are quite in accord with. We notice that Dr. Jewett, of all the gentlemen taking part in the discussion, is the only one who has referred to the stupefying effects of chloroform. This we touched upon in the paper, and we believe it should be given greater prominence. Our experience has satisfied us that the less anæsthetics and narcotics the patient receives, the better the prognosis. Not only chloroform, but morphine, chloral, and the bromides deepen the post-eclamptic stupor and coma and increase the tendency to death during the coma, by reason of these drugs interfering with the eliminative processes. We have made reference to the practice of certain maternities, as reported at the last international congress, where chloroform has been absolutely abandoned as an anti-eclamptic, except when operative interference was demanded. The secret of success here, as in the preventive treatment, is an early and thorough eliminative treatment. We firmly believe that close observation will convince any one of the stupefying effects of even small doses of chloroform, given as an anti-eclamptic. For this reason we relied as much as circumstances would permit upon veratrum viride, which drug not only controls the convulsive seizures, but acts at the same time as a diaphoretic and diuretic, thus fulfilling two of our conditions at one and the same time.

"The statement made by one of the speakers, that all cervices after the seventh and a half month will yield to a manual dilatation and allow of the uterus being emptied within thirty minutes, we believe is a dangerous teaching and should not be permitted to pass without question in a meeting of this Academy of Medicine. It is to such statements that the accidents referred to in the paper are due, and it was against the careless undertaking of the rapid dilatation, without taking into account the condition of the cervix uteri at the time of operation, that we protested in our paper. Further clinical experience we are sure will cause the speaker to modify his statements.

"We agree with Dr. Lusk that the daily amount of urea excreted is not always a reliable clinical index of impending renal inadequacy and eclampsia.

"It is not one physical sign but all of them, and the symptoms as well, that must be weighed in the balance before we can decide upon such operative interference as induced labor. To secure an early evacuation of the uterus as a preliminary measure, a Barnes' bag, we believe, will do all that has been claimed for it. To secure full dilatation of the os, so that the fœtus can be extracted with safety to itself and its mother, we look upon the Barnes' bag as entirely inadequate, and not to be compared to the careful bimanual stretching and paralyzing of the cervical rings. Dr. Murray's statement, that it is impossible to rupture the uterus during the performance of a manual dilatation, is answered by the instances of partial and complete rupture of the uterus referred to in the paper. With Dr. Harris' method of digital and one-handed dilatation of the os we are familiar, and have given it trial in hospital practice. The method of operation has to do with the personal equation. For ourselves we have found the bimanual method, as depicted in the diagrams, most satisfactory, for reasons stated elsewhere, but especially for the one reason that by this method we can produce complete paralysis of the external ring of the os, which by Dr. Harris' method we have been unable to accomplish.

"Dr. McLane has referred to the value of uterine bleeding in the third stage as helpful in lessening the severity of subsequent eclamptic attacks. We believe the practice of allowing the uterus to remain lax and bleed a most excellent one, and it often takes the place of medication to reduce arterial tension.

"We cannot subscribe to the practice of an early rupture—in the first stage—of the membranes as an anti-eclamptic. We grant that the rupture of the membranes at this time apparently temporarily controls the convulsions, but our experience is that subsequently the presence of the fœtus in the uterus, not surrounded by its cushion of liquor amnii, is a greater source of peripheral irritation than when the membranes are intact and the liquor amnii is present. The worst instances of eclampsia, brought in as emergency cases to our maternity hospitals, have been those in which the membranes have ruptured early spontaneously or have been artificially ruptured in the first stage. Moreover, the subsequent labor is prolonged, and the difficulties and dangers of operative interference are enhanced by such a procedure.

"We make the same objection to the continued use of chloroform and morphine in the post-partum state as anti-eclamptics, as in pregnancy or labor. Not but that they serve as well in some instances, but, as we said before, the less the patient receives and the more attention we pay to elimination—bowels, skin, liver, kidneys—the better the prognosis.

"It is the experience of most observers that the high arterial tension does not always diminish or disappear after one or two eclamptic seizures. We have seen many cases and reported several in which the high tension persisted for days and even several weeks, and the continued use of glonoin and veratrum viride was necessary to combat this symptom and prevent subsequent eclamptic attacks.

"Pilocarpine, as we stated in our paper, we utterly reject in the presence of an eclamptic attack. To assist us in the treatment of the eliminative insufficiency of pregnancy, namely, in the preventive treatment of eclampsia, we believe we have a valuable adjunct in the muriate of pilocarpine. We have two patients at present in private practice who occasionally present the clinical picture of the eliminative inadequacy of pregnancy, as shown by an examination of the urine and the general physical signs and symptoms already referred to. In these a restricted diet and an occasional dose at bedtime of pilocarpine, calomel, digitalis, and squill, act most happily, and the stimulation of the skin, kidneys, bowels, liver, by

this combination, removes for the time being all unfavorable symptoms. We have seen no unpleasant or dangerous symptoms follow its use in this manner, for two years past.

"That eclamptic women do best in whom a rapid dilatation of the cervix and evacuation of the uterus are not performed is, as we have stated, the teaching of Charpentier, of Paris, and, as the reports of the last congress show, he stands almost alone in the world in this position. The more clinical experience we have, the more we study these eclamptic cases, the more convinced are we of the truth of Dührssen's statement made several years ago, namely, that in ninety per cent. of eclamptic cases the danger is practically over when the uterus is rapidly emptied early in the attack. Moreover, we are firmly convinced that a careful study of the anatomy and physiology of the pregnant and parturient cervix, and of the various methods of intelligent, scientific, and rapid dilatation of the same, will satisfy any unprejudiced observer that the operation can not only be performed without any additional danger to mother or child, but that it is a life-saving procedure for both parties concerned."

Stated Meeting, December 17, 1896.

Joseph D. Bryant, M.D., President, in the Chair.

A Trustee's Resignation Rejected.—Dr. J. P. Tuttle, who had been appointed at the last meeting to wait on Dr. Jacobi and learn whether his resignation as member of the board of trustees was unalterable, reported that he had called on Dr. Jacobi, and had been informed that his reason for resigning was simply that the affairs of the academy under the presidency of Dr. Bryant were running so smoothly that he felt his services were no longer needed. Dr. Tuttle recommended that the resignation be not accepted.

Dr. Jacobi, being present, said that the explanation as stated by Dr. Tuttle was strictly true. Moreover, he felt sure that the affairs of the academy would continue to run just as smoothly under the incoming administration. Of course, however, if the academy wished him to serve, he would do so with pleasure.

The motion to adopt Dr. Tuttle's report, not to accept Dr. Jacobi's resignation, was carried unanimously.

The Essential Nature of Croupous Pneumonia.—Dr. Andrew H. Smith read a paper with this title (see p. 1).

Dr. Kinnicutt, in opening the discussion, said that he had listened with great interest to Dr. Smith's presentation of his ingenious theory in regard to the essential nature of pneumonia. Without entering upon a discussion of the exact pathological process produced in the lungs by the diplococcus lanceolatus, he was unable to accept Dr. Smith's explanation of the cause of the crisis. Experimental investigations in animals pointed rather to the gradual elaboration of an antitoxin capable finally of neutralizing the toxic products of pneumococcal life. With complete neutralization the crisis occurred. He could see no other way of explaining the immunity conferred upon susceptible animals by the subcutaneous or intravenous injections of large quantities of filtered bouillon cultures of the pneumococcus, and also the immunity secured by the introduction into the blood of susceptible animals of the serum of animals already rendered immune. Within the past year Foà had published the results obtained by himself in this field of investigation, which were corroborative of those reported by other observers. He had used in his experiments cultures of the pneumococcus diluted with Lugol's solution. He had succeeded by this method in immunizing rabbits to the degree that they withstood the injection of one hundred and sixty cubic centimetres of a culture of which one-two-thousandth had proved fatal to unprotected animals. Moreover, in simultaneous injections of virulent cultures and serum from immunized rabbits, the animal lived, and a similar result was obtained when the serum was injected into unprotected rabbits five hours subsequent to the introduction of the virulent cultures. If these observations were correct, they certainly seemed to demonstrate the elaboration of an antitoxin capable of neutralizing the toxic products of pneumococcal life.

Dr. Walter B. James doubted whether pneumonia could be excluded from the list to which the inflammatory diseases of germ origin affecting other organs belonged. The difference was due chiefly to a difference in anatomical structure: the lung being more spongy was less pressed upon and less damaged by the inflammatory exudate. No doubt this exudate did form a favorable culture medium, but when it was suggested to treat the disease by inhalation of bactericidal substances the prospect seemed to be a cheerless one. The subject was important enough, however, to justify attempts at clearing it up by new theories as to the essential nature of pneumonia.

Clinical Experience with Infectiousness of Pneumonia.—Dr. John H. Girdner said his interest in croupous pneumonia dated back eighteen years, when he wrote a graduating thesis on the subject, "Is Croupous Pneumonia a Communicable Disease?" He thought even at that early date that it was, and presented in favor of that theory the fact of its resemblance in many respects to other known infectious diseases, such as typhoid fever. Subsequent experience had convinced him of the correctness of that view. A young man to whom he was called was ill with the initial chill of pneumonia. He was attended by a nurse and an uncle, both of whom were in the habit of supporting him while raised in bed, to enable him to cough and expectorate. In this position the patient repeatedly coughed in their faces. Dr. Girdner warned them of the danger. On the fifth day of the young man's illness the nurse had a chill, the initial one of pneumonia, and died four days later, or three days after the death of the young man. The uncle also contracted pneumonia and died after five days' illness. Since then, Dr. Girdner had made it a rule to destroy the sputa of pneumonia patients with the same care that he disposed of the discharges in typhoid fever. He took as much care in examining patients sick with pneumonia as in examining diphtheritic patients.

Pneumonia Always Interesting.—Dr. A. Alexander Smith said that, studied from any standpoint, pneumonia was always interesting. Personally, he had felt for a long time a great deal of interest in its study from the standpoint of the circulation, and he was under obligation to the author for bringing the subject up in this manner. The most direct statement which had been made, and the one to which he would be most inclined to take exception, was that pneumonia was a disease unaccompanied by inflammation. He saw no objection to the view that the exudate thrown out was a culture medium. It was the life history of micro-organisms that they found a culture medium in which to develop, that they there produced a toxin, and he had long been of opinion that the disappearance of the constitutional disturbance was due to the action of an antitoxin when the decline was of the character seen in pneumonia. We had been told that two-thirds of healthy people had in their bodies the pneumococcus, which was ready to attack and multiply whenever favorable conditions presented themselves. Men went on a spree, jumped off a dock, were fished out, taken to a hospital, put to bed, and in twenty-four hours we were pretty certain to find evidences of pneumonia. He thought the author had made suggestions which offered a very plau-

sible explanation of the development of pneumonia under such circumstances. There was not only depression of the system, but engorgement of the pulmonary capillaries. Regarding treatment of pneumonia by inhalations, he must confess to scepticism; still, having been sceptical before when subsequent experience had proven the value of remedies, he was willing to make the test with regard to this one.

Dr. W. H. Porter was not willing to give up the inflammatory theory of pneumonia. The products were characteristic of inflammation. He had looked upon the bacteria and the culture side of the disease as belonging to the etiology rather than to the pathological process itself. There were, he thought, three factors in the production of pneumonia: 1. Lowering of the vitality; 2. chilling or other cause of congestion or injury of the lungs, producing slight oozing, this acting as a culture medium for the germs; 3. the development of toxins. When the pneumonia had run its course, the anatomical structure of the lung was such as to favor rapid disposal of the exudate.

Dr. A. Jacobi said he was willing to try the treatment of pneumonia by inhalation of a mixture of sixty parts of chloroform and fifty parts of alcohol, as described by Dr. Smith, but there were reasons why he did not believe it would prove efficacious. The principal one was that the microbes lay in the lining cells and could not be reached unless the disinfectant or bactericide first destroyed the cell and the individual. This was true of the streptococcus in the throat, where one might suppose germs could be more effectually attacked than in the lungs. Regarding inflammatory exudative process, we need not be astonished at seeing it in the lung, for we also saw it in the areolar tissues in streptococcic invasion of the throat, with enlarged glands, etc. As to etiology, pneumococci were not the only germs capable of causing pneumonia, and to treat all cases by inhalations successfully would require an agent which would kill the several varieties of germs causing pneumonia. Usually these germs entered through the bronchi, but sometimes it was through the blood, as in pneumonia complicating puerperal fever or other diseases. The microbic cause was different, but in all there were the same results of inflammation, consisting in the migration of blood cells, throwing out of fibrin, etc. It seemed to Dr. Jacobi that the old treatment would still hold good, namely, to fortify the body and strengthen the heart until the antitoxin was formed, the progress of the disease ceased, and the materia peccans was absorbed.

Dr. Lambert reviewed in part the subject of germ etiology of pneumonia and the action of the toxins.

Dr. Andrew H. Smith closed the discussion. In reply to Dr. Kinnicutt, he reminded him that inoculation with a pure culture of pneumococcus lanceolatus did not produce pneumonia unless it was made into the lungs. In their objections to treatment by inhalations, all the speakers seemed to have overlooked the point that the treatment should be begun early, before the air cells had become entirely occluded, and while the inhaled gas could still reach the cells and germs. It should be remembered that chloroform when inhaled penetrated everything and was taken into the circulation. It was not claimed that it necessarily reached and killed the germs directly, but it rendered the culture medium unacceptable, for the pneumococcus was exceedingly sensitive to environments. Regarding an antitoxin, if defervescence were due to this, why was it so variable, being in some cases by lysis instead of by crisis?

The Permanganate Treatment of Opium Poisoning.—Dr. William Ovid Moor read the paper. "Opium is undoubtedly one of our most important and most frequently used remedies, and it is just for this reason that accidents in connection with its general and frequent use are of daily occurrence. The number of deaths caused annually by the products of papaver somniferum is great. In England and Wales six hundred and forty-six persons died from opium poisoning between 1883 and 1887 (inclusive). Dr. Barker Smith, of England, has estimated that in the last ten years the world over about one hundred thousand persons have succumbed to opium narcosis. It is therefore certain that the knowledge of a prompt and safe antidote to opium is a matter of primary importance. Emetics cannot be called antidotes in the true sense of the word: besides, they are utterly unreliable in narcotic poisoning, and are simply inducive to loss of precious time.

"As to atropine, many authorities, among them Brown-Séquard and J. Harley, dispute an antagonism between these two narcotics. Harley concludes that in medicinal doses the essential effect of morphine (hypnosis) is both increased and prolonged by the action of atropine, whether introduced previously or at any time during the operation of the former. On the other hand I can state with the utmost confidence that I have found in potassium permanganate the true antidote to opium and its alkaloids. For several decades past the salts of permanganic acid have been recommended as antidotes to organic poisons in general, which naturally includes alkaloids. Permit me to demonstrate to you that such a claim is erroneous."

The author showed that no reaction takes place between permanganate and atropine, cocaine, veratrine, pilocarpine, aconitine, caffeine, hyoscyamine, hyoscine, and phosphorus.

"The permanganate acts quicker on albumin than on strychnine. I have found that it scarcely oxidizes phosphorus even after sixteen hours' contact. I will show you now that the reaction between permanganate and morphine is instantaneous. One grain of the potassium salt oxidizes one grain of sulphate of morphine. The permanganate is decomposed into potassium hydroxide, hydrated manganese dioxide, and oxygen. The morphine is changed into a substance akin to pyridin—tricarboxylic acid. Yet the mere fact that $Mn_2O_5K_2$ oxidizes some chemical substance is no proof that the product resulting from this chemical reaction is not toxic. The following case well illustrates this statement.[1] At the clinic of Dr. Harnack in Halle a girl, fourteen years of age, was treated for general eczema. On one occasion she was given tannic-acid applications to her arms and at the same time she was ordered a permanganate bath. Violent fever and profuse diarrhœa set in. The tannic-acid applications were stopped but the permanganate treatment was continued and after eight days the patient's condition was normal. Urinary analysis showed the presence of pyrogallol, which must have been formed through the oxidization of tannic acid by the potassium salt. The clinical picture corresponded to pyrogallol poisoning, the chief symptoms of which are fever and diarrhœa.

"The principal point for me to determine was whether or not the oxidization of morphine renders it innocuous. The experiments for this purpose were made chiefly upon myself. This was necessary when we consider the low degree of susceptibility of animals to opium. Having found that the permanganate will oxidize morphine in an albuminous solution, I could swallow with impunity gradually increasing doses of morphine followed in a few moments by corresponding amounts of the potassium salt.

"On the 20th of January, 1895, I took, about two hours after breakfast, five grains of sulphate of morphine, followed in a few moments by eight grains of the antidote dissolved in eight ounces of water, without experiencing any effect whatsoever from the narcotic.

[1] Deutsche med. Wochenschrift, 1895, No. 1.

Had only one-eighth of a grain of morphine been absorbed into the circulation, I should have felt it undoubtedly, as I am very susceptible to the action of narcotics. It is by no means a condition *sine qua non* that the antidote must be given immediately after the ingestion of the poisonous dose of morphine, as has been claimed, for morphine is not a corrosive substance like carbolic acid or the mineral acids. We should not forget that as soon as opium begins to exert its narcotic influence, gastric and intestinal activity is greatly reduced, and, consequently, the absorptive power of the gastric mucous membrane is very much lessened. It is, therefore, not surprising when we hear that considerable quantities of opium or morphine have been found in the stomach of persons who have died from this poison.

"We have, therefore, no right to assume that no more poison is in the gastric cavity of the patient because a considerable time has elapsed since its ingestion. In connection with this point there is another important topic I have to dwell on. It is now a well-established fact that morphine which is injected subcutaneously is excreted by the mucous membrane of the stomach. Hitzig, of Halle, by washing out the stomach of animals that had received morphine subcutaneously, succeeded in obtaining fully one-half of the injected amount during the first hour after the injection. It is a logical necessity that an antidote which acts instantaneously must destroy in the stomach a certain amount of poison that got into the circulation either through hypodermic injection or through absorption by the stomach, for it is evident that the same circulation which conveys the poison from the peripheral parts of the body to the stomach must also bring back to the latter a part of the poison which previously was absorbed by it. In connection with this it is of interest to cite a case mentioned in the *American Journal of the Medical Sciences*, January, 1895:

"A Chinaman had taken the estimated quantity of one hundred and fifty grains of opium at 10 A.M. At 5:30 P.M. the stomach was repeatedly washed out, until there was reason to believe that there was no longer any opium contained therein. A second lavage was made at 8 P.M., and a third at 11:30 P.M., a quarter of an hour before his death. The second washing came out colorless, although it gave fine alkaloidal reactions, but did not respond to the test for meconic acid; the third, also colorless, gave good reactions. The first washing removed the ingested but unabsorbed opium, but the alkaloids found in the others could have been detected only through their excretion by the gastric mucous membrane.

"The following case, reported by Dr. Hari Bhicaji, chief medical officer in Goudal, Kathiawar, East India, illustrates that the internal administration of our antidote is life saving even after a considerable time has elapsed since the taking of the poison.

"'A Hindoo child, about eighteen months old, while playing in the house, accidentally came upon the father's opium box and swallowed a four-grain lump of opium which he found in it. This occurred about noon, while the mother was out on some business. On her return at 2 P.M. the mother found the child lying unconscious on the ground, with the tin box beside her. The mother ran at once with the child to our hospital, and when admitted the child was fully under the influence of opium. The case seemed a hopeless one, as the symptoms of poisoning were most profound, and there seemed no chance of hope by using the stomach pump or by giving emetics. The idea then occurred to me that permanganate of potash, as recommended by Dr. William Moor, of New York, might answer in this case. Accordingly I dissolved eight grains of the permanganate of potassium in one ounce of water, and began to administer the fluid with much difficulty, a teaspoonful every ten minutes. After half an hour from the first dose, the child appeared to improve. The solution was continued, but it was now given in the same dose every twenty minutes. Gradually but visibly, without emesis, the narcotic symptoms gave place to returning consciousness, quiet, natural respiration, and voluntary motor power, so that about midnight the child was seen playing in bed by the side of its mother, perfectly restored after sixteen grains of permanganate of potassium had been administered.'

"It is evident that in this case and in other reported cases of a similar nature the antidote acted first by oxidizing the poison still contained in the stomach and then by annihilating the alkaloids which returned from the circulation to the stomach.

"One of the most interesting features relating to the use of the opium antidote is the beneficent effect observed from its hypodermic administration. Rabbits which had received hypodermic injections of one to three grains of morphine were greatly improved by the hypodermic administration of the antidote, both as to their respiration and their general condition. I have published the details of these experiments in the MEDICAL RECORD of March 2, 1895. I shall cite a few cases in which the subcutaneous injection of the antidote was of unmistakable efficacy.

"The question arises: What is the *modus operandi* of the hypodermic use of our opium antagonist? First, I thought that the antidote selected the morphine from among the albuminous constituents of the blood. To this view it has been objected that the permanganate is rapidly decomposed by the subcutaneous tissues, and thus could not reach the circulation in an unaltered condition. I must confess that I have fully realized the correctness of this objection. For the same reason I have also abandoned the idea that the permanganate converts hæmoglobin into oxyhæmoglobin. Professor Hare, of Philadelphia, suggested that the pain due to the hypodermic injection of the antidote acted as a stimulus to the respiration. But when we consider that an improvement in respiration took place in many cases in which there was absolute insensibility to pain, Dr. Hare's view appears fallacious.

"From a careful analysis of the cases reported, it has become evident to me that the action of hypodermic injections of permanaganate is a physiological one, and probably is effected by the absorption of small quantities of hydrated manganese dioxide. We know that some ingredients of the blood exert at times a dynamic function. Buchner, of Munich, has shown that blood serum loses its germicidal capacity if chloride of sodium is abstracted from it. Yet a physiological solution of common salt is certainly not a germicide.

"Referring this example to our subject, we can say that the presence of a small quantity of manganese in the blood may dynamically increase the oxygen capacity of the blood and may render more stable the combination of oxygen and hæmoglobin. Dr. Sharp, of Philadelphia, made animal experiments with permanganate and opium, and came to the conclusion that the hypodermic injections acted physiologically. These observations justify me in making the statement that the hypodermic administration of weak permanganate solutions should be of benefit in all cases of narcosis, asphyxia, and cyanosis.

"Gentlemen, if you have to deal with alarming cases of ether and chloroform narcosis, illuminating-gas asphyxia, asphyxia from drowning and laryngeal obstruction, uræmia, eclampsia, and cases of a similar nature, and if you have resorted without benefit to the usual methods of treatment, also administer hypodermically solutions of permanganate of potassium, which can do no harm, but may be of great benefit (1 to 100 to 1 to 500).

"About ninety or one hundred cases of opium poisoning have been reported to me, in which the antidote has proved its great value. It should be given at once; no time should be wasted with emetics and stomach pump, as an instanteously acting antidote is far superior to these. It should be given to meet three indications: 1. Per os (eight to ten grains well diluted, or more), to annihilate any opium or its alkaloids that still may be in the stomach. 2. To decompose the alkaloids which return from the circulation to the stomach. This is accomplished by giving from time to time weak solutions of the antidote (one grain to a tumblerful of water). 3. Hypodermic injections of permanganate solutions (1 to 100 or more), to act as a physiological antidote.

"I conclude by expressing the earnest hope that my words will aid in diminishing the number of serious and fatal cases due to opium narcosis and to other forms of narcosis, asphyxia, and cyanosis."

Dr. W. H. Porter said he had had no experience with permanganate in the treatment of opium poisoning, but he could see no reason why it should not render the opium which was in the stomach inert. He could not understand how it could act after the opium had been absorbed.

Dr. Andrew H. Smith said he had had no personal experience, but some time ago had directed that the permanganate be kept in the Presbyterian Hospital. A number of victims of opium poisoning had received it, and all had recovered; but in all instances O'Dwyer's bellows was also used, and he was unable to say to which agent belonged the credit. The experiments of Dr. Moor on himself and in other directions seemed conclusive.

Dr. R. W. Wilcox had felt much interest in this subject from the time Dr. Moor had first written upon it, and believed we had an agent in permanganate which was harmless in itself and destined to make us feel much more comfortable when called to cases of opium poisoning.

Dr. F. A. Burrall had been some months ago called to a man who was said to have swallowed about two drachms of laudanum by mistake, and was informed at the druggist's where he stopped on his way to the house that the druggist had sent ten grains of permanganate of potassium in solution, which the patient drank as an antidote very soon after swallowing the opium tincture. Dr. Burrall remained with him an hour, and then left, as no symptoms, not even drowsiness, developed. He thought that if permanganate should be definitely proven to be a real antidote to opium, some such rule might be established as that of requiring druggists always to dispense the antidote along with the narcotic.

Dr. Lambert mentioned a case which had occurred at Bellevue last summer, that of a man suffering from sunstroke to whom the house physician gave more of Magendie's solution to quiet restlessness than was wise—twenty to forty minims within an hour. He found the patient breathing only four times a minute. Permanganate was administered (four grains), and within an hour the respirations had increased to eight per minute, and next morning the patient was in good condition. It had struck him as rather a remarkable result to be effected by permanganate solution within the stomach on morphine which had entered the circulation.

SECTION ON PEDIATRICS.

Stated Meeting, December 10, 1896.

W. H. Fruitnight, M.D., Chairman pro tem.

Fatty Liver and Ileo-Colitis.—Dr. R. G. Freeborn said that soon after Dr. Southworth presented his case of fatty liver and ileo-colitis, at the last meeting, he had occasion to make an autopsy on a child, five months old, which had given a somewhat similar clinical history. He found enlargement of the liver with marked fatty infiltration, and the lesions of ileo-colitis. He had been impressed with the great frequency of fatty liver at the New York Foundling Asylum, where this patient was seen. In two hundred and six autopsies, the liver was plainly fatty on gross examination in fifty-seven. Most of the patients were under three years of age. But this percentage was much less than that of two foreign physicians whom he quoted, since in their autopsies in a large number of cases eighty-one per cent. had fatty liver. In tuberculosis fatty liver was said to be present more frequently than in other diseases, but Dr. Freeborn had found it less frequently than in the total of other diseases. In ileo-colitis it was present in fifty per cent. of the cases. The proportion was not much greater for all diseases in emaciated subjects than in those not emaciated.

Amaurotic Idiocy.—Dr. Heiman presented a child, fourteen months old, in illustration of the condition which he said Dr. Sachs was first among physicians in this country to describe as amaurotic idiocy, in 1886. The child, according to the parents, was normal until the age of six months, and they attributed its idiotic condition and blindness to cutting of teeth. A yellowish-white patch occupied the situation of the macula, about two and one-half times the diameter of the disc, in the centre of which was a cherry-red spot —optic-nerve atrophy. There was exaggeration of the knee reflex and ankle clonus. The anterior fontanelle was open. The condition was apt to occur in other children of a family, but in this instance the patient was the sole child of the parents. Death nearly always took place by the second year.

Statistics of Antitoxin Treatment at the New York Foundling Asylum During the Last Four Months.—Dr. J. Lewis Smith read the statistics. The number of cases of diphtheria and deaths at the asylum for the last seven years was as follows: 1890, 71 cases, 36 deaths; 1891, 67 cases, 35 deaths: 1892, 60 cases, 23 deaths; 1893, 123 cases, 34 deaths: 1894, 133 cases, 32 deaths; 1895, 94 cases, 43 deaths: 1896, until December, 147 cases, 18 deaths. Attention was called to the marked decrease in the death rate the last year while antitoxin was being used. During the last four months, under antitoxin treatment, there had been: July, 10 cases, 9 recoveries; August, 6 cases, 6 recoveries; September, 5 cases, 5 recoveries; October, 19 cases, 18 recoveries: November, 25 cases, 24 recoveries. Of these 55 cases, 12 had croup more or less developed, but only 3 required intubation. All recovered. It seemed the disease had been shorn of its terrors. He was not a partisan in the matter, and while he knew the type of diphtheria, like that of other diseases, varied from time to time, he thought that was not the explanation of the diminished mortality under the antitoxin treatment. He quoted Dr. O'Dwyer, also connected with the aslyum, as stating that by resorting to antitoxin early in diphtheria, one could nearly always avoid intubation. At the asylum they expected to see the membrane loosened in twenty-four hours; sometimes it loosened in eight hours after using antitoxin. Local treatment, especially cleansing the obstructed nostrils, should not be dispensed with.

Some Statistics of Antitoxin in Philadelphia.—Dr. Edwin Rosenthal, of Philadelphia, said that out of 166 severe cases of diphtheria which he had treated with antitoxin, 76 were laryngeal, and only 4 patients had died. In 34 intubation was required, and of these only 3 had died. These results should be contrasted with some in his experience before the introduction of antitoxin, when he had lost as many as 68 out of 100 cases. Now and then we read of a

case of rather sudden death which had been attributed to antitoxin, but Dr. Rosenthal doubted this, for he had seen sudden death before the introduction of antitoxin, simply from moving the child, or just after intubation, etc., the cause being probably heart failure. Formerly he saw no cases of recovery from diphtheria secondary to measles, whereas now, under antitoxin treatment, death was rare also in such cases. He mentioned the occurrence of diphtheria of the nose without any membrane in the throat. He had had no bad effects from antitoxin, but now and then had seen temporary eruption.

Statistics of Total Deaths from Diphtheria.—Dr. Herman M. Biggs said he could not speak of the treatment of diphtheria from personal experience, but would refer to some data which he had collected, showing the results of treatment judged by the absolute number of deaths from diphtheria before and since the introduction of antitoxin. The criticism had been constantly made by the opponents of antitoxin that the statistics collected were of little value, because they showed percentage of mortality, and this meant nothing, because the number of cases had increased or the type of the disease had changed. But so far as he knew, there was no way to explain, except it were due to the treatment, the reduction in the absolute mortality from diphtheria which had taken place the world over, as indicated by the numerous tables which he exhibited. These tables showed the total number of deaths from diphtheria for the successive years since 1889 in Paris, Berlin, New York, and in all the towns throughout France with a population above 20,000, and in Germany with a population above 15,000. In Berlin the total average death rate from diphtheria for six months for these years up to 1895 was 668. For 1895, after antitoxin had been partially introduced, it was 429; and in 1896, after more general introduction, it was only 294, or less than one-half the absolute number of deaths which had occurred on the average for the preceding six years. In Paris there had been a similar reduction: from 1889 to 1895 it had averaged 923, while for 1895 it had averaged 228, and for 1896, 329. He impressed the fact that these were not percentages of mortality in the total number of cases diagnosed as diphtheria, but the average of deaths from the disease. New York City also showed a great fall in the absolute number of deaths from diphtheria in 1895 and 1896 compared with the previous five years. Other tables showed that the good results from antitoxin treatment were greatly in favor of cases treated early. Dr. Biggs quoted, in conclusion, Virchow's exclamation, that theoretical considerations must yield to the brute force of statistics.

Dr. A. Campbell White said that in his connection with the health department of New York he had seen about 600 cases of diphtheria during 1896, and while not more than one-fifth of the number had been treated with antitoxin, yet the results were decidedly in favor of the latter. Antitoxin was not so likely to be used in the milder cases, but when the disease became severe the parents were likely to insist upon its use. As to methods of feeding, he had been much more favorably impressed with introduction of the food into the stomach by way of the nares than with rectal feeding. He had heard it said that the intubation tube, when used, had to be left in much longer in antitoxin cases; but that was contrary to his observation. He had never seen any complications. When heart failure took place, he attributed it to absorption of diphtheritic poison before the use of antitoxin. Nasal irrigation was demanded much less frequently than before the use of antitoxin.

Dr. Henry Koester had seen much of diphtheria in connection with the health department, and since April of this year had injected 93 patients with antitoxin, only 2 of the number dying. Later, or since October, he had injected 44, with only 1 death. He thought that the physician who had a case of severe diphtheria and did not use antitoxin committed a criminal offence.

The Other Side.—Dr. Joseph E. Winters thought the question of the antitoxin treatment of diphtheria would never be settled by such statistics as had been presented to-night, but must be settled by careful study of cases in private practice. As proof of the first statement, he quoted the absolute mortality from diphtheria for certain years in New York before the introduction of antitoxin, and said it had been fifty per cent. greater some years than others. So with other cities. The number of deaths from diphtheria in Philadelphia in 1888 was 350, whereas in 1892 it was 1,452. He quoted Dr. Graves, of Dublin, as Dr. Smith had done, on the variation in type of the disease. In Dublin, Graves lost nearly all of his cases of scarlet fever in the epidemic of 1801–1804. From the latter year to 1831 few patients died. From 1832 to 1835 there was another epidemic like the first one mentioned, when nearly all patients died. It meant a variation in type of disease, not in treatment. Dr. Winters gave statistics sent him by physicians in New York, showing as good results, if not better, from treatment without antitoxin than those which had been presented in favor of antitoxin. Some of the gentlemen had given up antitoxin, because its use in their hands had been attended by so high a mortality. Regarding Dr. Biggs' statistics for Paris and Berlin, showing a reduction of deaths from diphtheria for 1895-96, why had he not quoted London statistics? In that city there had been no such reduction, and yet antitoxin was employed in London as well as in Paris and Berlin. There was simply a difference in the type of the disease. In the same way, one could account for the fact that Dr. Smith could give a lower mortality for antitoxin in the Foundling Asylum than he had done for an earlier period. At the Willard Parker there had been a death rate for August, 1896, of 37.7 per cent., and for November one of 25.6 per cent. The difference was due to difference in the material. In the same hospital it was decided to try increasing the dose, which had been done from 1,500 to 6,000 units; but out of 30 patients so treated, 18 had died—a death rate of 60 per cent. Before that they had increased from 1,500 to 3,000 units, with the result of having a death rate of 50 per cent. Dr. Winters then presented the histories of a number of cases seen by him in consultation practice, in which antitoxin had been used and had been followed by tetanic convulsions, ending soon or after many hours in death: also cases of sudden death with other symptoms. A number of cases with unfavorable symptoms had been reported to him by various physicians. Such facts led him to look upon this serum not as an antitoxin, but as a toxin which added to the dangers of diphtheria. Physicians were giving it up in private practice. He had been told that druggists sold less of it, and the health department was turning out much less than it had done some months ago. One doctor could be heard to say that he would not use Behring's serum, but employed only Aronson's, having had an unfavorable result from the former. Another did not use Aronson's, having had a death which he attributed to it. And so with other serums: they were all dangerous.

Dr. Rupp related some experience unfavorable to antitoxin, and thought that physicians in private practice had good reason to take exception to the statement made by the gentleman connected with the board of health, that the doctor who failed to use antitoxin in a severe case of diphtheria was a criminal.

The discussion was continued by Drs. Berg, Bran-

NAN, WILLIAM PARK, and was closed by the author. They were of the opinion that Dr. Winters was somewhat prejudiced, otherwise he would not have overlooked the fact that the high mortality from diphtheria in the Willard Parker Hospital occurred during the month of August, when the temperature was excessive and many people throughout the city died from the heat: further, that the board of health was, it was true, turning out less antitoxin by the quantity than formerly, but it was five times stronger, and in reality was greater, measured by antitoxin units. The large doses used in the Willard Parker Hospital were for the severer cases, which would account for the higher mortality in them. Since under former treatment they would die, it was thought justifiable to try the larger doses, and the mortality had not been great on that account.

Officers.—Dr. W. H. Fruitnight was elected *Chairman*, and Dr. T. S. Southworth *Secretary* for the ensuing year.

Therapeutic Hints.

Medicated Crayons for the treatment of uterine cancer are composed of:

℞ Methylene blue,
Tannin.....āā cgm. 0.25
Powd. opium ..... cgm. 0.05
Olive oil..... gtt. xv.
Cacao butter..... gm. 4

For one suppository, to be introduced daily into the cervical canal and kept in place by means of a tampon.—*Gaz. de Gynécol.*

Diabetes.—

℞ Sodii arseniat..... gr. i.
Lithii carbonat . ..... ʒ i.
Codeinæ..... gr. iiss.
Ext. cinchonæ (dry)..... ʒ iv.
M. Make into thirty cachets. S. One to be taken after breakfast and one after dinner.

—ROBIN.

Ichthyol in Affections of the Eyes.—Dr. Germani (*Gazetta degli Ospedali*, June 20, 1896) finds that lanolin mixed with from ten to fifteen per cent. of its weight of ichthyol is very efficacious in ciliary blepharitis, curing it when the ordinary yellow ointment has failed. Collyria containing from one to three per cent. of ichthyol are very useful in phlyctenular conjunctivitis and in simple catarrhal ophthalmia. Ichthyol is well borne, soon eases the pain, and hastens the cure.

Gelanthum.—This is the name under which Unna has just put forward another of the occlusive varnish-like dressings designed for the incorporation of various remedial agents for use in skin diseases. Unlike many previously tried substances, this holds chrysarobin, pyrogallol, resorcin, salicylic acid, etc., in even suspension. The difficulty heretofore has been that they cake up or form into small masses. Furthermore, ten per cent. of fat, if first emulsified, and twenty per cent. of glycerin can be used along with ichthyol, thirty per cent., or with carbolic acid. The varnish is composed of equal parts of gelatin and tragacanth specially mixed. It is said to spread easily, to dry quickly and with a smooth surface, to be inexpensive, besides possessing the great advantages above enumerated. For further particulars see *Therapeutische Wochenschrift*, September 13, 1896.

Hydrobromate of Scopolamine has been found by Dr. Oliver (*The American Journal of the Medical Sciences*, November, 1896) of the greatest value in the treatment of plastic iritis. Its quieting properties are greater than those of atropine in similar dose, but effects are not so lasting. It is the preferable drug for quick effect in the early stages of inflammation. Alternating with atropine gives the best effects in chronic forms with subacute exacerbations. Two drops one-tenth of one per cent. strength may be given and repeated as often as three times an hour, preceded or not by two drops of a two-per-cent. solution of hydrobromate of cocaine a few minutes before each instillation when there is much pain.

Constipation in Children.—

℞ Bicarbonate of sodium..... ʒ iij.
Powdered rhubarb ..... ʒ ij.
Sulphate of sodium..... ʒ i.
Oil of peppermint..... gtt. xx.
M. S. Half to one teaspoonful before breakfast.

—*Journal de Médecine de Paris.*

Whooping-Cough in Adults.—

℞ Bromoform ..... 15 parts.
Tincture of gelsemium..... 16 "
Syrup of lactucarium..... 120 "
Powdered gum arabic..... a sufficiency.
M. S. Three or four teaspoonfuls to be taken in the course of a day.

—BANCOCK, *Semaine Médicale.*

Otorrhœa.—Cleanse the canal with a tepid four-per-cent. boric-acid solution and apply the following preparation upon absorbent cotton:

℞ Carbolic acid..... gr. xv.
Glycerin ..... ʒ v.
Pure pheno-salyl..... gr. xv.
Water..... ʒ iss.
M.

—LACROIX, *La Tribune Médicale.*

Erysipelas of the Face.—

℞ Carbolic acid..... ʒ ss.
Tincture of iodine,
Alcohol .....āā ♏ xxx.
Oil of turpentine ..... ʒ i.
Glycerin..... ʒ iss.
M. The lesions are to be painted with this liniment every two hours, and covered with aseptic tarlatan.

—*La Presse Médicale.*

An Astringent and Antiseptic Injection for Uterine Leucorrhœa.

℞ Tannic acid..... gr. dcccc.
Pure alcohol,
Creosote.....āā gr. cccl.
Distilled water ..... ʒ viiss.
M. From three to four injections a day are to be taken, for each of which a dessertspoonful of the solution is to be diluted with a pint of warm water.

—BUSTILLO LIROLA, *Gaz. Hebd. de Méd. et de Chir.*

Local Treatment for Neuralgia.—

℞ Menthol,
Guaiacol..... āā ʒ i.
Alcohol. absolut..... ʒ xviii.
A drachm of this mixture is to be rubbed lightly into the affected part two or three times a day. In the intervals a cotton dressing is employed.

—SABBATINI.

Parasiticide.—

℞ Spirits of camphor ..... 4.2 gm.
Glycerin..... 1 "
Essence of turpentine ..... 0.15 "
Mercury bichloride ..... 6 "

—HALLOPEAU.

Constipation.—

℞ Ext. fld. cascaræ sagradæ..... 100
Tinct. nucis vomicæ,
Tinct. belladonnæ.....āā 5
Tinct. badianæ..... 10
Chloroformi..... 2
M. S. Take a teaspoonful in a little water after breakfast and dinner for a week, and then pro re nata. For obstinate constipation in old men, with torpor (inertia) of gastro-intestinal tract, after all other means have failed.

—J. DIAS RIBEIRO.

Intestinal Fermentation with Constipation.—

℞ Ext. aloes. . . . . gr. vi.
Pulv. rhei. . . . . gr. vi.
Benzosol. . . . . gr. ix.
Ext. hyoscyami. . . . . gr. vi.
Misce et ft. caps. No. xii. S. One after meals.

—Thomas Hunt Stuckey, *American Therapist*, August.

Vaginal Suppositories.—

℞ Acetanilid . . . . . gr. lxxv.
Tannin. . . . . gr. viij.
Extract of hyoscyamus . . . . . gr. iv.
Sugar of milk. . . . . gr. cl.
M. This is for one suppository, to be used for vaginal inflammation.

—*Journal de Médecine de Paris.*

Solvent for Sordes.—

℞ Acidi borici . . . . . gr. xxx.
Potassii chlorat. . . . . gr. xx.
Succi limonis. . . . . ʒ v.
Glycerini . . . . . ʒ iij.

—McGregor, *British Medical Journal.*

Goitre.—The *Revue de Laryngologie* says that good results may be obtained from the parenchymatous injection of one-fourth to one drachm of a mixture composed of the following:

℞ Iodoform . . . . . 1 part.
Sulphuric ether. . . . . 7 parts.
Olive oil. . . . . 7 parts.

—C. Gabre.

Beriberi.—

℞ Aquæ 150
Tinct. scillæ 8
Tinct. digitalis 2
Syr. quininæ 3
Ammoniaci (liquid). . . . . gtt. xij.
M. S. Two tablespoonfuls in water every three hours.

—J. Dias Ribiero, *Dunglison's Coll. and Clinical Record.*

Cardiac Diuretic.—

℞ Theobromine . . . . . gr. x.
Powdered digitalis. . . . . gr. i.
Camphor . . . . . gr. ij
Calomel . . . . . gr. i.
S. In a capsule. Four to be taken daily.

—*Therapeutic Gazette.*

Diabetes Mellitus.—

℞ Lithii carbonat . . . . . gr. xxx.
Sodii arseniat . . . . . gr. i.
Ext. gentianæ. . . . . gr. xv.
M. ft. massa et in pil. No. xx. div. S. One pill morning and evening.

—Vigier, *Annual Univ. Med. Sci.*

Erysipelas.—

℞ Tannic acid,
Camphor . . . . . āā 4 parts.
Spirit of ether. . . . . 30 "
To be applied hourly for four or five times.

—Rehbinder, *Centralblatt für die gesammte Therapie.*

Bleeding Gums.—The following is recommended as an efficient styptic:

℞ Chloroformi. . . . . gr. lx.
Acidi tannici . . . . . gr. xxx.
Menthol . . . . . gr. xxx.
Tinct. kramerie . . . . . ʒ i.
Aquæ dest . . . . . q. s. ad ℥ i.

—Vian, *N. E. Medical Monthly.*

Early Stage of Gonorrhœa.—

℞ Acidi carbolici. . . . . ♏ xx.
Opii aquosi ext. . . . . gr. xx.
Acidi borici . . . . . ʒ ss.
Liq. plumbi acetatis. . . . . q.s. ad ʒ vi.

—Martin.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ELECTION TO THE COUNCIL—CAMBRIDGE UNIVERSITY DR. CULLINGWORTH'S CASE—MR. ANDERSON'S JENNER MEMORIALS—THE QUEEN'S REIGN CELEBRATION—OYSTERS AND DISEASE—THE B. M. J.'S NEWS AND ADVERTISING—HOSPITAL REFORM—CHARING CROSS—DENTAL HOSPITAL.

London, December 11, 1896.

As I predicted, the midwives question has dominated the election to the Medical Council. The successful candidates are Dr. Rentoul, Mr. G. Brown, and Dr. Glover. The first on the poll is Dr. Rentoul, the man who has most actively defended the profession against the intrusion of an army of midwives. Mr. Brown spoke out on this question and generally upholds the rights of the general practitioner. Dr. Glover's views were not quite satisfactory, and he descends from the top to the bottom of the poll after ten years' service. You will see that the general practitioners have placed three of their own order in the council. Many regret that Mr. Rivington was not successful, for, although a consulting surgeon, he has always defended the rights of the G. P's and has been known as an advanced reformer for some thirty years. It is satisfactory to many that the profession refused to be dictated to by the journals. The association candidates have failed, and this time Dr. Glover is saved from defeat by his ten years' record rather than by his position on the staff of *The Lancet*.

There has been a warm controversy at Cambridge about the appointment of a successor to the late Sir George Humphry in the professorship of surgery to the university. There are some difficulties, as the hospital is independent of the university, but arrangements have been made in other cases for harmonious working and no doubt could have been again. Differences of opinion arose as to the best course to take and eventually the appointment was postponed for a year. This seems a curious procedure for the far-famed university, and if the duties of the chair are so important how are they to be discharged during the interregnum?

The subscription to defray Dr. Cullingworth's legal expenses is a magnificent success. Already the whole amount has been promised and the list closed. This shows how keenly the danger has been appreciated. One or two anonymous voices have been raised to damp the enthusiasm, but have only met with contempt.

I wish the fund for Mr. Anderson's appeal went on as merrily. He is the victim of a judicial outrage which might happen to any British subject until the judgments are reversed or the law is changed, and yet the civil-rights defence fund languishes. It seems a scandal that after a British jury has pronounced his oppressors guilty and awarded him damages, the right of judges to do wrong should stand between the persecutor and the victim.

The fund started by the Epidemiological Society for establishing a Jenner medal has already reached between £60 and £70. Subscriptions are limited to one guinea. A national memorial has been started. On Monday there was an influential meeting for this purpose at St. George's Hospital, of which Jenner was a pupil, when a strong committee was appointed. Lord Reay represented the University of St. Andrews, of which Jenner was a graduate. A public meeting is to be called early in the coming year to decide what form the memorial shall take. It was proposed to connect it with the Institute of Preventive Medicine, but there is a small and noisy faction which objects to

experiment and will perhaps take the opportunity of opposing the celebration of the centenary. Though Jenner was the real discoverer of the immune condition which has been developed in our own day, his real work was not such as the public will associate with that of the institute. The memorial to Jenner, if it is to be national, should appeal to the world on his merits and not be tacked on to any institution. This was felt by some present and expressed by Mr. Hutchinson, who also testified to the full vindication of vaccination by the royal commission, of which he was a member and which he said fully supported Jenner's views of the efficacy of the process, with the single qualification that it is desirable to repeat the operation at puberty. Other speakers were the bishop of Rochester, Sir R. Quain, Dr. Michael Foster, Lord Glenesk, Dr. Wilks, Prof. B. Sanderson, Prof. C. Allbutt, Dr. Glover, Lord Clifden, and Mr. T. Holmes.

There is a good deal of talk about the celebration next year of the Queen's sixty years' happy reign. A project was attributed to the lord mayor of raising £800,000 or £1,000,000 to free the hospitals from debt. This seems to have dribbled into a proposal to endow the Queen's Institute for Nurses. This institute was founded by the Queen in the jubilee year with money subscribed as the "women's offering" on that occasion. But useful as the institute is in nursing the poor, it is a small affair compared with the hospitals and not in such urgent need of money. All sorts of silly suggestions are being made to meet this need, *e.g.*, an addition to the income tax, a charge on the poor rate, and other modes of State bounty. But the hospitals will have to depend on voluntary contributions and the lord mayor might do worse than attempt the plan attributed to him of helping them.

The oyster scare has assumed a more definite position. The medical officer of the local government board has prepared a supplement to his annual report, in which the probability of infection by eating oysters is dealt with. That such infection is possible may be regarded as certain, but the probability of this occurrence will be variously estimated. A considerable section of the public has taken alarm and refuses to eat the suspected food. If this spreads further the commercial interests at stake may help to bring about the supervision for which an outcry is already raised. The general tone of the official report is somewhat more reassuring than was expected. Dr. Thorne Thorne rightly remarks that the bacteriologist can tell us of risk and impurity but not of safety and purity: so for these we must look to the conditions surrounding the culture and storage of the oysters. This is true enough, but then it is found that in some places the conditions are as alarming as they are revolting. Some oyster beds have been laid where sewage contamination was inevitable and in others occasional pollution is only too probable. Dr. Klein shows that the typhoid bacillus and Koch's vibrio may persist for two or more weeks in sea water, and the former is not prone to undergo any important change in oysters, though the latter seems to do so. I believe this limit has been found exceeded by other observers. It is being remarked by some of those interested that the chance of infection by any single oyster must be very small, as it is only in a few that pathological organisms have been detected. A similar hopeful or careless statement might be made as to other sources of infection. Now it is proved that oysters may convey disease when cultivated near sewage outfalls, danger and disgust alike at the fact of such positions having been selected point to the necessity of immediate removals.

The *British Medical Journal*, in its usual efforts at advertisement in the "lay press"—a crime it denounces fiercely in individuals—has this week made itself a laughing stock. The editor sent an advance copy of his news of the health of Dr. Jameson to the public press, which duly quoted the same on Wednesday morning; but lo! when the *British Medical Journal* came out the paragraph was omitted. So the public had in the dailies the *British Medical Journal's* latest news three days in advance of its own subscribers and these latter do not get it at all in their own organ. So much for the gratuitous advertisement of a journal, which is repeated week after week amid denunciations of individuals who supply the "lay press" with information.

The Hospital Reform Association has had another meeting and will address the managers of hospitals and then the public. The first efforts of the new organization will be directed against the abuse of the outpatient system.

Charing Cross Hospital appeals for £100,000.

The Dental Hospital is about to be rebuilt. In fact operations have already begun. When finished the new building will be a great improvement to Leicester Square.

OUR BERLIN LETTER.

(From our Special Correspondent.)

DEATH OF DRS. BAUMANN AND LEWIN—PHYSICIAN AND SCIENTIST—INTERNATIONAL CONGRESS—LEPROSY CONFERENCE—ROENTGEN RAYS IN INTERNAL DISEASES—MEDICAL EXAMINATIONS AND THE OTOLOGISTS—FRÄNKEL'S BIRTHDAY.

BERLIN, December 18, 1896.

Two meritorious workers in the cause of science are numbered no more among the living—Professor Baumann, late of Freiburg, and Prof. G. Lewin, late of Berlin. Baumann, that untiring worker in physiological chemistry, to whom medical science owes the discovery of thyroidin, has been cut off in the midst of his labors. Through his great discovery, the functions of the thyroid gland were first properly understood, and we can now explain why iodine, used for so long a time empirically in goitre, gave such good results.

Professor Lewin introduced the injection method for the treatment of syphilis as a substitute for inunctions. The medical profession, as well as the patients themselves, soon learned to appreciate the greater convenience of application and the efficacy and rapidity of action following this plan of treatment. Lewin was a man of vast scientific knowledge and experience, not only in the department of syphilology, but also in other branches of medicine. Particularly fruitful were his labors in the department of laryngology. Death overtook him in the midst of his labors. Lewin always interested his listeners at medical meetings, for he had the happy faculty of grasping the most salient points of the subject under discussion, and always drew valuable conclusions from the same.

In contrast to the lives of these two worthy members of the profession, is that of Dr. Volbeding, whose career has been fortunately cut short by a sentence to four years' imprisonment because of fraudulent practices. This man, by skilful newspaper advertising, managed to obtain a yearly income of 400,000 marks. He treated his patients almost exclusively by mail, and had a most original system. Diseases he divided into four great groups. Under the heading "Scrofula," for example, he included almost everything imaginable; so, too, he classed various conditions as cancerous and syphilitic. Each group had its special powders, and he would order one powder from Box I. to be taken early in the forenoon; one from Box II. at noon, and in the evening one from Box III. He warned each patient that "an aggravation of the symp-

toms at the beginning of the treatment is to be regarded as a very hopeful sign." He was absent most of the time, but would inform his clerks by mail what treatment to follow. One does not know whether to be more amazed at the audacity of the man, or the blind stupidity of the public. It is proof that even in this enlightened age, ignorance and superstition are still rife. The most regrettable part of the affair was that this wretch was a practising physician, and boldly maintained and tried to persuade the court that his methods were within the law and were exercised in good faith.

The Berlin physicians are making preparations to take an active part in the international congress to be held at Moscow next year. Efforts are being put forth to have a large representation. Professor Liebreich will probably be chairman of the Berlin local committee, and it is hoped that the name of this honored and learned scientist will prove a stimulus for many to take part. Other local committees have been formed in Hamburg, Dresden, Munich, and other cities, under the auspices of the German general committee. Prominent physicians will act in the capacity of chairmen to these local committees, and will make it their endeavor to have the German representation as numerous as possible.

An international congress of a different nature will be held in Berlin next year; namely the leprosy conference. Prominent workers and authorities in this field of medicine will attend in order to discuss the best means to combat the slow but none the less steady spread of this pest. It is intended to invite the various governments to take part in the conference. Owing to the absence of Koch in South Africa, where he is investigating the cattle plague, it was determined to hold the conference in October instead of in March, as was originally proposed.

The leprosy question is at present awaking great interest in Berlin medical circles. At a recent meeting of the Berliner medicinische Gesellschaft, Dr. Havelburg, of Rio de Janeiro, read a paper upon leprosy in Brazil, and a very lively discussion followed. Lately, several new cases of leprosy have been discovered in the eastern portion of Prussia. These are not new cases, but had escaped observation heretofore. There is no danger of an outbreak of the pestilence. All persons in Prussia who are known to be leprous have been asked and have signified their willingness to enter the proposed home in Memel, thus quieting the fear of a spread of the disease. This will best be appreciated when it is known that compulsory confinement of these cases is not sanctioned by law.

Improved methods in the use and application of the Roentgen rays have resulted in the solution of some important questions in internal medicine. Some time since reports of successful skiagraphy of the heart, lungs, liver, etc., were published. Of extreme interest is the discovery made by Dr. Levy-Dorn, in Berlin, by the employment of rays in a case of asthma. He learned that during an asthmatic attack, one-half of the diaphragm—the right—remained quiet, and that the respiratory movements were maintained through the left half. Dr. Pöch, of Vienna, has succeeded by means of the Roentgen illumination in locating a carpet tack in the lung of a boy. Since swallowing this foreign body, the patient had suffered from severe asthmatic attacks.

Behring's tetanus antitoxin gave proof of its efficacy recently in the case of a horse. The animal was suffering from so severe an attack of tetanus that clinical experience pronounced the case absolutely hopeless. One injection of sixty grams of the antitoxin was given, with the result that in three days the animal was completely restored to health and usefulness. We have thus to all appearances a certain remedy against tetanus.

There is a strong movement under way to make the study of diseases of the ear compulsory at the German universities. The teachers of this specialty have petitioned the "Reichskanzleramt" to the effect that at the State examinations all candidates be required to show sufficient knowledge and skill in this department of medicine for the needs of a general practitioner. The arguments advanced in support are of interest. Figures showing the important part that diseases of the ear play in this country are cited. It is claimed that in Germany there are thirty-eight thousand deaf-mutes whose affliction for the most part was not congenital, but the result of ear affections which, had they been properly treated in time, would certainly have been cured. Twenty-five per cent. of school children and thirty-three per cent. of adults hear with difficulty. In the case of children this interferes with mental development, and in the case of adults naturally makes the gaining of a livelihood more difficult. Suppurative processes in the ear are the cause of one death in one hundred and fifty-eight. These naturally are points to be considered with some seriousness, and no doubt the application of the otologists will be granted. Recently the studies of ophthalmology, psychiatry, and hygiene were made compulsory upon similar grounds.

In concluding this letter, it is proper to make mention of another celebrated medical worker. Prof. B. Fränkel, who easily ranks as the highest German authority in laryngology, is about to celebrate his sixtieth birthday. His services to science are so well known to the medical world that it would be superfluous to speak of them now.

THE LEGAL RESPONSIBILITY OF EPILEPTICS.

To the Editor of the Medical Record.

Sir: The acquittal, on the basis of irresponsibility, of Maria Barberi, the Italian girl recently tried in New York City for the murder of her lover, will doubtless be regarded as a just verdict by the student of epilepsy who has known the disease sufficiently to enable him to understand the mental infirmity and curious mental phenomena to which all epileptics are susceptible, and from which a great majority of them suffer from time to time.

But the acquittal of this girl on the ground of irresponsibility seems to us to open up a perplexing problem, and the question at once presents itself: If she was not responsible at the moment the deed of murder for which she was tried was committed, and if she was known to have been a sufferer from epilepsy at other times, during which times she was likewise in an irresponsible condition, why is it that some means were not taken for the removal from society of so dangerous an agent?

A curious legal point is involved just here.

Provision is made by law for the removal from society of an insane person who may be regarded as dangerous, but, so far as we are aware, legal authority does not exist by which an epileptic can be deprived of his freedom, even after he has committed the greatest of crimes, because he is irresponsible instead of insane—a dangerous distinction without a difference, and one likely to work serious mischief.

Epilepsy, instead of insanity, may now become the popular plea on which to base a defence before a court of law of a person charged with crime.

Being insane, the offender cannot be convicted, but after the trial he is not turned back into society and is confined in such a manner as to insure the public

peace. The only factor in insanity, so far as the necessity for removing the lunatic from society and putting him under physical restraint is concerned, is that of irresponsibility, and this is the same dangerous screw that we find loose in the case of the epileptic.

I do not assert positively that an irresponsible epileptic cannot be deprived, through legal processes, of his liberty, but the liberating of Maria Barberi by the court, immediately after the verdict of "not guilty" was rendered, would seem to imply the absence of any such power on the part of the court.

When we consider the great number of epileptics there are at large, careful statistics placing the number at one in every five hundred of the population, we can readily understand the far-reaching meaning that the outcome of this case is liable to have, and it may be that we shall shortly see legal steps taken for the forcible removal from society of all epileptics.

William P. Spratling, M.D.

Craig Colony, Sonyea, N. Y.,
December 17, 1896.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 26, 1896:

	Cases.	Deaths.
Tuberculosis	161	100
Typhoid fever	37	7
Scarlet fever	112	5
Cerebro-spinal meningitis	0	1
Measles	121	7
Diphtheria	190	28
Laryngeal diphtheria (croup)	9	0
Chicken-pox	5	0

Billroth's Advice to a Young Man Intending to Study Medicine.—A correspondent of the *Boston Medical and Surgical Journal* has published a letter addressed by Billroth to an intimate friend, from which we extract the following: "You tell me of the tribulations of the landed proprietor, his subjection to wind, weather, fire, and the like; well, I have no intention of discouraging you or Robert, but the doctor does not lie altogether on a bed of roses. Competition grows constantly more fierce; in the beginning things generally come hard. As a student one has the pleasure of obtaining something of a glimpse into the workings of nature, as well as the diseases which assail humanity. The state of entire satisfaction which ensues on the passing the examinations is gradually undermined by the discovery that our knowledge is but fragmentary; that in those cases where we would most gladly render assistance we often fail of doing so; often, too, are we harassed by doubts as to the proper course to pursue. Unless one is willing to pass through the world in a state of chronic perturbation, one must rest content with doing his duty to the best of his knowledge and belief. A man's greatest blessings are then met with in the shape of a placid and loving wife and undisturbed domestic happiness. Hardly, however, have you reached your home prepared to enjoy these pleasures, when there comes a knock on the door, and duty calls you out again into the cold and stormy night. Few are the joys of the physician. Here and there true loyalty on the part of his patients, emphasized occasionally, although perhaps seldom, by a material token, infrequent gratitude for the most absolute devotion to duty, nay, even for personal sacrifice: joy over a completed cure: the consciousness of having done one's utmost—these are ordinarily the highest satisfactions the physician can attain. You think, perchance, that I paint the picture in too gloomy colors: but when twenty years have gone by and these lines fall into Robert's hand, he will perhaps say that I was right. If once he has a true vocation for medicine, he need not take this into much account. You wish me to write you plainly and in detail. Do not fear lest I continue in this strain: the worst has been said, and, after all, the state of things here is not much worse than one finds in other walks of life. What special quality must one possess in order to be a good physician? My colleague here, Nothnagel, whose work on diseases of the nervous system will at some later day be appreciated by Robert, when inaugurated professor of the house clinic here, said, among other things in his address, 'Only a good man can be a good physician,' and I too share this opinion: it is the supreme regulator of the inner, as well as of the outer effect of the physician's actions. To the phrase 'good man' I would like to add the words 'well brought up,' that is, in a family the existence of which is permeated by a spirit of charity toward all mankind. This condition is fulfilled in the case of your Robert. He must be actuated by an uncontrollable impulse to help other unhappy creatures, at first implanted in him at his birth and well developed; while cultivated feeling and the experience of life have later led him through reflection to the conviction that, however eagerly the man of moral training may chase after happiness, he will ultimately find true happiness to lie in making others happy to the extent of his ability. In this direction alone dare he cultivate egotism, I mean make himself happy, and as much so as possible. In so far as this originates in his moral training, it will be a never-failing source of self-purification, a means of strengthening the sense of duty, a reinforcement of his own moral nature. Should misfortune overwhelm him, he will find that, in assisting others who are even more unfortunate than himself, he has gained comfort as well as the strength requisite for pressing on in the race. To enable the physician to spend himself freely, he must have accumulated a rich fund of knowledge. And in possessing such a treasure the physician enjoys the special privilege of seeing it increase directly in proportion to the lavishness with which it is spent. Activity in the practice of medicine leads to increase in experience, development of judgment, impels us to supply the deficiencies in our knowledge, enables us to follow the progress of the art of medicine, which itself results from the progress of science. A physician who gives himself up to critical, unprejudiced observation sees his own stock of experience and knowledge increase in the very dispensing of it for the relief of others—always provided that he is a good man, with a strong sense of duty, has a sound understanding, and takes delight in work and in his calling."

Psittacose.—This disease, named in honor of the bird which was considered responsible for its occurrence for the first time in Europe, in 1892, has been reviewed in an article which takes up nearly the whole of No. 111 of the *Gazette des Hôpitaux*. It will be remembered that in 1891 two Frenchmen brought into Paris two hundred parrots bought in Buenos Ayres. Three hundred of the original lot purchased had died *en route*. The surviving birds were divided into two lots and slowly disposed of from two remotely separated parts of the city. From one focus of infection twenty-two persons became sick and six died. From the other, twenty cases of sickness occurred and eight of them proved fatal. Professor Nocard found, as he supposed, the specific agent of the epidemic,

which Peter characterized as "typhus of parrots." The writer of the present article, Dr. Descazals, reports an epidemic observed by himself, affecting five persons and resulting in one death. A parrot had in this instance also been bought a short time before and had died, with symptoms of diarrhœa, hebetude, and continual somnolence. An individual infected by the pest would seem capable of transmitting the disease to others. It is often distinguished with difficulty from certain other typhoid states, but the onset is often marked by local manifestations about the mouth, especially in persons who have allowed their pet, particularly while ailing, to take food from their own lips, as is so often the custom. There would seem to be a light form, an adynamic, a nervous, and a pulmonary form. It offers many points of resemblance to grippe and is likely to be confounded with typhoid. Treatment is largely symptomatic. Prophylaxis requires us to place the possessors of such pets upon their guard, especially in relation to feeding from the mouth, and particularly when the bird is sick.

Correction.—In the issue of November 21st, page 765, the dose of trional should evidently read grams instead of grains. Upon page 800 the quantity of mercuric chloride in Dr. Neilsen's prescription was presumably meant to be from a quarter to half a grain.

Is it Practising Medicine for the Vermont healer to allow his manager to advertise his powers by reading-notices in the public press, and to accept fees for undertaking to cure disease?

A New Test for Albumin.—Reagents for the detection of albumin in the urine must be colorless and must reveal the presence of albumin even when the amount is too small for quantitative estimation. Dr. Jolles has published a new and delicate test, consisting of:

Chloride of mercury	10 gm.
Succinic acid	20 "
Common salt	10 "
Distilled water	500 "

In the process of testing, 4 c.c. of the filtered urine are mixed with 1 c.c. of acetic acid, and 4 c.c. of the above reagent are added with shaking. In a second glass similar quantities of urine and acetic acid are mixed with pure water instead of with the reagent. This test yields a cloudiness of albumin in cases in which the ordinary tests fail to give any result at all.—*The Lancet.*

Congress of Natural Sciences.—At the recent congress in Berlin the meetings were devoted chiefly to recent discoveries and their results. In the opening address, Dr. Schmidt said the discoveries of Koch, Behring, and Roentgen could scarcely be open to doubt, while scarcely a hundred years ago great truths now recognized and accepted were looked upon as impossibilities or as the outcome of disordered brain work. A hundred years hence we shall still be able to see the bones of the living body, the pulsations of the beating heart, the movements of the diaphragm. We may then know, too, that oxygen and carbon are not single but compound bodies. We may learn to decompose such bodies into their component parts. We shall learn to prepare food stuffs, perhaps not from stone, but certainly from wood. Professor Flechsig, of Leipsic, spoke of the localization of spiritual and sensory processes in the brain, especially those of circulation. He expressed himself to the effect that our methods were so advanced that we could now localize in the human being, though by a somewhat complicated process, an increased number of sensory centres, which previously we were enabled to do only with great difficulty on animals. Without doubt we can accept it as a fact that there are a centre for movement of the muscles of the skin and a centre for the circulation of the skin. There is a centre for the smell, and there are many, many more. Professor Edinger, who is well known, spoke upon experiments on the brain. Professor Ewald referred to the relation of the motor cortex of the brain and to the labyrinth of the ear. Professor Buchner spoke about the relation of hygiene and biology, and put forward a great many new ideas. Hygiene, he says, diminishes mortality. This has a great many disadvantages. For instance, many individuals are artificially kept living and in the struggle for existence exert an unfavorable influence upon the community. Buchner advises compulsory physical exercises for early youth. Professor Thiem spoke upon a most important subject in connection with accident insurance, and mentioned in this speech the origin of traumatic tabes dorsalis. He is not of the opinion that this is produced by an injury, but he is almost positive that this dreadful disease is for a long time in the human system without the patient or the physician being aware of its existence. By an injury, he says, its manifestations can be produced all of a sudden. It may be awakened, so to speak, from its sleep, and then produce violent and characteristic symptoms. These naturally are cases which are of the utmost importance from an insurance standpoint. The accident cannot be considered as the cause of the disease, since it was present a long time before the accident happened. The accident is only the originator to the extent of bringing to light a condition which existed, we do not know how long, in the system. Fortunately for the patient, the opinion of the judge is usually favorable to his side, because the hastening of the disease process justifies the patient in receiving an indemnity. The speaker referred to the case of a railroad conductor who for years had latent tabes and who had always followed his occupation, until finally a fracture of his lower leg caused the disease suddenly to break out. Dr. Rosenberg spoke about the application of formaldehyde as a remedy. He applied a sixty-per-cent. alcoholic solution for preserving and sterilization; also in the treatment of infectious diseases. The substance is put upon plates and allowed to evaporate slowly. By the addition of menthol the irritability of the formaldehyde gas is reduced to a minimum, and it is supposed to have a very soothing influence upon the mucous membranes of the digestive organs. With this substance a perfection is reached in disinfecting rooms such as we have never had nor heard of before. As affecting the bacilli of glanders and their process it must certainly be considered as having a special value. This remedy seems to be applicable in croup, tuberculosis, diphtheria, etc. Against the application of formaldehyde in the human being a great many objections have been raised on account of its poisonous properties. Further to receive mention are the lectures of Boas upon asthma dyspepticum, those of Abbu upon the influence of milk as a disinfectant in the digestive tract, and the lecture of Professor Born, who spoke about artificially prepared double beings. He had succeeded with larvæ of the green-water frog, the Latin name of which is *Rana esculenta*, in causing them to grow together by scratching them in various places and tying them together with the irritated surface in contact. In this way he had produced a double animal of different shape. It is impossible here to mention the five hundred and fourteen papers read, far less to speak about them. The closing of the congress was marked by a visit to the serum laboratory in Hochst by special train. Professor Behring received his guests personally, and in an address explained the processes carried out in the preparation of serum.

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Original Articles.

SOME PLAIN RULES FOR OPERATING IN APPENDICITIS.[1]

By GEORGE F. SHRADY, M.D.,

NEW YORK.

In presenting a subject having the above title, I am well aware that some apology is due to members who have settled the questions long ago in their own minds; but that the mass of the profession, in view of recent controversies, is by no means in the same position is perhaps a reasonable excuse for supposing that an attempt to establish a conservative clinical standard between extreme points at issue may not be in vain. That great good has resulted from the frequent discussions on the subject is manifest by the remarkable successes that have attended judicious operative procedure, by the steady advances in the study of the pathology of the affection, and by a widespread knowledge of its symptomatology. On all these points there is scarcely any difference of opinion; the really debatable question is when an operation is actually necessary in doubtful cases.

In former times, when every case was operated upon, there was but one answer. Now, however, the pendulum has swung so much the other way that we are in danger of the other extreme of indiscretion. It is for the sake of reconciling opposite views, on the basis of the significance of certain clinical phenomena as applied to certain pathological conditions, that we may profitably compare individual experiences and arrive at rational conclusions. It appears evident that enough has already been done in this direction to make it possible to formulate some rules from leading symptoms, which may in the majority of cases settle the more common differences of opinion regarding the real necessities for operation. With such an end in view, an attempt will be made to analyze the significance of such symptoms and to estimate their real bearing upon the ultimate decision. The object is rather to furnish points for a discussion, for the benefit of such as may need the information thereby obtained, than to attempt any elaborate paper on the wider and more general aspects of the question.

In order to approach the subject in a natural and simple way, I have undertaken to study the detail histories of a large number of reported cases, noting in each the relative constancy of the leading symptoms of localized pain, fever, tumor, and pulse rate.

Three years ago, in an article before this society on the diagnosis of appendicitis, I attempted incidentally to lay down certain rules for guidance, with the view of simplifying the methods of reasoning in given cases, based upon the relation of the leading symptoms to pathological conditions. Since then a more extended experience has in the main confirmed the reliability of most of these observations, and modified or qualified that of others.

Taking the judiciously conservative ground to operate or not to operate as the occasion demands, we may appeal impartially to the common sense of the general practitioner, who is usually the first to advise in the premises. He is always prompt in making his diagnosis, but not equally so in appreciating the elements in the danger of delay, which a more careful watching of the case may avert. In private practice the responsibility of advising any operation is always attended with difficulty when the reasons for such a course are not well fixed. In remote districts expert surgical advice is not always readily obtainable, save at considerable expense, and the country practitioner, especially, is oftentimes in doubt as to the expediency of suggesting surgical consultation in what may prove to be a simple and uncomplicated case. The latter are numerous and frequent enough to deserve calm consideration. They demonstrate in the practice of every one that there is such a thing as safe conservatism, and that patients recover without operation and remain perfectly well for long and indefinite periods. Thus, while every case should be watched and studied for dangerous symptoms, there is something else to be thought of than an immediate operation.

As a proper starting-point for the consideration of the particular subject of these remarks, it may be said that what localized pain is to a diagnosis, so is the increased pulse rate to operation. Of all the symptoms indicating danger that of the condition of the pulse is the most important. This is by no means a new observation, but one which is either not sufficiently enforced or not properly appreciated. I have been led to believe, from personal observation in a goodly number of cases, operative and otherwise, that this is the main and oftentimes the only guide to operative interference. Other signs may be wanting, but this seldom fails. A "snappy" inflammatory pulse, continuously accelerated or increasing in frequency, is almost always an indication for operation. This always shows an actively progressive pathological condition.

The next important consideration is that of the character, localization, and persistence or increase of pain. Localized pain at McBurney's point, although an essential element for diagnosis, is of secondary account as compared with the pulse in estimating the indications for operation. While it should always be present to a greater or less degree in all cases, its progressive intensity, which means so much, is not always manifest, even in the worst cases. Usually, however, the two essential elements of the pain symptom, with distinct localization and progressive intensity, correspond with the increase of frequency of the pulse. The sudden increase of pain is an indication of serious mischief, and when present outweighs that of mere temperature elevation in the argument for immediate operation. It is a leading symptom in perforation, in the so-called fulminating cases, and, save in exceptional cases, is always attended with symptoms of severe shock, usually with preliminary chill and generally with rapidly increased temperature.

The temperature in appendicitis is never very high; as a rule, the average is about 102° F. Without the symptoms previously stated, there may be a reasonable doubt as to the correctness of a diagnosis. By itself,

[1] Paper read before the Practitioners' Society of New York, November 6, 1896.

then, it means very little in our present estimate, but, associated with the other phenomena named, it makes assurance doubly sure. In fact, the increase of the three elements in the order of their importance, pulse rate first, pain second, and temperature last, constitute the cardinal indications for operation in every case; and, contrariwise, a decrease along the same lines, but more especially in the pain and pulse rate, means judicious waiting and safe conservatism. The actual number of pulse beats is not of so much account as their tendency to increase, although the rule of Willy Meyer, to operate when they reach from 116 to 120, is generally a trustworthy one, as I have proved in many instances.

While I desire to emphasize these points as the really essential ones upon which quite positive opinions may be based, we are not to lose sight of incidental circumstances which may be considered in the way of corroborating or of modifying final conclusions. Aside from the symptoms already mentioned, the general gravity of a case has a direct relation to severity and suddenness of the attack, but more particularly to the associated condition of prostration of the patient. He has what is graphically called "a very sick look"—always an ominous and anxious symptom, and almost invariably accompanying one or more of the cardinal signs of danger.

In the foregoing *résumé* we have taken into account only those symptoms usually noticed in the majority of cases which from the very nature of the disease require careful study and accurate interpretation.

Just here it may be stated that there is usually no necessity for hurry in arriving at conclusions. Except in the fulminating cases there is always opportunity offered for noting the course of the disease. The initiative symptoms are generally very pronounced and exaggerated. A snap diagnosis is always unsafe under the circumstances. After the explosion of the primary attack there is a comparative retrogressive lull, and then comes at the end of from twenty-four to thirty-six hours, or longer, the important time for the study of what can then be demonstrated as the progressive signs of trouble.

The fulminating cases, however, in which immediate perforation occurs, admit of no argument as to the necessity of prompt and radical measures. Nor is there any danger of misunderstanding the significance of their symptoms. The sudden agonizing pain, first localized and then becoming general, the rapid thready pulse, the pinched face, hurried grunting respiration, increased temperature, and abdominal distention leave no doubt in the mind of the most casual observer. In the majority of these cases the increase of the pulse rate often anticipates that of pain and temperature.

While every one knows that all cases of appendicitis require the most constant and careful watching until actual recovery takes place, that we are never out of danger until all symptoms of the disease have disappeared, it is also true that there is no necessity of becoming alarmed without cause, or becoming accessory to the patient's death by an overanxiety to operate. It is with the view of enabling the practitioner to take a common-sense view of the question that this effort to formulate certain rules is attempted, in the hope that by being forewarned he can be safely ready and be the better qualified to study indications with becoming calmness, and not be forced into unwarrantable exploratory operations against the dictates of his better judgment. This may sound like a surgical heresy, but we must admit, nevertheless, that we can always afford to wait for emergencies rather than be too eager to anticipate what may never happen.

I cannot help believing that, with a laudable attempt at warning the family practitioner against neglect of appendicitis cases, there has been an unnecessary scare about the whole matter. We have very grave cases, it is true, but the majority are not so bad as they are oftentimes pictured. In the present aspect of the question, it requires much more moral courage in a given case to advise against the operation than to perform it.

The appearance of a tender swelling from the third to the seventh day of course adds to the gravity of the case. This means that pus is forming and limiting adhesions are appearing. In the face of the surgical rule to evacuate abscesses, the question as to the time when this should be done with the greatest safety is still a debatable one. In a rapidly progressive case the danger of rupture of the abscess wall is very great; on the other hand, premature interference with the protecting adhesions by inexperienced operators precipitates the very accident we desire to avoid. In every case of doubt the risk is equally divided. It becomes a question of judgment in every individual instance, founded on the accurate interpretation of the clinical phenomena. If the initiatory symptoms show a tendency to subside, it is good surgery to wait until the circumvallation is sufficiently firm. In the end, instead of a laparotomy, we have nothing more dangerous than the evacuation of an isolated abscess. The greater danger in the acute cases exists before adhesions have time to form. As a rule, the fulminating cases appear during this period. In my experience the breaking down of adhesions is a comparatively rare occurrence compared with the formation of a distinctly limited abscess.

Now as to recurrent cases. I am well aware that it is claimed by many leading authorities that the appendix when once inflamed is always a diseased organ. This assumption would make it impossible for any case, mild though it be and unattended by severe symptoms, to recover entirely without an operation. We all know that this is not the case—that patients do recover after a first attack and remain well for an indefinite period. In spite of the pathological theories of the day, there is no good reason why this should not be so. The inflammation does not necessarily result in structural changes. Admitting the great liability of such occurrences due to the peculiar anatomical formation of the appendix, they can never be proven unless subsequent localized pain or circumscribed swelling persists, or a distinct rehearsal of former acute symptoms demonstrates the existence of fixed adhesions and the inability of the appendix properly to rid itself of its imprisoned secretions.

Logically viewed, it would appear to be a safely conservative course, under the circumstances named, to steer between the certainty of a diagnosis and a minimum amount of adhesions. It is the difference between actually seeing the game and in firing with a chance shot. The trouble has been that the argument for or against operation in these cases has developed in the expression of extremely opposite views. With one set of men appendicitis means operation always and under all circumstances; with another, simple medication and dangerous procrastination alike offset sound judgment. It is in the direction of reconciling these diametrically opposite views that a conservative opinion is offered.

In attempting to simplify the leading facts upon which good judgment may be based we do not lose sight of the fact that there are exceptions to all the points named—that patients with a temperature and pulse rate almost if not quite normal, and with scarcely any pain, rapidly go to the bad; that the apparently mild cases in the beginning turn out the worst in the end. Few, however, do this without some preliminary warning. They are what may be called irregular cases. Their defiance of ordinary rules makes them suspicious ones. One or other of the leading

or casual symptoms assume sudden and significant prominence. There is a something in the air that makes us think of a weather breeder. These cases are always taken into account in laying down general rules. They cannot be ignored, but fortunately they are not of such frequent occurrence as some would lead us to suppose.

In order, then, to summarize the points upon which a discussion may be invited, the following propositions are offered:

1. The continuously frequent or progressively accelerated pulse rate is of itself a prime indication for operation.

2. Pain, localized and progressive, is a valuable associated condition. When pain is sudden, severe, and progressive, and accompanied with chill, it means perforation or abscess rupture and immediate operation.

3. Increase of temperature is third in importance, but when associated with one or more of the previous symptoms, and more especially with increase of pulse rate, it makes immediate operation a foregone conclusion.

4. The gradual subsidence of the three cardinal symptoms—pulse rate, pain, and temperature—is a legitimate reason for postponing immediate operative interference.

5. In cases of abscess it is generally safer, while watching for urgent indications, to wait until adhesions have formed a sufficiently protective wall.

6. In cases of recovery after mild attacks and without operation we are never sure of recurrence until the latter takes place, when the operation can be done soon enough, and, all other circumstances being equal, preferably in the interval of a succeeding attack and when the tissues are not in an inflamed condition.

8 East Sixty-Sixth Street.

SIMPLE MELANCHOLIA AND ITS TREATMENT.

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The beginnings of melancholia, as a rule, are quite gradual. It is usually a disease of insidious and slow growth. Often the condition of mental depression is so slight and the bodily symptoms are apparently so trivial, that physicians frequently are not inclined to attach much importance to them. It is a disease which arises from a lowering of the physical and mental forces, is accompanied by depression of spirits, and is attended by nervous exhaustion. A condition of neurasthenia in itself does not necessarily lead to insanity, yet the latter is often accompanied by it.

There are various degrees of mental depression: first, what is known as the simple or mild form of melancholia; second, the form attended with stupor, or melancholia cum stupore; and lastly, the agitated or frenzied variety. They are simply grades of the same disease; and, as the mental reduction becomes more pronounced, the more severe is the type of melancholia that presents itself. It is the first variety—namely, simple melancholia—that more commonly comes under the notice of the general practitioner, and it is a very prevalent form of mental disease. These slight or mild exhibitions of melancholia are manifestations of prime importance, for it is by the successful combating of them that an attack of severity may be warded off and the patient's health and reason preserved. In all these forms the chief mental factor that is noticeable is the predominance of self.

[1] Read before the Newburg Bay Medical Society, Newburg, N. Y., November 10, 1896.

This feature is ordinarily termed egoism, and is quite distinct from what we understand by egotism or self-conceit. The patient in melancholia is self-conscious, and lacks the buoyancy and freshness and reliance that are attendant upon normal health. There are usually no definite delusions accompanying this state, and the patient attends to business or work, sensible, however, that it has become more of a burden to him and that he is unable to fix his attention upon it as formerly. He has lost the power of concentrated attention and consecutive thought. His ideas are apt to be confused, and the strength of mental application is gone. As a rule, such persons shun society. They do not mingle with men more than their daily duties require of them, and have a strong aversion often to meet those whom they feel to be really their friends. They are morbidly self-conscious and sensitive, and reach at last a state of great indifference to all that once served as exercise, recreation, or pleasure. There are a difficulty in paying proper attention to business and a lack of association of ideas, and the patient's mind is given up to introspection and gloom. There are very many people who suffer from periodic or occasional attacks of this nature, whose will power is sufficient to keep them up and who present their ordinary aspect to the world, but who confide to their physician what they dread may come to public knowledge and which they are anxious to conceal. It is these cases which can be most successfully treated, and the results of which are often most satisfactory.

While neurasthenia is held to be a disease distinct from insanity, yet the two are closely allied, and many cases of neurasthenia are simply cases of mild melancholia. There are a condition of mental weakness or depression, with intense egoism or self-introspection, and a failure of thought and effort; as one young lady expressed herself, she could get her thoughts together, but she could not connect them and the effort made her weary. Many business men are afflicted in this manner. They are annoyed and made irritable by company; they are afraid to go on the street or to meet people socially. This state is attended by mental depression and the concomitant feelings of physical weakness and constant fatigue. The patient is unable to overcome ideas which dominate his mind, and yet which he feels are unreasonable and absurd. He often comes to the physician simply for the reassurance which he receives and which is an aid to him. It is an error to treat such cases with rebuffs or ridicule, or as of little consequence. They should receive the serious attention and the helpfulness which their condition requires. It is surprising often to what lengths the habit of self-analysis is carried, and with what importance the smallest affairs are invested. To his friends, and ofttimes to his physician, his complaints are so absurdly small as to be treated with impatience or indifference. What patients of this character need is the moral support accorded them by another, in whom they feel a confidence and from whose words they experience a sense of strength and relief. Most physicians who successfully treat such cases do so because of the confidence they inspire and of the co-operation they are able to obtain from the patient himself. This may with truth be said of many diseases. The successful physician is the one that can obtain the confidence of his patient.

An important prerequisite to treatment is to place the disease upon a physical basis in the patient's own estimation of himself, and to divest it of its mental character. If the patient can be made to think that he has some tangible foe to combat, he will feel much relieved in mind. If he is told that his liver, his digestion, his intestinal functions are at fault, as they usually are, and that his mind is depressed by an impoverished circulation due to toxic agencies in his

blood, he will feel that he has something to hope for in the way of eventual relief. Suicidal impulses may occur in some cases, but in simple melancholia the patient usually retains enough self-control effectually to guard against the act itself. His greatest fear is that he may become insane, and he hesitates even to express his fear, lest the expression of his thought may become a father to the fact.

The patient's confidence is the important factor, then, to be gained, for without it no successful method of treatment is likely to prevail. Patients are usually free from delusions in the early stages of melancholia, though they may have exaggerated and it might be said false ideas of their own mental and physical condition. Still, such ideas are simply errors of judgment, amenable to reason, and out of which, by careful attention to their cases, they can be educated, such mental training going hand in hand with therapeutic treatment. We all recognize the powerful influence which the mind has upon the body, and instances are familiar to us all. Sudden fright, the shock of unexpected bad news, the yearnings of homesickness, the stress and strain of financial embarrassments and of grief, affect both mind and body, often destroy the appetite, hinder digestion, drive away sleep, and impair the health. Sudden shock may cause syncope or even death. Homesickness may so depress the mind and health as to result fatally; anxiety, care, and responsibility may render the night sleepless, and sudden alarms soon after or during the hour of dining may stop digestion and render the ingested food really a foreign body. These facts are not known to the public, or, if known, are not appreciated by them. Let the melancholiac know that there is a physical basis to his ills, and you drive away the demon of vague and indefinable fear and gain thereby a most helpful mental effect. How much, then, to be valued are the services of the family physician who is sympathetic, helpful, encouraging, and strong to sustain the despondent and to lighten the burdens of the incipient melancholiac! I believe this can be attained by ascertaining, if possible, the real basis of the attack of melancholia itself, or at least by finding out some of the actual physical causes which do exist, and explaining to the patient as clearly as possible the true state of his bodily health and detailing the *rationale* of the general plan of treatment which you propose to follow. As a rule, patients are benefited by knowing that their mental condition is probably dependent upon some physical cause, which is removable by treatment. In my experience, the gloom of a patient's mind is largely due to the feeling that his trouble is entirely mental, and he is apt to regard his other ills as secondary and unimportant, in which view he is altogether wrong, although he is often sustained in it by his family and friends.

The derivation of the word melancholia throws some light upon its most common etiology. The two Greek words, *melas*=black, and *chole*=bile, while not accepted in their original application and significance in the sense of meaning that melancholia is actually due to bile in the blood, yet disturbances of the digestive organs, the intestinal canal, and the liver have a most important relation to the production of the disease. In many cases there is a strong hereditary tendency, but its actual onset is due to some special exciting cause that in very many cases is removable by proper prophylaxis and treatment. I have known several instances in which insanity prevailed largely in the family history, yet in which it has been warded off by attention to simple measures of hygiene and seasonable treatment. Of course, if the patient is suffering from special disease, such as rheumatism, hemorrhoids, neuralgia, or syphilis, or from any physical defect, such as eye strain, an old stricture, or any one of many ills, the attention of the physician will be directed thereto and to its appropriate treatment; but most cases of simple melancholia are idiopathic, or are so apparently.

You will find in these cases that there is, as a rule, some disturbance of the digestive system. The patient may suffer from some form of dyspepsia, and almost always does suffer from constipation. Constipation may be quite certainly counted upon, and with it hemorrhoids. There are sometimes much flatulence, a sense of weight and distress after meals, often ill-defined feelings of discomfort or vague pains in the abdominal regions. These conditions are relieved somewhat by gaseous eructations, sometimes accompanied with acrid or bland fluids, but more commonly free from them. The belching of gas often gives a sense of relief, which is temporary. While stomachic disturbances are not the most prominent and are not always present, there is, as we have said, almost universally a state of chronic constipation. It is to this condition that attention has been more or less attracted of late, through the theory that many forms of mental disease, not only in their initial stages but also in recurrent and periodic forms, are due to intestinal infection or autotoxis. It is reasonable to ascribe also other forms of mental disease to this source of toxic infection. In no form is this more true than in melancholia. The intestinal contents are retained, and by being absorbed poison the circulation by toxic agents that seem to work directly upon the nervous system; and not only this, but digestion itself is so imperfectly performed that the food is not assimilated and does not nourish the body. Melancholiacs, as a rule, are reduced in weight and are often emaciated. The evacuations from the bowels are scanty and frequently suppressed for days. The patient's appetite often is poor, and the reason is frequently given as an excuse for constipation that the patient eats nothing and a fæcal movement is not deemed necessary. The evacuations, when they do take place, are often small cylinders or lumpy, and are usually dark or occasionally extremely light in color, and often extremely offensive. This condition of retained fæces in the intestinal canal often leads to what is termed copræmia or fæcal autotoxis.

The chief duty in all cases of this character is to pay attention to the digestion and to the atonic state of the bowels. It is not well to prescribe violent cathartics, but to give in daily doses small amounts of buckthorn or cascara. The pill of aloin, strychnine, and belladonna, continued day after day, is a most excellent remedy. An occasional dose of calomel is also efficacious, in the form of small doses of the triturates in one-half or one-tenth grains, frequently repeated. It acts as a laxative and, in the opinion of many, as an intestinal antiseptic as well. All of these patients should be taught that one of the most serviceable methods to promote regularity of the bowels is to take some special time of the day for the performance of this duty. The habit of defecation at a certain hour can be acquired, and it is extremely important that these people should be taught to acquire it. They should be made to persevere for a long time, even though no apparent benefits ensue. The Saratoga mineral waters and some of the stronger aperient waters are useful when taken regularly as an aid to this result. The appetite of melancholiacs is not often good. They need more than the usual amount of food, even though they are not actively exercising. One of the most encouraging things in the treatment of these cases is the gain in weight which indicates improvement. This is one of the criteria of successful treatment, and is often the first evidence of returning health. It is well to weigh your patients from time to time. In certain cases of obstinate dyspepsia

it is sometimes necessary to wash out the stomach by lavage before meals, but simple aids to digestion will ordinarily be sufficient. The drinking of hot water sometimes serves a good purpose. Reliable preparations of pepsin, in ten or fifteen grain doses, or other digestive ferments, are of service. Nitromuriatic acid or hydrochloric acid is a useful remedy for continuous use. The subgallate of bismuth is an efficient agent in the disease, and may be given in doses of five or ten grains. It exercises a mild antiseptic influence upon the digestive tract. Salol, in from two to five grain doses, I have found to produce good results. Naphthalin, in from one to three grains, and its allied products, have been used also for the purpose of local intestinal antisepsis. It will be found necessary to vary your remedies from time to time with notional patients. This can frequently be done, seemingly, without any actual change of medication, or a slight one; for the melancholiac is a variable patient, without much enthusiasm, and his confidence in drugs soon wanes unless reinforced by an apparent change. Cod-liver oil, a most nourishing diet, with plenty of butter, eggs, milk, and cream are indicated. The important element in treatment is to get the patient's bowels in condition and give him good digestion, and then or simultaneously insure the ingestion of large amounts of nourishing food. Phthisis, though not often, yet is sometimes attended with melancholia, and in this disease gain of weight brings with it corresponding cheerfulness of spirits. With the arrest of the disease, the melancholia usually disappears. In all these cases, of course, attention should be paid to the patient's clothing, and warm woollen underclothing and warm stockings should be worn, and the patient kept comfortably and hygienically clad in all weathers and under all conditions, and he should take only moderate and pleasant exercise.

Sleeplessness is often a factor that is difficult to treat. When the true cause of the patient's worry can be discovered, its removal, or, if that cannot be effected, strong judicious counsel on the part of the physician, may often do much to ameliorate the condition by encouraging the despondent patient and giving him moral support. Hyoscine in small doses in these initiatory stages is often of service. A single dose of chloral, or chloral and bromide combined, in doses of ten to fifteen grains each, often act well. The practice of giving these patients hypnotics and sedatives frequently through the day is, as a rule, bad. In many cases it intensifies the mental symptoms, and often the complete stoppage of all medication in cases of overdrugging will be productive of very apparent benefit to the patient. A glass of dry wine, or an eggnog, or a full meal even, will dispose the patient to sleep. Sulfonal or trional in these cases acts well if given in divided doses, the first about three hours before bedtime, and the second portion shortly before retiring. Opium at times acts well, but the after-effects and the constipation produced are unfavorable factors in its use. The two important indications are to eliminate the intestinal self-infection and thus purify the blood from toxic agents, and at the same time do away with the starvation of the tissues from unassimilated and insufficient food. The symptoms, as a rule, will disappear without other special treatment if these matters are successfully combated.

The question of intestinal putrefaction and infection as a cause of acute insanities has for some time been recognized. From time to time writers have called attention to this matter, and its importance has impressed itself upon every asylum physician. The tendency of late years has been turned to the germ theory as productive of disease. It is probable that the septic products of active bacterial growth in the ill-digested and decomposed contents of the intestinal canal may be absorbed as a toxic agent in the circulation and result in the various forms of melancholia. Germs themselves may gain entrance to the blood, and it is a theory for our consideration whether many forms of mental disturbance may not be manifestations of bacterial activity. Certainly, treatment directed to the relief of indigestion when present, and of constipation with its attendant evils, which is an invariable accompaniment, and the administration of remedies which shall render the intestinal canal in some degree aseptic, has met with the best possible results in my own experience. This course renders the giving of large amounts of nourishing food possible, and leads to a gain in fat and blood and in weight, and certainly promotes a cure. These cases of moderate melancholia are most hopeful; the treatment is usually somewhat prolonged, and as the patients are often intelligent and, in the event of recovery, appreciative, most cordial and pleasant friendships are often formed. Your cases are thus rendered most interesting, and at the same time satisfactory.

ON THE RESTRICTION OF MEAT IN THE TREATMENT OF PSORIASIS.[1]

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In spite of much research as to the microscopic anatomy and bacteriology of psoriasis, and notwithstanding frequent studies of its clinical history and reports as to its therapeutics, all must acknowledge that the disease is as yet but little understood, as far as relates to its etiology and to its permanent cure.

Thus far reports in regard to its treatment have been too largely confined to the use of local measures, and but little definite information appears in regard to its constitutional conditions and treatment; and even in text-books but little can be learned as to a course of treatment calculated to permanently cure the disease. We know, of course, that arsenic has been lauded by some as really curative: but I question if many who have seen much of the disease and have watched their patients for a long time find this drug often permanently successful. Indeed, as far as I have been able to interpret literature, the general professional opinion tends rather to the view that psoriasis is an incurable disease, even though the existing eruption may commonly be removed more or less easily by a number of remedies and measures.

All writers certainly agree that psoriasis is exceedingly prone to relapse, and Crocker sums up the prevailing experience by saying: "We know of no means of preventing recurrences, which are almost sure to occur, sooner or later, in at least ninety per cent. of the cases." Surely this is a discouraging outlook, and it behooves the profession to study the underlying causes of the disease with a view to its better treatment.

It has been far too much the tendency to regard all skin diseases as either of purely external origin or else as idiopathic affections of the integument, to the neglect of internal causation. This has undoubtedly been fostered by the readiness with which the skin has been reached by outward applications, and perhaps also by the ease with which it has been subjected to microscopic research of late years. The recent tendency to attribute so much of disease to the local agency of the lower organisms has also contributed toward directing attention from internal causation.

But there are few who will contend that psoriasis is a wholly local disease, either in the line of idiopathic

[1] Read at the Third International Congress of Dermatology, London August 7, 1896.

cell derangement or of external causation; although of late the microbic origin has been claimed by some. The latter, however, seems quite far from proof, and many of the clinical features and relations of the disease point almost conclusively to an internal origin. Among these may be mentioned its common appearance at the developmental period of life, its more or less hereditary character, its periodical recurrence with the change of seasons and food, its remarkable symmetry of location, etc.

When an internal etiology of psoriasis has been more or less acknowledged, various elements have been considered as causative. The older views were expressed under the words constitutional, dyscrasic, diathetic, etc.; and more recent research has looked toward the nervous system for a solution of the problem. At the present writing I do not know if much attention has been given to the possibility of lymphatic derangement as a cause of the disease.

As yet, however, we are greatly in the dark in regard to the real cause of the eruption, and little is positively known as to constitutional states existing in these patients. As a rule, they claim to be, and indeed seem to be in good health, and the eruption appears to be the only element that requires attention. This has far too often led to its consideration and treatment from a local point of view, and to the attempt at its temporary removal only, without endeavoring to reach its constitutional cause. All who are familiar with the disease know only too well how temporary and relatively unsatisfactory this treatment proves to be. The question arises: Can we not discover and remedy some of the causes underlying the eruption, and so effect more in the direction of preventing relapses or modifying their character? I believe we can.

Time prevents any elaborate study of the disease on the present occasion, nor is it necessary. The present writer submitted his views, with an anaylsis of one thousand cases of psoriasis, to the First International Dermatological Congress at Paris,[1] and also in a later article.[2] It may only be stated that a total disbelief in any local cause of the disease was there enunciated, and its constitutional nature vindicated. Nor do these researches lend any support to the possibility of a nervous or lymphatic origin of the eruption. Observation and study, however, have led to the conclusion that the disease is dependent upon a blood state closely allied to that belonging to gout and rheumatism.

Much more study and analysis are necessary to determine exactly in what this blood state consists, and how it is produced; but for the present it may, perhaps, be best expressed by the term "uricacidæmia," which has been of late so carefully studied and prominently brought forward by Dr. Alexander Haig, of London. It is known, of course, that this gentleman has only followed in the footsteps of many illustrious men, who have with great force urged the importance of chemical blood changes as the cause of disease. Among these stand prominent such men as Bence Jones, Murchison, Garrod, Roberts, and many others. The present writer also urged the same views as are now advocated, in regard to the etiology of psoriasis, twenty and more years ago, long before the labors of Dr. Haig had appeared.

It is unnecessary to elaborate this subject at present, except to state that it is in the urine of patients with psoriasis that we are to find the evidence of the acid blood state, and that a frequent and careful study of this secretion will often furnish us the best guide to the proper understanding of the patient and to the constitutional treatment of the disease. Careful investigation of the clinical history of the patient, including his diet and mode of life, is likewise very essential, as is also a correct knowledge in regard to his hereditary history. It is often surprising what can be discovered by patient investigation in these respects.

Finally, it may be added that, in order to care properly for a patient with psoriasis, it is by no means sufficient to regard and treat only the eruption happening to be present at any one time, but it is essential that medical observation and guidance should be extended over months and years, if we would eradicate the tendency to the eruption. It is in the light of what has preceded that I come to speak very briefly of the special point which forms the title of this paper: namely, "On the Restriction of Meat in the Treatment of Psoriasis."

It will be noticed that this is alluded to as one point only in the treatment of psoriasis; for, to be fully effective, I believe that it must be combined with every other possible element of internal and local treatment (including diet and hygiene), which experience has proved to be desirable and necessary in the management of the disease. Of these there is no time to speak now, nor is it essential to do this in the presence of the distinguished body of my colleagues here gathered.

I do, however, wish to emphasize strongly the point of my paper—namely, that free indulgence in meat is very apt to greatly aggravate the eruption of psoriasis, whereas its restriction, especially the avoidance of beef and mutton (including extracts, strong soups, etc.) will aid materially in its removal; furthermore, their continued avoidance will, I believe, contribute very greatly to the removal of the cause of the eruption, and so assist in effecting a permanent cure of the disease.

I do not wish to be misunderstood in this matter. I am not yet prepared to affirm that the eating of strong meat alone produces the eruption, or that its avoidance will surely cure the complaint. But I do believe, after carefully watching the matter for a number of years, in a considerable series of patients in private practice, that the element under consideration is of very great importance in the management of psoriasis. I have careful notes of many cases in which the improvement has been most marked as soon as this stringent diet has been rigidly observed; and also notes concerning many patients who for several years have maintained the same diet, with the most manifest gain with respect to recurrence of the eruption.

Time and space prevent a full consideration of the mode in which this plan of treatment acts in regard to the eruption; but it is explained, I think, on the ground of uricacidæmia, to which Mr. Haig has endeavored to trace so many complaints. While I am by no means prepared to agree with him in all his deductions from his carefully recorded facts, I am, from my clinical experience in many directions, very certain that in the investigations of chemical physiology and pathology we are to find the cause and cure of many diseases. I will quote a single paragraph from Dr. Haig's interesting and instructive book,[1] expressing briefly the line along which I believe investigations should be made:

"Uric acid is met with in the body and blood chiefly from two causes: 1, It has been introduced in excess by the consumption of articles of food which contain it or other members of the xanthin group, such as meat, fish, tea, coffee, cocoa, or guarana; or 2, because so much nitrogen is taken that the uric acid formed

[1] "Analysis of One Thousand Cases of Psoriasis," Trans. Cong. Internat. de Dermatologie, etc., Paris, 1889, p. 879.

[2] "Clinical Notes on Psoriasis, with Especial Reference to its Prognosis and Treatment. Analysis of Three Hundred and Sixty-six Cases in Private Practice," Trans. Med. Soc. of State of New York, 1895.

[1] Haig: "Uric Acid as a Factor in the Causation of Disease," second edition, London, 1894.

out of it (in relation to the urea, of about one to thirty-five) is not all excreted, owing to the high acidity which the salts and other ingredients of nitrogenous metabolism produce. A store is thus gradually formed in the body, to the extent possibly of from fifty to four hundred grains per year."

According to my experience, this uricacidæmia exists to a greater or less extent in psoriatic patients, and by removing or lessening it we certainly diminish the tendency to the eruption.

This is to be accomplished not only by internal medication, such as alkalies combined with tonics, and by proper hygienic measures, including bathing and exercise, but also most certainly by diet; and one of the chief features of the latter is the restriction of the nitrogenous elements in the food, especially such as are found in strong meats and their equivalents.

I regret greatly that this subject of the constitutional treatment of psoriasis cannot be fully developed at the present time, for I dislike to press a single point, when there are so very many others of great importance; but these must be left for a future occasion. I shall feel, however, that I have accomplished some good in the line of controlling this commonly intractable disease, if I can fully impress upon my hearers that they will be of service to patients with psoriasis if they will in connection with other internal, general, and local treatment, restrict wholly or largely the use of nitrogenous food, principally represented by meat.

4 East Thirty-Seventh Street.

GASTROSTOMY IN HYPNOSIS.[1]

By HENRY HULST, A.M., M.D.,

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Since Egeberg suggested gastrostomy for œsophageal stenosis in 1837, the operation has not become so common as to render the reporting of new cases of it a work of supererogation.

The special interest attaching to my case lies in the fact that no anæsthetic was administered, but that the operation, which lasted over an hour, was done in hypnosis. The patient died thirty hours later.

Mr. D——, aged sixty years, noticed dysphagia last March, *i.e.*, eight months ago. At the same time rapid loss of flesh and strength set in. The smallest stomach tube was invariably arrested at about thirteen inches from the teeth; and at no subsequent trial could it be forced past the obstruction. Definitely localized pain at the seat of the trouble was not marked, nor was there more than a vague and transient sensation of uneasiness anywhere except in the right supraclavicular space. There were no enlarged glands, so that the pain there was probably of the nature of a referred sensation. Vomiting soon became a prominent symptom. No blood came, and the vomit consisted of what he had eaten and much mucus. The breath was often foul and the tongue heavily coated, but the vomit was not of offensive odor. The difficulty in swallowing increased, but with surprising intermissions, lasting sometimes for days. Thus, sometimes for days every effort at swallowing produced vomiting and more or less pain in the right supraclavicular space, but suddenly he would experience relief. Liquid and even solid food would slip down quite easily, and he would declare that he was certainly getting well now. Frequently this change was so abrupt and so marked as to startle me into doubting somewhat the organic nature of the trouble. But the tube would not go down, and emaciation progressed in spite of vigorous rectal feeding until he had dwindled down to about one hundred pounds from one hundred and eighty, his former weight. So that, in view of the fact that "in persons over fifty years of age, persistent difficulty in swallowing, accompanied by rapid emaciation, usually indicates œsophageal cancer" (Osler) the outlook was bad. During the last two months practically no food, solid or liquid, reached his stomach. He was very hungry most of the time; rectal feeding could not keep him up, and he felt life slipping away from him. Yet, rather than suffer pain in the right supraclavicular region from attempting to swallow, and sooner than retch and vomit, he chose to starve slowly, until finally, when he had become thoroughly exhausted, he consented to the operation.

He entered Butterworth Hospital, October 26, 1896. Strychnine, one-fortieth of a grain, was given hypodermically every four hours, and rectal feeding was continued to the limit of toleration. On account of his prostration it was feared that he might die under the anæsthetic, and as I had occasionally hypnotized him since 1893, and had found him to be a fairly good, though in no way a remarkable subject, I resolved to try hypnotic suggestion instead of chloroform. The evening before the operation, to prepare him by a good night's rest and to remove from his mind all fear of the operation or its outcome, I proposed to put him to sleep for the night. He consented gladly. After he had been got ready I told him to go to sleep, and promptly he shut his eyes and his breathing became slow and deep. I raised his arm and it remained that way, cataleptic. I put it down and spoke to him somewhat as follows: "Mr. D——, sleep soundly to-night; do not wake up till morning, and then you will be rested and fresh. You positively long for the operation, for you must be helped, and you will suffer no pain because I shall put you to sleep soundly." The next morning he was cheerful and quite ready. The nurse said that he had slept quite well and that she had given him the hypodermic injections without awakening him. He quietly bid good-by to his wife and children and was put to sleep on his bed, the same as the night before, so that he might be brought into the operating-room and treated like one under chloroform. Strict asepsis was observed. When everything was ready, I made sure that he was *en rapport* with me and talked to him quietly a while, stroking the site of the proposed operation and assuring him that he would be very comfortable while we worked on him, and directed him to lie perfectly still.

Dr. Perry Schurtz, of this city, assisted me to do the Ssabanejew-Frank gastrostomy, October 28th.

The first cut was made about three and a half inches long and one-third inch below and parallel with the left costal arch. The colon presented and the liver made its appearance in the opening with each inspiration. The stomach was found contracted and supporting bunches of angleworm-like veins. Its fundus could not be drawn from under the ribs without undue force, so that a part of the distal half of the organ was pulled out about two inches and stitched to the parietal peritoneum with a dozen interrupted iron-dyed silk sutures. Silkworm-gut sutures, one at each end of the incision, were placed so as to anchor the stomach and afterward buried. The second opening was made one and a half inches above the first, parallel with it and one and a half inches long. The resulting bridge was undercut, the stomach drawn through the second incision, the first one closed with interrupted silkworm-gut sutures; the stomach, now protruding out of the second incision was opened with scissors and attached to the skin with interrupted silk sutures, and the dressings were put on.

A little later the dressings were made tighter, as it was found that there was some oozing. He was kept in hypnosis about four hours longer. When I awak-

[1] Read before the Academy of Medicine of Grand Rapids, Mich., November 9, 1896.

ened him by touching his chin and asked him, "How are you now, Mr. D——," he answered, "I feel fine." His pulse, however, which was as good during the operation as before, gradually went up to 132 and became very feeble. Hypodermic injections of a pint of normal salt solution, repeated in the evening, reduced the pulse to 118. Next morning it was 116. Another pint of salt solution was given under the skin and the patient fed for the first time through the new opening. The wounds looked well. About noon he grew uneasy, breathing became rapid, he complained of dyspnœa (embolism?), and died thirty hours after the operation.

Post-mortem, two hours later, showed that peritoneal union had already occurred. The œsophageal stricture cut out admitted the points of a closed Péan forceps; the surrounding tissues were hard, and an ulcer had made its way almost through the walls of the œsophagus on its posterior surface.

In an article entitled "Therapeutic Uses of Hypnotism," MEDICAL RECORD, March 4, 1893, I said: "Although hypnotism will never usurp the place of chloroform and ether, it is possible to render many minor and even capital operations painless by means of it, the patient watching every step of the operation, and assisting, if desired." My experience with it in surgery was then limited to three minor cases. Gastrostomy was, however, the most serious operation I have dared to undertake in hypnosis; for I quite agree with Moll that "analgesia cannot sometimes be induced at all, and sometimes only after repeated trials. The excitement before the operation increases the difficulty."

On the other hand, the case I have reported proves that Hirsch overestimates the difficulties when he says that "Grössere Operationen wird man wohl kaum in der Hypnose vorzunehmen sich entschliessen können."[1]

PYTHIAN TEMPLE, December 6, 1896.

THE METHOD OF INFILTRATION ANÆSTHESIA: ITS TECHNIQUE AND SUPERIOR ADVANTAGES FULLY SET FORTH.

BY WILLIAM J. ROBINSON, PH.G., M.D.,

NEW YORK.

IT is a surprise and a pity that a method so remarkable in its effect and so easy of application, a method with which every physician and surgeon in Europe is now perfectly conversant, a method that has proved an inestimable boon to surgeon and patient alike, should be so little known and so little used in this country. The method of local anæsthesia by infiltration, introduced and perfected by Dr. C. L. Schleich, of Berlin, is unquestionably one of the most important and beneficent discoveries of the last decade of our century, and I am certain that those who are using this method in their daily practice will not consider this assertion too enthusiastic or overdrawn.

Scepticism is a good thing, and is more desirable in medicine—a science which, in spite of the tremendous advances made, still borders quite closely on empiricism—than in any other science. It would certainly be a blessing if the members of the medical profession possessed a good deal more of it than they do, particularly with regard to the new synthetics and the innumerable nostrums so highly lauded by the glib-tongued representatives of the manufacturing firms. But scepticism, like every other good thing, may be misplaced and misapplied. I confess that I was also somewhat sceptical as to the efficacy and general applicability of the method, but after I had seen Dr. Schleich use it in over a hundred operations—minor and major—and after having employed it myself in nearly one hundred cases, my scepticism became transformed into boundless confidence and enthusiasm. As many abstain from employing this method because they are under the impression that it requires a special technique, and are surprised at its simplicity after having seen it once in practical operation, and as I failed to find in our medical journals a thorough, explicit, and satisfactory exposition of it, it shall be the purpose of this article to present the method in such a form as to make its practical application easy for the merest tyro in medicine. I shall plead guilty to the charge of being too elementary rather than to that of being obscure.

First let us become familiar with the solutions employed for the injection. The formula of the solution commonly and I may say almost exclusively used is as follows:

NORMAL OR MEDIUM SOLUTION, OR SOLUTION NO. 2.

Cocaine hydrochlorate.....	1.0
Morphine hydrochlorate.....	0.25
Sodium chloride c. p.....	2.0
Sterilized distilled water.....	1,000 c.c. or 1 litre.

To prevent speedy decomposition, twenty drops of a five-per-cent. solution of phenol are added to each litre of the solution. But even with that addition the solution decomposes quite rapidly, and it is therefore advisable to make it fresh as often as possible and in small quantities (it is superfluous to add that the least sediment in the solution unfits it for use). I usually order the following quantity (preserving, of course, the right proportions, as is seen in the formula):

Cocaine hydrochlorate.....	gr. ij.
Morphine hydrochlorate.....	gr. ss.
Sodium chloride.....	gr. iv.
Sterilized distilled water...	♏ 2,000 (or ʒ iv. + ♏ lxxx).
Sol. carbolic acid, five per cent.....	gtt. ij.–iij.

Of this, the normal or medium solution, from three to four ounces (90 to 120 c.c.) may be injected at one sitting. There are two other solutions: the "strong" solution or solution No. 1, and the "weak" solution or solution No. 3. Their respective formulæ are as follows:

STRONG SOLUTION, OR SOLUTION NO. 1.

Cocaine hydrochlorate.....	2.0
Morphine hydrochlorate.....	0.25
Sodium chloride.....	2.0
Sterilized distilled water.....	1,000 c.c.

WEAK SOLUTION, OR SOLUTION NO. 3.

Cocaine hydrochlorate.....	0.1
Morphine hydrochlorate.....	0.25
Sodium chloride.....	2.0
Sterilized distilled water.....	1,000 c.c.

It is well to call attention to the fact that the difference in the three solutions is only in the quantity of cocaine, the "strong" solution containing twice as much cocaine as the normal, and the "weak" solution ten times less than the normal; the amount of morphine and sodium chloride being the same in all three solutions. But I want again to emphasize the point that we can get along very well with the normal solution alone. The strong and the weak solutions are to be used only exceptionally—the former, for instance, in severe acute inflammation; the latter when it is necessary to infiltrate very large areas of tissue, and when one or two pints of solution may be required. Of the strong solution one to two ounces (30 to 60 c.c.) may be used during one operation, and of the weak one eight to sixteen ounces (250 to 500 c.c.). Personally, when I have occasion to use the weak solution, I use a modified formula, in which the amount

[1] Dr. Max Hirsch: "Suggestion und Hypnotismus," p. 49.

of morphine is diminished one-half and the amount of cocaine doubled. It is:

Cocaine hydrochlorate	0.2
Morphine hydrochlorate	0.12
Sodium chloride	2.0
Sterilized distilled water	1,000 c.c.

This solution contains only one grain of morphine to the pint, and seems to me preferable in cases in which it is to be employed in very large quantities.

Right here I want to answer two criticisms made sometimes by our friends, the medical sceptics, who desire to belittle Dr. Schleich's discovery. One assertion is that the proportion of the drugs is so small that they cannot possibly exert any effect, and that plain sterilized water would act in exactly the same manner. To this assertion I need only reply: "Try it, gentlemen, and see for yourselves." Dr. Schleich experimented on his person hundreds of times, and the marks of the numerous jabs of his large syringe can still be seen on his arms and on other parts of his body. He then tried the solutions in several thousand cases, and he found that the proportions were exactly right—neither more nor less would prove satisfactory. Infiltration with plain water certainly produces anæsthesia, but is accompanied with discomfort and is of a momentary character. The second assertion is that the solution does not anæsthetize at all, but acts by "suggestion." Well, this criticism is really unworthy of consideration. Just hear a patient, with his or her eyes away from the field of operation, scream, when you go with the knife one-sixteenth of an inch beyond the infiltrated area! As I heard Dr. Schleich say: "It must be 'suggestion' developed to a pretty fine point, that can, without the aid of sight, discern a difference of one millimetre."

Now, as to the method of using the solutions. Though an ordinary hypodermic syringe may be employed, in order to save time, labor, and unnecessary puncturing, a large and strongly made syringe is advisable. The syringe should hold 5 to 15 c.c. (1¼ to 4 drachms), and should be provided with strong, large needles, some of them curved. After having prepared the skin antiseptically and filled the (previously asepticized) syringe, we proceed with the injection. But before we do so, we must—if we want the operation to be absolutely painless—anæsthetize the first point of insertion. For this purpose we may use a spray of ether or ethyl chloride, but the simplest and least troublesome way is to touch the skin with pure liquefied carbolic acid (with a stick of wood, or a bit of cotton on a cotton carrier dipped into it). For mucous membranes the best thing to use is a crystal of cocaine hydrochlorate. Having anæsthetized the point of insertion, we begin to inject. But remember—and this is a very important point, frequently, as I have observed, disregarded by the beginner—you are not making a *hypodermic*, but a *dermic* injection; you are not injecting under the skin into the cellular tissue, but into the skin itself (or into the deep tissues, as the case requires). You therefore do not hold the needle perpendicularly or obliquely to, but almost parallel with, the skin. After pressing the piston evenly and gradually, you will notice a round, white —dead-white—spot, absolutely anæsthetic—the so-called wheal (not bubble, because it is not a bubble at all). The original direction of Dr. Schleich was to withdraw the syringe after the wheal reached the size of about a penny, reinsert it within the radius of the first wheal, inject until a new wheal is formed, withdraw, reinsert again, and so forth, until the entire area where we intend to operate has been infiltrated. I consider this oft-repeated withdrawing and reinserting of the needle unnecesary. With a strong syringe and needle we are able with one insertion to form a wheal two or three inches in length, and in any desired direction. I have done many minor operations without having had to insert the needle more than once. Though perhaps not very important, it is nevertheless advisable not to puncture the skin unnecessarily, if it can be avoided.

After the area to be operated upon is completely and thoroughly infiltrated, you may proceed with your knife or red-hot iron, and the patient will look on with perfect equanimity, as if somebody else were operated on, and he will experience no more pain until the operation is over than he would if he were in the deepest chloroform or ether narcosis; and he will certainly behave more orderly.

As to the *rationale* of the method, it is sufficient to state that the anæsthesia depends, first, upon the direct action of the cocaine and morphine on the nerve endings; second, upon the absolute ischæmia produced by the injected fluid; and third, upon the high pressure to which the tissues are subjected.

Now we come to the question: Wherein is Dr. Schleich's method superior to local anæsthesia by cocaine and to general narcosis by chloroform and ether?

Its points of superiority over cocaine are: 1. It is free from the possible toxic or fatal effects of cocaine, there being no record of any ill effects in tens of thousands of operations. 2. With the Schleich method areas of such size and depth can be operated upon and operations of such magnitude performed as would not be dreamed of with cocaine anæsthesia. 3. The effect is more lasting—ordinary cocaine anæsthesia lasting from two to five minutes, infiltration anæsthesia from fifteen to twenty minutes.

Its superiority over chloroform and ether may be considered in three different groups of cases. First, there is, as we know, a large class of patients in whom general anæsthesia is absolutely contraindicated, such as those with advanced pulmonary or renal disease, fatty degeneration of the heart, diabetes, etc. All those sufferers, until the advent of the Schleich method, were obliged to forego the benefit of an operation, as the administration of an anæsthetic was accompanied with too great a risk. Now, if such subjects are suitable for the infiltration method—and Dr. Schleich performs by its aid capital operations, such as amputations, laparotomies, nephrectomies, etc.[1]—they can be operated upon with as much safety as the healthiest person. Second, there is a number of persons who will not submit to an operation, because they are afraid of chloroform or ether, though there be no contraindication as far as their heart, lungs, and kidneys are concerned. For instance, almost the first patient I operated upon, on my return from Europe, was a young woman with two lipomatous tumors. They caused her pain and annoyance, but she had such mortal fear of an anæsthetic that she would never agree to an operation. When I assured her that I would remove the tumors without giving her an anæsthetic and without her feeling any pain, she readily consented, and her joy after an absolutely painless operation of a few minutes' duration was unbounded. And third, in those cases in which general anæsthesia is not contraindicated and is not objected to, the infiltration method has the following advantages: 1, We can operate in less time; 2, we need fewer assistants, we need no anæsthetizer, no nurses to hold the patient down: and 3, last but not least, we avoid the deadly treachery of

[1] The impression that Dr. Schleich performs *all* major operations exclusively by the aid of his method is wrong. In certain operations, during certain stages—as, for instance, in amputation of the extremities, while sawing the bone—he administers a general anæsthetic of his own composition. This anæsthetic is claimed by him to be perfectly harmless, and consists of ether, alcohol, and rhigolene (petroleum ether). It has a very low boiling-point.

the general anæsthetics, which, no matter what precautions we take, always lurks in them and occasionally carries off a patient on the operating-table, before we have a chance to do any operating. I can do no better to illustrate the difference between the two methods and the superiority of one over the other, than by narrating the circumstances of an identical minor operation, which by a coincidence I saw performed twice on the same day, under general anæsthesia and under the Schleich method. The trifling operation consisted in removing the terminal phalanx of the thumb.

Under general chloroform anæsthesia it was performed in one of the large Berlin hospitals. The patient was a powerful man and was very hard to anæsthetize; his struggling and screams could be heard all over the hospital. It required three persons to restrain him. And without any premonition his pulse became imperceptible and his face cyanosed; the administration of the anæsthetic had to be discontinued; heart massage and artificial respiration were resorted to, and the patient came to in a short time. The operation was finished without anæsthetic. This patient certainly came within an ace of throwing off his mortal coil.

The second time on that day I witnessed it in Dr. Schleich's polyclinic. The doctor infiltrated, amputated the joint, and stitched the flaps in a few minutes, without any assistance, the man all the time sitting on a lounge, blissfully smiling and enjoying the performance. Then he walked out to resume his daily work. Comment is unnecessary.

And let me recall here an incident that occurred in this city some time ago. A man got a splinter in his finger, it became gangrenous, and an operation was decided upon. During the administration of the anæsthetic the man died. The physicians were sued for $5,000 damages for malpractice, and had to undergo the annoyance, anxieties, and heavy expenses of a long trial. Had the Schleich method been known and practised at that time, the doctor would have removed the gangrenous finger at his office, the man would probably be still among the living, and two reputable physicians would have escaped much vexation and embarrassment.[1] It is therefore my opinion that a physician who in cases suitable for infiltration anæsthesia chooses chloroform or ether commits an unwise and a morally reprehensible act.

112 East One Hundred and Twenty-Eighth Street.

Blood as a Therapeutic Agent.—After a trial of various organic extracts in the treatment of osteo-arthritis, Macalister (*Lancet*, November 28, 1896, p. 1,512) reflected that the blood must of necessity contain the secretions of the various ductless glands and that its administration might prove of therapeutic use. He therefore had prepared a blood residue by evaporating ox blood in vacuo at a temperature not exceeding 100° F. It was found that each quart of blood from the jugular vein yielded from nine to eleven ounces of dry residue. Compressed into tabloids, this was used in the treatment of several cases of osteo-arthritis, in some of which at least most marked improvement resulted. Believing that other elements than the red cells are influenced by the oxygen in the lungs, Macalister was next led to use carotid blood, which, it was found, yielded less residue by two ounces to the quart than venous blood. The venous residue is a fine light-brown, cacao-like powder, while the arterial residue is much darker in color and finely granular in consistence. Bone marrow also has proved useful in the treatment of osteo-arthritis, one patient treated exclusively with it recovering movement in all of the joints.

[1] Amer. Med. Surg. Bull., 1895, p. 265.

Clinical Department.

SOME POINTS IN THE TECHNIQUE OF THE SERUM TEST FOR TYPHOID FEVER.

By CHARLES F. STOKES, M.D., U.S.N.

Early in the study of inoculated hanging-drop cultures of the typhoid bacillus, the writer was impressed with the difficulties encountered in the manipulation of cover glasses, when hollow or concave slides were used. The covers frequently have to be removed for the addition of serum, culture, or water, or for sterilization and cleaning, when they are found to be closely adherent to the slides and may be easily broken.

For some time the writer has used rubber and metallic cells in the study of hanging-drop cultures. The rubber rings may be had at the optician's, while the metallic rings, which are the better for this purpose, may be readily made by evenly flattening the small metallic rings used in hanging window curtains and by cementing them to the slides with marine glue. They may be superimposed if of insufficient elevation. The diameter of the cells should be a trifle less than that of the covers used, so that the overhanging margins of the latter may be easily engaged in the forceps. The cells should be from one-sixteenth to one-eighth of an inch in depth.

Staining the bacteria in clumps is of importance and interest. As soon as the characteristic clumping of the bacilli in an inoculated hanging drop has been satisfactorily demonstrated, the writer removes the cover glass, dries the specimen, and carefully stains the bacteria with Ziehl's solution. The specimen is again dried and mounted in Canada balsam. The mount is labelled with the name and age of the patient, day of the disease, and a note made as to the activity of clumping. The control inoculation may be stained and mounted on the same slide, and the clumping then beautifully demonstrated by contrast. The slides, after careful labelling, are put away for future reference.

To physicians living out of town, and those without laboratory facilities at hand, such double mounts are most instructive and convincing. Then, too, such mounts, made at intervals in the course of the disease in a particular case, are of great value in studying the activity of clumping, as well as the size and shape of the clumps in the different stages of the attack. It must be remembered that the relative amounts of culture and serum have a direct bearing on the rapidity of clumping.

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X-RAY METHOD OF EXAMINING THE HEART.

By C. F. DISEN, M.D.,

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While viewing the pectoral region through the fluoroscope and observing the shadow of the heart, a method of nearly accurate estimation of its size, normal or abnormal, occurred to me. Putting the method instantly in practice, I marked out what should be the normal contour of the heart on the anterior surface of the chest wall. Then I bent a copper wire in the shape of the tracing and affixed it on this with adhesive plaster. Having the patient facing the Crookes tube, I looked through the fluoroscope from behind between the spine and the scapula, when I plainly saw the wire outlining the shadow of the heart. It may be wondered how the heart can be seen when the soft parts are said to be penetrable by the rays, but the different degrees of penetrability, according to the density of

the tissues, enables one to do so. Yet it may be necessary to proceed in a certain way, as at a high power the *x*-rays seem to dissolve everything, even bone and iron. Using as a generator either a powerful static machine or an induction coil of at least 8" spark, you let your machine work so as to produce the strongest *x*-rays at your command, when you may see only the scapula, the ribs, the left part of the spine, or the sternum, not to forget—plainest of all—your wire in front. Having familiarized yourself with your landscape, you now very gradually reduce the brightness of the *x*-rays—in the case of a static machine by reducing the speed—and you will observe the shadow of the heart, extending within or outside your wire. Sometimes you can see a thinner and larger shadow superimposed on a smaller and thicker one, the former representing the heart in diastole and the latter the same in systole. As generally the left line of the heart is all we look for, it may be sufficient for the busy practitioner to affix an almost straight wire, extending from the third to the sixth rib at a proper distance from the left sternal border. Naturally, you may fail to see the heart unless you locate your fluoroscope opposite the organ, which I roughly estimate by marking off a spot to the left of the spine opposite the fourth intercostal space in front. On this mark I centre the fluoroscope. Obvious optical reasons make it preferable to look from behind rather than from the anterior aspect. I think the readers easily will understand my method and find it vastly superior to percussion in giving positive information. Other organs, as the spleen and the kidneys, are probably explorable in the same manner, and instead of using the fluoroscope pictures may be taken, but the necessarily longer exposure to the *x*-rays may produce a burn.

AN EXTRAORDINARY CASE OF CROUP, COMPLICATED WITH PNEUMONIA, INTUBATED BY DR. O'DWYER AND TREATED WITHOUT FOOD, ANTIPYRETICS, OR ALCOHOL.

By A. MONAE LESSER, M.D.,

NEW YORK.

On the evening of November 5th I called Dr. O'Dwyer in consultation to a case of croup with a developing pneumonia. The patient, Howard S——, male, aged two years, had been apparently perfectly well up to five o'clock in the morning, November 5th, when suddenly he began with a croupy cough; still it was apparently not different from like attacks of cough which he had on previous occasions.

His cough, however, grew worse. I was summoned. I saw him at 9 A.M. His temperature then was 103° F.; pulse, 120; respiration, 25. The family being able to afford every luxury, and not so much for the apparent necessity, competent nurses were secured to attend and closely watched the symptoms. Temperature, pulse, and respiration increased in severity with every hour until three o'clock in the afternoon, when, although the temperature diminished, the pulse increased to 150 and respirations to 56. In the evening, when Dr. O'Dwyer made his first call, the temperature was 102.4° F.; pulse, 140; respirations, 56; and, although breathing was somewhat labored, no evidence of a membrane could be found in the pharynx, so far as we could see.

From the fact that the temperature and croupy cough had somewhat diminished and the rhythm of respiration continued to increase in proportion with the pulse, we believed that the larynx was of less importance and that the bronchioli were involved, progressing to lobular pneumonia.

We remained about an hour, during which time the respirations increased to 60, while the symptoms in the larynx did not seem to increase in severity. At twelve o'clock, however, the temperature began to rise, and the record showed 102.4° F.; pulse, 130; respiration, 62. In the morning, at four o'clock, we were hurriedly summoned again; the breathing had become labored, and on my arrival I found the patient cyanotic. I gave one-four-hundredth of a grain of nitroglycerin hypodermatically, which relieved the paroxysm; but before Dr. O'Dwyer's arrival (an hour having elapsed) the child had two more paroxysms, making three in all in one hour, relieved in the above manner. We found that immediate relief of the larynx was urgent. We swabbed the throat for a culture test, although still no membrane could be seen. The insertion of the tube relieved the little patient's asphyxiated condition. It was then 7 A.M. The course of the case, the sound so peculiar to membrane in the trachea, and the early complicating pneumonia prompted us to exclude everything but diphtheria. We decided to inoculate the patient with antitoxin, and injected two thousand units (under perfect antiseptic precautions). His respirations were then 62, and his pulse 130. No alcohol, antipyretic, or food had been given for twenty-four hours. The child fell asleep for one-half hour.

At 10 A.M. the temperature was 101.6° F.; pulse, 140; and respiration, 66. From that hour, however, pulse, temperature, and respiration rose again. On the evening of November 6th the temperature had risen to 103.4° F.; pulse, 180; respirations between 80 and 90 (taken while the patient was asleep). At our evening visit, Dr. O'Dwyer doubted the probability of the child being alive the next morning; but, should this be the case, he advised giving another dose of antitoxin.

Until the next morning, November 7th, the condition of the patient seemed rather hopeless, his pulse at times not being countable, although his heart sounds were comparatively clear. Paroxysms of asphyxia occurred from time to time, but became less severe and less frequent as the night passed on, and at 7 A.M., with the temperature of 102.6° F., the pulse fell to 180 while he was asleep and respirations to 88. We gave a second dose of antitoxin, the same as before. In the evening, temperature rose to 104° F.; respirations and pulse when he was asleep assumed a rhythm of two pulsations to one respiration, although the pulse was 172 and it was of fair strength. As yet no food, antipyretic, or alcohol had been given, and naturally Dr. O'Dwyer felt somewhat nervous; but my assurance, and the fact of having treated a similar but much milder case with him on a previous occasion, with good results, and, most of all, it being my case, he did not interfere with my treatment, which was plenty of water, small doses of nitroglycerin from time to time, and hypodermatic injection of one-half a milligram (one-one-hundred-and-twentieth of a grain) of strychnine nitrate, one-tenth of a drop of tincture of lobelia every two hours, half a drop of tincture of baptisia also every two hours, and a few grains of plain salt at intervals. Both apices of the lung could be plainly heard to be infiltrated, and there was no doubt regarding the case.

On November 8th and 9th the temperature, pulse, and respiration were about the same, although slightly diminished in the evening. Owing to wrong information of the child's age, Dr. O'Dwyer inserted first a three-to-four-year tube. This seemed to annoy the child, but his condition at the time was such as to make it not safe to change it; but on the morning of November 8th, the fourth day of the disease and third day after intubation, he removed the tube. Soon, however, the difficulty of breathing increased again, show-

ing plainly that the disease was still in the larynx and the necessity of reintubating, which was done with a two-to-three-year tube. The child was strong enough to bear the intubation and the preparations belonging to it, although Dr. O'Dwyer confessed fear that, owing to the want of nourishment, it might collapse.

On the evening of November 9th, the fifth day of the disease, the temperature, although it had been at 101.8° F. all day, again rose to 103.6° F.

On November 10th the highest rise was to 102.4° F., at three o'clock in the morning. The pulse had fallen to between 120 and 130, and respirations to 50; and at eight o'clock on the same morning the pulse had fallen to 120; respirations, 50.

The patient, upon awakening from a sleep, asked for some food, and received a tablespoonful of junket and three plain crackers. The temperature slightly rose again, but not above 101.8° F. The patient gradually improved, and on November 12th, the seventh day of the disease, the temperature was normal; pulse, 98; and respiration, 26.

From November 5th to November 10th (five full days) the patient had not partaken of any food save water, and from that day the quantity for each meal was gradually increased as he grew better. Food was given only when the child begged for it and was not forced upon him. It was also strictly observed that when a meal, no matter how small in quantity, was given him, no food was allowed again until the full time had elapsed which physiologists describe to be required for the digestion of such food. As for the alcoholic stimulants, it was evidenced that the child got along very nicely, although it was a case in which ordinarily it would have been given. The temperature (always taken in the rectum) was looked upon with indifference, its highest point having been 104° F., and no direct antipyretics were administered.

Dr. O'Dwyer agrees with me that there are a number of remarkable points about this case: 1. The extraordinary rapidity of the course from a mild-appearing croup to one of the most severe type, without a positive proof of diphtheria bacilli. 2. The rapidity with which the pneumonia made its progress, and despite the severe symptoms which attended the case, aside from the paroxysms, the patient felt comparatively easy. 3. The fact that, despite every symptom of a most severe type of genuine diphtheria except the membrane, we could not get a satisfactory culture after three trials. The first two specimens answered negatively, and the last, which was taken directly from the tube, did not prove satisfactory.

Regarding my treatment, without food, alcohol, or antipyretics, Dr. O'Dwyer said: "While I still may be too timid to try it in every instance, I must state that in this case it has acted most satisfactorily. The case was of so severe a character that recovery could hardly be looked for. One thing is sure, that the stomach and intestines never interfered with the action of the diaphragm, which in such cases is a matter of vital importance. If the case was not one of diphtheria, it is a most remarkable one; if it was, of course the facts are the same, but the antitoxin takes away considerable of the danger of the case."

Qualities of the Old-Time Surgeon.—John of Arden, the sergeant surgeon of Edward III., in 1346, gives a "Description of ye qualities which ought to be in ye surgeon that performeth any operation of chirurgery: First, that he be devout. Secondlie, charitable to ye poor. Thirdly, to use few words. Fourthly, to avoid drunkenness. Fifthly, to be chaste, both in words and gestures, as well as to fear not. Sixthly, not to undertake an incurable disease."—*Medical News.*

SKIN GRAFTING OF AN INFANT TEN DAYS OLD.

By D. F. SULLIVAN, M.D.,

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I was recently called to attend an infant that was badly burned. Imagine my astonishment at finding my patient less than a half-hour old, and its right side from above the nipple to within an inch of the groin, over an area about two and a half inches wide, burned to the muscle by a hot flatiron that was wrapped in a towel and placed near the baby to warm it, while the "neighborly accoucheur" was "pulling away" the afterbirth. For three days the infant's condition was precarious, but on the tenth day the denuded surface was in fit condition for grafting, which was done with splendid facilities. Eight members of the family, the oldest twelve years, were willing contributors and afforded ample material. Twenty-two grafts, each about eight millimetres long and three wide, were taken; twelve were taken from the three oldest. To be brief, the dressing was removed on the fourth day, and but six of the twenty-two grafts showed signs of granulating, and these were taken from the two youngest, three years and two years respectively. I decided to graft the next time from suckling infants, if possible. The thickly settled district facilitated the carrying out of this idea, which was promptly executed by the aid of eleven sympathizing nursing mothers. In all eleven pieces of skin were taken from the thighs of the tiny contributors, a 0.6 per cent. salt solution being used as before and every antiseptic precaution being taken. On the fourth day following I removed the dressing and every graft looked healthy; those taken from the nursing infants were healthier apparently than the rest. In twenty days the entire surface was covered, and the babe was none the worse from an experience most uncommon. I fail to find on record any case of an infant burned in such a novel manner, at such an age, surviving the shock, and living to be skin grafted successfully from material furnished mostly by suckling infants.

TWO SPECIMENS OF URINE IN WHICH AFTER NEARLY TWENTY YEARS HYALINE AND GRANULAR CASTS AND EPITHELIAL CELLS WERE PERFECTLY PRESERVED BY MEANS OF CHLORAL.

By W. W. KEEN, M.D.,

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In the *Philadelphia Medical Times*, 1873-74, vol. iv., and in the *American Journal of the Medical Sciences* for July, 1875, I published two papers on the value of chloral as a preservative of anatomical material. Recently, in going over some specimens in my museum, I came across three which are of interest.

1st. Three bottles of urine, to one of which I had added ten grains of chloral to the ounce on June 1, 1877, to the other on June 27, 1878, and to the third on June 30, 1878. These, therefore, had been kept for about a little over and a little under nineteen years. I gave them to Dr. D. Braden Kyle for examination of the sediment, who reported as follows:

In the first, after nineteen years and a half, hyaline casts and granular epithelial cells were found perfectly preserved. In the second, after eighteen years and a half, there were granular casts and triple phosphates. In the third the examination was negative.

A result such as this, after so many years, is surprising, and I have no doubt that this method of preserving the sediment for microscopical examinations will be of value.

The urine had been in ordinary cork-stoppered bot-

tles, and presents after so long a time no odor or other evidence of decomposition.

I pointed out, however, in my earlier papers, the fact that chloral interferes with the test for sugar, as it reduces copper.

I came across also two specimens, one of a fœtus six weeks old, which had been in the chloral solution, forty grains to the ounce, since March 10, 1874, approaching, therefore, twenty-three years. To the eye the fœtus was perfectly well preserved. The eyes, the small sprouting arms and legs, even the slight beginning differentiation of the five fingers could be made out. I asked Dr. Kyle to see by making a section of them whether the tissues were well preserved, but the moment that his forceps touched the fœtus it was so brittle that it crumbled to pieces. The same fate befell also some muscle which I had removed from a subject injected with zinc January 12, 1875, and had put in chloral, ten grains to the ounce, on May 4, 1875, over twenty-one years. This also was too brittle for any sections to be made.

It may be that possibly in the case of the fœtus the solution was too strong, and in the case of the muscle that the addition of zinc as well as chloral may have made some difference.

I thought it might be of interest to your readers to report the effect of chloral after so long a time, and especially to point out its value as a preservative of organic sediment in urine.

EUCAINE IN MINOR SURGERY.

By THOMAS JEFFERSON YARROW, Jr., M.D.,

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The following is a brief report of the use of eucaine hydrochlorate in a series of thirty-five minor surgical operations, performed in the surgical dispensary of the Episcopal Hospital, Philadelphia, service of Dr. Adinell Hewson.

Method of using: A heat-sterilized aqueous solution of the drug was used, ranging in strengths from one and one-half to ten per cent. The field of operation having been thoroughly prepared, an aseptic elastic ligature was applied, and ten to thirty minims were slowly injected by a hypodermic syringe into and about the point of operation. The ligature was retained until the operation was completed.

One of the advantages that eucaine possesses over cocaine is that, while the latter drug is decomposed during heat sterilization, the eucaine is not, and retains its full anæsthetic power.

The aseptic ligature was applied, when possible, above the seat of operation, and in only two cases was any physiological action of the drug observed. These two cases had marked slowing of the pulse for about five minutes, the pulse being slow, full, and strong, about 56 to 63 per minute.

Eucaine did not seem to produce ischæmia of the part, such as is observed during the use of cocaine. After the removal of ligature, free bleeding occurred in nearly all the cases immediately. In this it differs from cocaine, which by its vasomotor constriction often delays hemorrhage.

In conclusion: Eucaine may be used successfully in all of the minor surgical operations in which cocaine has been formerly employed. Eucaine appears to have advantages in that it can be rendered sterile in solution by boiling. Its physiological effects are slight, if any, when used in moderate quantities. There appears to be no throbbing pain after operation. In the average case, twenty minims of a four-per-cent. solution are required to produce complete and satisfactory local anæsthesia.

A CASE OF FOREIGN BODY IN THE EAR.

By FREDERICK N. C. JERAULD, M.D.,

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Although clinical statistics show that foreign bodies in the external auditory canal are not so frequent as might at first be supposed, they are common enough to be frequently met with in general practice. In fact, the general practitioner is called upon to extract the foreign body as frequently if not more so than is the specialist.

The ones that usually fall into the hands of the specialist are those cases in which the foreign body has been in the ear for some little time, and has not given rise to any very active symptoms in the beginning. Let a man get a bug in his ear, he will not stop to look for a clinic or a specialist, but will go at once to his family physician.

In twenty-seven hundred and eighty-four cases treated in the New York Eye and Ear Infirmary, a foreign body was found in only thirty cases; and Dr. Albert H. Buck, clinical professor of diseases of the ear in the College of Physicians and Surgeons, New York City, says his records show only about one-half of one per cent.

These are, however, the records of the specialist. Could we get a record of all ear cases treated in New York City, both by specialists and general practitioners, the percentage of foreign bodies would undoubtedly be much greater.

All forms of foreign bodies found in the ear might be divided into three classes, according to the character of the foreign body.

The first class consists of sticks, pebbles, peas, beans, beads, lead from pencils—in fact, anything with which a child might play. This class is the one most frequently met with, and the patient is usually a child. The foreign body may have gotten into the child's ear while the latter was at play, or, as frequently happens, been put in by the child or his playmates.

The second class consists of wads of cotton, which are put into the ear by the patient as a protection. This class is usually found in old people. They put one wad in the ear; then, forgetting that it is there, put another on top of the first. The first wad is thereby pushed into the auditory canal, forgotten, and may remain for a longer or shorter time, until finally the patient begins to grow deaf.

The third class consists of various forms of insects, such as the fly, bedbug, waterbug, etc. They may be found with equal frequency in children and adults, and usually gain access to the ear while the patient is sleeping.

A patient with a bug in the ear would naturally be aware of its presence, and would go at once to a physician; whereas an old man with a wad of cotton in his ear would not be aware of its presence, and would not consult a physician until he began to notice that he was growing deaf.

A child is apt to go for months with a foreign body in the ear, provided it is out of sight and gives rise to no pain. As the ear wax collects on the foreign body, the canal becomes filled, and then it is that the mother notices that the child is growing deaf and consults a physician.

It is exceedingly rare for an adult to get a foreign body of the first variety in the ear and not be aware of its presence. Such cases do, however, occur, and I refer below to one of that kind which came to my notice a short time ago.

Mr. L——, aged twenty-six, until this fall had never had any trouble with his ears, and his hearing had always been perfect. He noticed in September that he was growing rather hard of hearing in his left ear. The deafness increased to such an extent that he

decided to consult a physician, and came to me on October 24th. He had suffered absolutely no pain or discomfort other than the deafness. The latter had increased to such an extent that a person standing on his left side and speaking in an ordinary tone was heard with difficulty.

On examination I found a ball of wax tightly lodged between the drum membrane and the anterior wall of the meatus. It was dislodged with some little difficulty, and upon examination was found to contain a small, white, irregular pebble, about the size of a hypodermic tablet.

Mr. L—— was very much surprised to find that he had a pebble in his ear, and for some time was unable to account for its presence. He could not remember ever having got anything in his ear or ever having suffered the slightest discomfort. He said that in summer, while bathing, he would frequently lie on the sand and let the surf break over him. We therefore came to the conclusion that the pebble must have been driven into his ear by the force of the water.

If such is the case—and it undoubtedly is—Mr. L—— carried that foreign body in his ear for over two and one-half months, as he had not been to the seashore since the latter part of July.

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THE GUSANO WORM AND ITS TREATMENT.

By H. M. FOLKES, M.D.,

Panyas, Guatemala.

Claimed by the natives as being most frequent during the rainy season, found in my experience most numerous in the period just subsequent to the rainfall, the "gusano sancudo" is a most interesting member of the insect species, not so much on its own account as on that of its work. Its usual habitat is on dead trees and decayed vegetable matter in the woods. When found, it presents the body of a mosquito, having a longer head, with wavy grayish lines running down its back, legs longer than those of the ordinary mosquito, the two hind ones being quite stout. When preparing to do business, it settles upon the skin, inserts its bill, draws a little serum toward the surface, and then with a quick movement brings the tail to the point of insertion, puts it into the orifice, using the bill as a guide, and then rears upon its hind legs to insure a certain deposit of eggs. Immediately after the departure of the mosquito, gentle squeezing will produce a drop of serum from the infected point, and thus preclude the resulting worm. Left alone, the following occurs at the end of from two to three days: The orifice becomes larger and occupies the centre of a round firm swelling, which, according to Osler, resembles a boil; but in my experience the only point of resemblance is the swelling. As the worm increases in size, the swelling grows also, but not in proportion to its first appearance, for a marked peculiarity is the notable sensation of size as felt between the fingers when the worm is quite small. This is of no moment, only one is at first apt to err as to the dimensions of the worm. The symptom is usually a sharp quick pain at times. Rarely are there other symptoms, as many of my patients have been actually unaware of having a worm until informed of its presence by a comrade who happened to see it. The "it" refers to the pathognomonic sign, namely, the orifice in the top of the swelling. If there has been no manipulation of the swelling, invariably is there the orifice, which serves as ventilation; for if this is occluded, the worm dies. The native method of treatment is to tie a piece of tobacco over the opening, making the worm sick, when, in the course of several hours and after much squeezing and pressure, he can generally be gotten out. Some of the ingenious "Gringoes" hit on the idea of pasting a postage stamp over the hole. This, too, worked fairly well, but was as tiresome as the other method. Again, some have blown smoke into the hole, thus killing the larva. The method I first adopted was to cut them out; but, as most men are afraid of the knife, I set myself to discover a method at once knifeless, bloodless, and certain, and finally adopted the following, which, so far as I know, is original. With this I have never failed to get the worm, and this in the most rapid manner, on one occasion having removed fourteen in less than two minutes, this time getting five out of one hole —quite an unusual thing, for, as a rule, there is only one to a hole: After putting a little chloroform into a hypodermic syringe, I insert the point of a fine needle into the orifice and then into the body of the worm. A few drops of chloroform will paralyze the worm, which can then be squeezed out in a moment. Simply washing the wound and putting on a little piece of cotton are all the dressing required. In a few days no evidence of the former tenant can be found.

Progress of Medical Science.

The Differential Diagnosis of Ascites.—Dr. George W. Webster (*Northwestern Lancet*, November 15, 1896) gives the following points as aids to diagnosis: 1. Disease of the kidneys, either acute diffuse nephritis, or chronic nephritis with exudation (Delafield, "Twentieth Century Practice," vol. i., p. 23). 2. Cirrhosis of the liver or some obstruction to the portal circulation. 3. Organic disease of the heart with broken compensation. 4. Obstruction of the ascending vena cava from tumor, etc. 5. Obstruction of the thoracic duct. 6. Tuberculous peritonitis. 7. Cancer of any of the abdominal organs, as peritoneum, stomach, liver, pancreas, ovaries, omentum, etc.

Diagnosis of Small Ovarian Tumors.—Dr. Davenport (*Boston Medical and Surgical Journal*, 1896, No. 15) concludes an article on this subject with the following propositions: 1. Small intrapelvic growths give rise to marked symptoms. 2. Pain is usually noted, but does not bear a constant relation to the location or kind of tumor. 3. Menorrhagia or metrorrhagia is frequently present, especially in cases of cystic ovaries adherent to the uterus. 4. When uterine hemorrhage exists in connection with an intrapelvic tumor, and is not affected by intra-uterine treatment (curettage or electricity), the tumor is probably ovarian rather than uterine. Reflex symptoms are rare with small tumors, at least in the earlier stage of their development.

The Anæmia of Rheumatoid Arthritis.—Bannatyne (*Lancet*, November 28, 1896, p. 1,510), in discussing the anæmia of rheumatoid arthritis, states that it is seldom very marked except in advanced and acute cases, but in almost all, even the slightest, there is as a rule a certain amount of blood deficiency. Rarely is there extreme pallor of the skin, the patients rather as a rule presenting a sallow or brownish-yellow appearance, with moderate blanching of the mucous membranes. This sallowness is prone to pass by degrees into a deeper shade, until it insensibly merges into a distinct discoloration. Not infrequently cardiac bruits and venous hum are associated with it. Hemorrhages are rare, but not unknown. They are very rare from the mucous membranes, being most commonly seen as small purpuric spots on the lower limbs. On microscopic examination there will be found a slight though well-marked diminution in the number of red blood corpuscles, a marked and greater

diminution in the hæmoglobin, and a slight increase in the number of colorless cells. Not only does each red cell appear to contain a subnormal amount of hæmoglobin, but the coloring matter seems to be in less stable union with the cell stroma, crystallizing out more readily and being more easily acted upon by such substances as common salt, acetic acid, and sodium sulphate in solution. These changes in the blood are attributed to the action of toxins in the circulating fluid, which by their solvent action on the hæmoglobin induce the deficiency.

The Employment of Pulmonary Insufflation as a Means of Artificial Respiration in the Performance of Certain Intrathoracic Operations.—In a communication presented at a recent meeting of the Société de Biologie, Tuffier and Hallion (*Gaz. Hebd. de Méd. et de Chir.*, November 26, 1896, p. 1,131) pointed out that access to the mediastinum and to the intrathoracic organs would be facilitated if the pleural cavity could be opened while the function of the lung was maintained in its physiologic activity. These investigators have shown that the intrathoracic organs may be attacked through the pleura without inducing pneumothorax. To avoid this complication in opening the thorax and to cause its disappearance when present, it suffices to insufflate the lungs through the larynx or the trachea. If at the moment that the serous membrane is opened this insufflation is practised, the distended lungs will have no tendency to collapse. In the same way, if a pneumothorax is induced by a pleuro-parietal opening, without injury of the lung, closure of the parietal wound and aspiration may diminish the quantity of air in the pleura, but tracheal insufflation will cause its entire disappearance by causing application of the lung to the parietal pleura. The insufflation should be continued while the wound is being closed by suture. The procedure has been carried out successfully upon dogs and has been unattended with any bad effect or undesirable influence upon the pulmonary circulation. Several precautions are essential in order to secure good results. In the first place the most rigorous asepsis must be observed. The air introduced into the lungs must be as nearly sterile as possible. By this means it becomes feasible to gain convenient access to the œsophagus, the sympathetic nerve, the pneumogastric nerve, etc.

Cases in Which it is Proper to Induce Premature Labor.—1. In pelvic deformity when there is sufficient space for a seven-months' child to be delivered without injury. The object is twofold: (*a*) To save the child's life by obviating the necessity for craniotomy; (*b*) to spare the mother the dangers of craniotomy, Cæsarean section, or other operation that might be required if the pregnancy went to full term. 2. In cases in which, in previous labors, the head of the child at full term has been permanently ossified or was unusually large, so that labor has been difficult and dangerous, even though the pelvis was normal. The period of delivery need be only two or three weeks before "term" in these cases. 3. In cases in which the children of previous pregnancies have died *in utero* during the later weeks of gestation from disease (fatty, calcareous, or amyloid degeneration, etc.) of the placenta. 4. In conditions in which the continuance of pregnancy seriously endangers the mother's life—such as excessive vomiting, albuminuria, uræmic convulsions, or paralysis; chorea, mania; organic disease of the heart, lungs, liver, blood-vessels, etc., threatening fatal disturbance of the respiration, circulation, and other vital functions; irreducible displacements of the uterus; placenta prævia with hemorrhage; and in dangerous pressure upon neighboring organs from over-distention of uterus, due to dropsy of amnion, tumors, multiple pregnancy, etc.—A. F. A. King, in *Manual of Obstetrics*, p. 307.

Treatment of Backward Displacements of the Uterus.—Dr. Howard A. Kelly (*American Journal of the Medical Sciences*, December, 1896) says there can be no rational treatment without taking into consideration the causes producing the displacement. These causes are: 1. Congenital causes, due to a short vagina or to an imperfect development of the uterus, in which the retroposition has existed from childhood. 2. Retropositions developed acutely by sudden or severe strain. 3. Retropositions caused by tumors in the uterus or adnexa. 4. Retropositions, the sequelæ of pregnancies, due to subinvolution of the uterus, or to injury of the pelvic floor, or to both combined. Any given case can be properly treated by some one of the following methods (there are cases in which no treatment is required): 1. The use of a pessary. 2. Manual reposition and massage. 3. Operation upon the vaginal outlet. 4. Operation on the uterus at the vaginal vault. 5. Shortening the round ligaments. 6. A suspensory abdominal operation, or ventrofixation. 7. An operation upon the vaginal outlet and a suspensory operation combined.

The Connection between Intestinal Autotoxins and Certain Common Forms of Insanity.—Dr. Hamilton (*New York Medical Journal*, November 14, 1896, p. 646) suggests the following as possible conclusions: 1. Urines rich in indican contain very little or no preformed sulphuric acid, and are toxic. 2. When the sulphate ratio is materially changed, it is likely to indicate autotoxis in connection with an increase in the amount of combined or ethereal sulphates. 3. Such indications are generally found with acute insanities, in which rapidly developing symptoms occur. 4. Fugacious and changing illusions and hallucinations, unsystematized delusions, confusion, and verbigeration, in connection with insomnia, pallor, intestinal indigestion, constipation, and rapid exhaustion, are due to autotoxis. 5. Paranoiac states, or those in which concepts are the features, chronic stuporous conditions, and certain forms of dementia have little to do with the formation of intestinal products of putrefaction. 6. Various post-febrile, traumatic, alcoholic, or drug insanities are those in which autotoxis is most constant. 7. The variations in the excretion of combined sulphates keep pace with the changes in the progress of an established insanity, *accès* and epileptoid attacks being directly connected with putrefactive processes. 8. The most successful treatment consists in lavage, intestinal douches, gastric and intestinal antisepsis by means of hydrochloric acid, borax, salicylate of sodium, charcoal, guaiacol, or naphthalin in small repeated doses. The administration of a combination of the red marrow from the small bones, blood, and glycerin.

Traumatic Lesions of the Kidney.—Dr. Keen (*Annals of Surgery*, 1896, vol. xxiv., No. 2) advances the following conclusions: 1. The usual external disinfection should be scrupulously carried out. 2. Both for examination and for the arrest of hemorrhage, the primary wound should be enlarged if necessary. The kidney itself should be examined with great care, and it and the entire interior of the wound disinfected. 3. All hemorrhage should be arrested, of course, as quickly as possible. 4. If the kidney is unwounded, a temporary drain may be placed in the wound and the greater part of it closed. 5. If the kidney is wounded also, this wound should be sutured or a partial nephrectomy be done, followed by drainage and partial closure of the wound. 6. If the pelvis be opened, it should be sutured, if possible, and the wound drained. 7. If the large vessels are cut, or the kidney itself is

lacerated beyond the point at which it would probably retain its vitality and recover its function, immediate nephrectomy should be done. 8. If, in spite of disinfection, as a result of the primary wound, perinephritic abscess should follow, this should be widely opened and thoroughly drained, and if the kidney be hopelessly involved or the condition of the patient so serious as to demand it, secondary nephrectomy should be done. 9. If the peritoneal cavity has been entered by the vulnerating body, carrying infection in its course, and all the more if other viscera be involved, abdominal section should be done at once, the kidney treated as above indicated, and other lesions remedied. Of gunshot wounds he says that if the surgeon has reason to think that the kidney has been traversed by a ball, and the patient is in grave danger, as shown by the general symptoms of internal hemorrhage and by the physical signs of a large lumbar hæmatoma or of intraperitoneal bleeding, an exploratory operation is advisable.

Recurrent Erysipelas of the Face.—Dr. H. Lavrand (*Revue Hebd. de Lar., d'Otol., et de Rhin.*, September 5, 1896) believes that: 1. In most instances spontaneous recurrent erysipelas of the face develops from the nasal fossæ through the lacrymal duct or the nostrils. 2. The point of departure (whether from the penetration of germs or the revivication of such germs lying dormant in the tissues) is either in the nasal fossæ or, more frequently, in the more or less hypertrophied adenoid tissue of the pharyngeal cavity. 3. The preventive and also the curative treatment of recurrent erysipelas of the face consists in taking care of the nasal and naso-pharyngeal cavities, but especially in reducing the adenoid tissue in the pharyngeal vault, which appears in the form of adenoid tumors, or only in the form of granulations, which the surgeon must remove even from between the Eustachian cushions. In this manner a port of entry is removed and the too favorable soil for the culture of the streptococcus.

The Etiology of Serous Pleuritis.—Dr. A. Aschoff (*Zeitschr. f. klin. Med.*, xxix., Nos. 5, 6, pp. 440) has examined two hundred cases of pleuritis, from which he draws the following conclusions, which differ somewhat from the reports of other investigators: 1. The serous exudates are almost all free from pyogenic microorganisms. 2. Suppuration occurs after a longer or shorter period, if pus-exciters are present. The pneumococcic exudates are perhaps an exception. This is probably due to the earlier death of these microbes. 3. Such suppurative pleuritic exudates, however, can sometimes completely heal without operation. 4. The occurrence of an isolated rheumatic pleuritis is very rare. 5. The pleuritic exudates occurring in connection with arthritis acuta are almost without exception associated with affections of the heart. 6. No especial advantage can be attributed to the salicylic-acid treatment in the therapy of pleuritic exudates. 7. The so-called idiopathic exudates are almost always dependent upon tuberculosis. These may also end in recovery.

Alcoholism and Alcoholic Inebriety.—Dr. Frederick Peterson (*Journal of American Medical Association*, April 15, 1893) divides the treatment of alcoholic conditions into three categories—acute alcoholism, chronic alcoholism or alcoholic neurasthenia, and the alcohol habit. Acute alcoholism: 1. Cut off all alcohol and confine to bed. 2. Blue pill at night, followed by saline cathartic. 3. Hot wet pack for sleeplessness. 4. Hypodermatic injection of nitrate of strychnine, one-sixtieth to one-thirty-second of a grain. 5. Water, milk, kumyss, broths, soup, meat juice, raw eggs, arrow root, juicy fruits, and the like, when there is gastric disturbance. 6. In some cases bromide and chloral or duboisine are indicated. Alcoholic neurasthenia: 1. Cut off alcohol. 2. Hot wet pack for insomnia. 3. For disturbances of the alimentary canal, rhubarb and soda, hydrochloric acid, and the like. 4. Diet should be milk, eggs, and vegetable foods; meats rarely. 4. Strychnine the main agent: best given hypodermatically, but may be given by way of the mouth, in combination with quinine: fluid extract of cinchona (one-sixtieth of a grain to one drachm), or infusion of gentian. Alcoholic habit: 1. The hypodermatic injection of nitrate of strychnine, in doses above given, at least twice daily, more frequently if possible, and always by the physician himself. The moral influence and personality of the physician being of great importance, the effort and attention of the patient are thus kept at their highest pitch. 2. A diet of milk, eggs, and vegetable foods should be enforced. 3. Regular hours, occupation, and the avoidance of the society of fast companions must be insisted upon. 4. With some patients a substitute for a dram of liquor is imperative. A combination of strychnine and fluid extract of cinchona (one-sixtieth of a grain to one drachm), taken in a glass of water, works well. As it is not always convenient to carry a bottle, the following may be ordered: twenty to forty grains of red cinchona bark, one-half grain of capsicum, and three grains of powdered nux vomica, to be taken in a glass of water when required.

Hypochloruria, when it approaches the zero point in severe chronic disorders, is said by a writer in the *Journal des Praticiens* to be a sign of approaching death. Hérbert has proven it so in a number of instances in observations made upon tuberculous patients, while Huchard has cited a case of rapid death in an old diabetic when the urine no longer contained more than 0.35 per cent. of chorides, and another case of bulbar affection in which death followed closely upon the state of achloruria.

Rupture of the Quadriceps Extensor Muscle and its Tendon Above and Below the Patella.—Dr. Walker, in an analysis of two hundred and fifty-five cases of rupture of the quadriceps extensor muscle, notes the following conclusions: 1. In recent cases, in which there is not much effusion and the joint is apparently not closed, in which the separated ends can be approximated and retained by suitably adjusted pads, the mechanical treatment may be carefully considered. In the hands of the intelligent general practitioner, this method may be expected to bring about a complete recovery in the larger number of cases. From nine to twelve months will be required to re-establish fully the normal functions. 2. A too prolonged fixation in bed is unfavorable to an early recovery: therefore early massage and passive motion are strongly advised. 3. The skilled aseptic surgeon who primarily resorts to the operative method in suitable cases (but the age and vitality of each patient must be most carefully considered) may quite reasonably hope to obtain a better result in a larger number of cases and save his patient three to six months' time. 4. Catgut, kangaroo tendon, or silkworm gut should be used, and when there is much effusion drainage should also be employed. 5. When the separation is greater than one and one-half inches, or when the case has not recovered under the mechanical treatment, the operative is indicated. 6. As the length of time required for treatment is a very important consideration, so the operative method, which has diminished this period and also succeeded in a larger number of cases without increasing the danger, will be more often indicated and more frequently applied in the hands of the skilled surgeon.

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LEPROSY CONGRESSES.

THERE is trouble among the leprologists. Those among our readers who take a special interest in this subject have probably been mystified, as we were, by the conflicting notices of proposed congresses for the study of leprosy in Bergen, London, and Moscow, and finally by the definite announcement that one would be held in Berlin, in October, 1897. We have received recently from Dr. Ashmead a circular letter which throws some light on the matter:

"During the summer of 1896," reads the circular, "the author, with Dr. Goldschmidt, started a scheme for the formation of an international world's committee, of official delegates appointed by all civilized countries, for the suppression and prevention of leprosy. It was first proposed to hold the meeting in Bergen, Norway, Dr. Hansen having claimed this honor for himself and his chief; but Dr. Hansen requested at the same time that assurances of sympathy must be obtained from leprologists before Norway issued an invitation to the congress. At that time Dr. Hansen went so far as to say that, should it be necessary, a credit would be asked from his government for the payment of a secretary, place of meeting, etc. Hansen's government finally refused to issue the call. Mr. Jonathan Hutchinson then proposed London, with the Prince of Wales as president. As soon, however, as it became known to the non-contagionists of London that compulsory isolation would be the real, the principal object of the congress, the London man's support was withdrawn. In the mean time the Berlin men, with Dr. Ehlers, of Copenhagen, at their head, were working for an independent meeting in Berlin, and they issued their call for a debate, somewhat precipitately."

The writer then continues that "no congress of mere leprologists can do any good to the lepers, by discussing what we imagine, suspect, and finally do not know about leprosy. . . . The congress proposed by Drs. Goldschmidt and Ashmead differs in every essential from the congress proposed by Drs. Ehlers and Hansen. The former represents the opinion that compulsory isolation is our only means of suppressing and preventing leprosy. The latter is a mere meeting of students of leprology, to discuss etiology, bacteriology, and cure. All that is known of these things to-day to the gentlemen who will there assemble is known to all those who will not go there. The object of our congress is the suppression and prevention of leprosy, and this object can be accomplished only by smothering it by means of isolation. We want to obtain enforced and complete isolation by the consent of governments; we want the necessary measures to be taken, everywhere, rigorously, and that the principle of isolation may pass into practice, with all its consequences, all the duties and efforts it may entail. If we succeed, that is, if our congress meets, and if the support of governments is obtained, we are sure, we know positively, that the pestilence against which we fight will be defeated and destroyed in one generation. We know it; and we challenge any man to show that there is in our hope anything too sanguine, anything exaggerated, anything that we have not a logical right to expect from our method and from our labor."

To one who is not a mere leprologist this seems unreasonable. If it is a fact which no man can deny that leprosy spreads by contagion and that compulsory isolation is the only means of suppressing it, why cannot the fact be proclaimed in Berlin in October by Hansen, Ehlers, Koch, and others, as well as in Moscow in August by Ashmead and Goldschmidt? But if there is any doubt as to the mode of spread of the disease, and there are men with a practical experience of leprosy who are not certain of its contagiousness under ordinary conditions, what can be gained by declaring the discussion closed? There is nothing so opposed to the scientific spirit as being too sure of what may not be true, as taking probabilities for facts.

"We have finally called our congress," the circular concludes, "to meet in Moscow, August 19–26, 1897, at the time of the general international congress, and we invite the men of science of Berlin and Bergen to meet with us there, and if they have a solution of the leper problem, better than ours, to produce it." We earnestly hope this warm invitation will be accepted, and we also trust that the members of the first congress will linger in the northern climes, where the air is cool, until October, and then go to Berlin and convert the heretics to the true faith. Then the world will rejoice, and if we have not learned how to cure the lepers we shall at least be agreed as to the means of escaping the disease ourselves.

PNEUMONIA.

PAPERS on pneumonia occupy the first place in the opening number for the new year of the *American Journal of the Medical Sciences*, the *Medical News*, and the MEDICAL RECORD. This is a striking evidence of the interest in the subject felt by all practitioners, but it also bears witness to the sad fact that we still know very little about the disease, or at least about its treatment.

The first of the above-mentioned articles is entitled "Certain Features in the Prognosis of Pneumonia," and is by Dr. Osler. The writer holds the modern view that the toxæmia is the most dangerous

element in pneumonia, and that the interference with respiration and the circulation is of far less importance. "Very large areas of the breathing-surface," he says, "may be cut off without seriously disturbing the cardio-respiratory mechanism. In no way is this more strikingly shown than by the condition of the patient after the crisis. On one day, with a lung consolidated from apex to base, the respirations at 60 to 65, the pulse 120, and the temperature between 104° and 105°, the patient may seem in a truly desperate condition, and it would appear rational to attribute the urgent dyspnœa and the slight cyanosis to the mechanical interference with the interchange of gases in the lungs. But on the following day the dyspnœa and the cyanosis may have disappeared, the temperature is normal and the pulse rate greatly lessened, and yet the physical condition of the lungs remains unchanged. We witness no more striking phenomenon than this in the whole range of clinical work, and its lesson is of prime importance in this very question, showing that the fever and the toxins rather than the solid exudate are the essential agents in causing the cardio-respiratory symptoms." He, of course, does not deny that there may be a gradual cutting off of air by progressive consolidation until so little breathing-space is left that the patient dies from suffocation, yet he does not regard this as a frequent cause of death. The compression of the alveolar capillaries by the exudate may also interfere with the pulmonary circulation, yet that it often does so to a fatal degree the writer is unwilling to admit. He refers to the experiments of Welch, which have shown that it is difficult to raise the blood pressure in the pulmonary artery by cutting off much more extensive areas of the circulation than are ever involved in pneumonia. He believes, therefore, that it is to the toxæmia that the excessive mortality from pneumonia is due, and his belief contains for him little that is encouraging, for he confesses that we know of no means by which we may combat effectively the poison of the disease.

The second article, on "The Management of Pneumonia Patients," by Dr. Simon Baruch, is, as the title would imply, of a more practical nature than the preceding. The writer holds the same views as Dr. Osler concerning the part played by toxæmia in the mortality of the disease, but he has much greater confidence in the result of his therapeutic measures, although admitting that the outlook in each case is very uncertain. He relies chiefly upon the effect of wet compresses, applied at a temperature of 60° F., and renewed every hour or half-hour according to circumstances; at least he dwells chiefly upon this part of his treatment, although he also gives Leaming's "sedative dose" of calomel (ten to twenty grains) at the beginning, and hypodermic injections of strychnine to spur up the flagging heart—two remedies which have been found efficacious in certain cases even when not combined with hydrotherapy. These methods, he says, "offer, at the present time, the most favorable, yet not perfect, results in the management of patients suffering from pneumonia."

With the last of the three articles above referred to, the very suggestive paper by Dr. A. H. Smith on "The Essential Nature of Croupous Pneumonia," our readers are already familiar. The method of treatment by inhalation, hinted at by the writer, like Dr. Woodbridge's plan of intestinal antisepsis in typhoid fever, is eminently logical, but the same doubt as to its practicability exists in the one as in the other. Time will prove them both, and there is hope that, in pneumonia as well as in typhoid fever, we may yet have an antitoxin upon which we can rely to save the patient in cases in which we fail (as we doubtless often, if not always, shall) to strangle the disease in its inception.

THE DERMATOLOGIST'S HARD LOT.

As though it were not enough that the cutaneous specialist must bear up under the stigma which the advertising quacks place upon the term "dermatology," and that he must see daily evidence in the public press of the increase in number and insolence of these usurpers, it would seem that new thorns are to be spread in his pathway. It is already well known that for so restricted a specialty it is overcrowded in almost all large cities. The limited field is encroached upon by the surgeon who wants all of the "operable" epitheliomata, lupus, tuberculosis cutis, and cutaneous sarcomata, and, as intimated in the annual address of the president of the American Dermatological Association at its late meeting, many of the syphilitic gummata which resemble these conditions. It has even been charged that cutting has been done in certain instances in face of the knowledge that the growth was of specific nature and could be readily cured by the iodides. No reputable surgeon could surely lend himself to such dishonesty for the mere sake of gain, so we can let that pass.

The neurologist makes inroads into the field by looking upon most skin affections as of neurotic or nerve origin, and the dermatologist would seem to play constantly into his hands by admitting such claim for many of the affections which he might just as well, or perhaps better, insist are strictly local and due to infection with micro-organisms. The nerve man lays equal claim to leprosy and the competition over a rich foreigner who comes to our hospitable shores to be cured is at times so intense that the presence of the leper is almost disclosed to the authorities.

The pediatrist treats all the children and the senectutist all the old people whose skins are ailing, leaving for the dermatologist only those of middle age who have escaped specialists in other branches.

Among the many good suggestions in the address before mentioned, there are certain restrictions as to writing which the speaker would place upon aspirants for membership and upon present members in the association, which must tend still further to aggravate the skin man's lot. "All publications representing original work, etc., should be published in a journal devoted to the specialty," while other articles "intended to teach the general practitioner" may be published in general-medicine journals, and "at no time and on no occasion should a paper be read or pub-

lished for the purpose of advertising the author." The inference must be drawn that it is not considered legitimate for a man making the diseases of the skin a specialty to have the object in view, or as one of the objects in view, in writing upon the special subjects of his branch, to let his professional brethren know that he is devoting his attention to this branch.

Would the speaker have us believe that skin specialists possess such high ideals that they can write with the view of instructing the general practitioner? Would he give it out that dermatologists differ so widely from their fellows that altruistic motives are the only ones which actuate them? The speaker might have pursued this line of thought still further and shown his hearers how far from thoughts of self all men must be who seek hospital appointments and professorships; how, impelled by a burning desire to minister to the unfortunate, or to secure a position in which they may give students the advantages of their superior knowledge, they should not fall over each other in a wild scramble for place; or how the insatiable thirst for scientific attainment for its own sake alone should prevent men from indulging in unseemly and undignified contest. He should have pointed out the wrong in seeking or even accepting a position which will tend to advertise the man holding it or make him prominent and bring him special cases. The MEDICAL RECORD believes that physicians, in common with other human creatures, are selfish. If the average man writes or lectures or holds an unsalaried hospital appointment, he does it from more or less selfish motives and for his own personal advancement, and whether he succeeds or not in getting the expected advertisement out of it depends greatly upon the quality of his work.

Such methods of letting the world know what you are doing and what you can do are legitimate.

If the colleges insist upon having the hospitals and clinics, let the men who are left out indulge in occasional use of the pen, and, if they wish to reach a large and appreciative audience, even when writing upon the most profoundly scientific questions, we say—grant them the privilege of publishing their productions in such journals as the MEDICAL RECORD.

BAD BILLS.

As an offset to the generally acknowledged abilities of the physician in every other line of his work, it is also quite universally admitted that he is entirely deficient in business tact. Whether or not he is willing to accept such a verdict from his patients, he is nevertheless at certain seasons, when bills are sent to his otherwise grateful debtors, aware of a glaring fact that there is a marked difference between actually earning his money and in being promptly paid. Often content with the sentimental side of apparent appreciation of services rendered to his patrons, of lives saved, of suffering assuaged, and of health restored, he is too easily satisfied with the reflection that he has a very noble profession but a very poor trade. All other things being equal, it is difficult to measure every standard of professional service rendered on a cold and hard money basis, and so tearful thanks and extravagant expressions of obligations on the part of his patients fill in the gaps that stretch themselves in the long waits between bills presented and checks received. There is oftentimes something extremely delicate in urging claims upon one who may owe his or her life to the skill of the medical attendant, and rather than dispel the pathos of such a recollection the real benefactor in the case is easily coaxed to lean to the weaker side of personal vanity and to square his money account with the overweighing considerations of the touching realization of human gratitude. From the purely poetical side no better compensation could be asked. Unfortunately, however, the doctor is not a mere ministering angel, who can live on air and who can rely on the usual means of aërial locomotion so inexpensively used by his seraphic brothers. He must do his flying in his buggy or sleigh, and, being deficient in feathers, he pockets the insult of neglect in the comforting folds of an ordinary overcoat. The better angel of his household, she who answers the night bell and inhales second-hand rum and onions from the other end of the speaking-tube, would be more contented with some of the wing feathers in her bonnet or warm shoes for her cherubs who have real feet. Then again, fine words do not make it easier to work your passage through the tendinous infiltrations of the tough steak supplied by the butcher patient who takes the bill in trade, nor does it help the faithful horse who contemplatively munches the cow hay from a like source, and in his own way perhaps wonders why it is so. Probably the answer may suggest itself to many a doctor who is just at this time making out his bills. The smallest amount of real gold will always outweigh the largest bulk of imaginary feathers.

MUSIC AND HAIR GROWTH.

IN a recent scientific assemblage a discussion took place upon the influence of sleep in skin diseases. One of the gentlemen who took part stated in his criticism of the paper which had been read that one might as well talk of the influence of music upon the growth of the hair. It would seem that the suggestion of a possible conection thus thrown out in a jesting way has been taken seriously. At least a correspondent of the *Temps* has made the discovery that music of certain kinds does in reality prevent the hair from falling, while that produced by certain instruments has the most disastrous effects in causing rapid development of baldness. He finds that while composers are as prone as others to lose their hair at an early age, those who play their compositions upon the piano preserve, if they do not acquire, a luxuriant growth of hair. On the other hand, wind instruments, and especially the cornet and trombone, are fatal to hirsute adornment. The violoncello and the harp keep the hair in pretty well, but the flute cannot be depended upon to preserve a strong growth after the fiftieth year of age. A number of pianists, including Paderewski, is cited in confirmation of the pronounced influence

of piano music. It has been admitted for some time that music has a certain therapeutic worth, and it will be recalled that in September last Dr. Ferrand presented a report to the French Academy on the physiological influence of music, pointing out in what ways it could be employed with therapeutic aims. Subsequently Dr. Betzchinsky reported an instance of night terrors in a child of three years, who was cured by having played to it each night music of a calming nature written in a minor key. A test was made after a few nights by omitting the music, and that night alone the child had an attack. It has not as yet been determined just what key is most favorable to the prevention of an early bald state. Probably a reasonable way of settling the disputed point would be to make a few experiments on dogs, thus proving a tolerance for different strains and avoiding the horripilation to which some patients of refined tastes might be subjected. Wind instruments are always dangerous if the hair has not a good hold, while stiff-haired people can stand anything. Possibly a good rule for any musician would be, as soon as he finds his hair falling, that he should cease playing for others.

News of the Week.

Examination for Medical Inspectors of Schools.—On January 16th, at 10 A.M., the New York City civil service commission will hold a competitive examination for the position of medical school inspector, health department. Candidates must be physicians in good standing, familiar with the clinical history of contagious diseases of children, including those of the eye, and be able to diagnose and properly isolate the same. Public, parochial, and private schools are to be examined daily, and absentees visited when necessary. Compensation, $30 per month, for ten months in each year. Applications may be obtained by addressing S. William Briscoe, secretary, New York City civil service commission, new criminal court building, New York City.

The Yellow-Fever Germ.—It has been telegraphed from Rome to London, and then from London to New York, that "Dr. Gaccarelli has discovered the germ of yellow fever and hopes to show how to combat the disease." We hope he will.

The Colored Physicians of South Carolina have a State medical society.

Dr. W. R. Gowers, of London, has been elected an honorary member of the Netherlands Society of Psychiatry.

The City Hospitals Appointments.—The following is the text of a resolution presented at the meeting of the Medical Society of the County of New York held on December 27th last:

"*Whereas*, During the year 1896, the previous board of commissioners of charities dismissed the members of the medical staffs of the City, Fordham, Gouverneur, Randall's Island, Workhouse, Almshouse, Maternity, and Nervous Diseases hospitals, replacing them by nominees of the three medical schools of this city, to wit, the College of Physicians and Surgeons, the University Medical College, and the Bellevue Hospital Medical College; and

"*Whereas*, The commissioners of charities and correction have not rectified the injustice done by their predecessors during the past year, notwithstanding that frequent and repeated petitions have been made to them so to do; and

"*Whereas*, The medical profession is satisfied that no permanent or equitable arrangement can be arrived at under the present condition of affairs, and that, if matters are left in their present condition, these positions will be a continued source of ill-feeling in the profession and of annoyance to the commissioners; therefore

"*Be it Resolved*, That it is the opinion of the Medical Society of the County of New York, as the legal representative of the medical profession of this county, that all medical positions, salaried as well as unsalaried, which are within the present gift of the commissioners of charities, be taken away from said commissioners and from the medical colleges, and be placed under the control of the municipal civil service of the city and county of New York, to the end that fitness and merit and not political nor college favoritism shall be the tests for appointment in the medical positions of the municipal service; and

"*Be it further Resolved*, That this resolution be referred to the comitia minora of the Medical Society of the County of New York, with instructions to draft a bill for presentation to the legislature at an early moment, and to consult or co-operate with any body or bodies that it may think proper, to secure the objects proposed by this resolution."

Sir Joseph Lister was raised to the peerage by Queen Victoria at the new year. He enjoys now the distinction of being the first medical practitioner who was ever called as such to the house of lords.

A Munificent Gift to Science.—Alfred Nobel, the Swedish engineer and chemist, the inventor of high explosives, has, it is said, willed his property, amounting to about $10,000,000 for a fund for the advancement of science, the interest on which will be divided equally into five prizes, to be awarded annually. Three of the prizes will be for the greatest discovery in physics, the greatest discovery in chemistry, and the greatest discovery in physiology or medicine. The fourth prize will be for the most notable literary contribution on physiology or medicine, and the fifth for the greatest achievement for the promotion of peace. The competition for these prizes will be open to the world.

A Training School for Colored Nurses.—The University Medical College of New Orleans has determined to establish a training school for negro women as nurses.

Dr. Claudius H. Mastin, of Mobile, Ala., has accepted the invitation to serve as one of the members of the American national committee of the Twelfth International Medical Congress.

Obituary Notes.—Dr. Alonzo Churchill, of Utica, died in that city on December 28th, at the age of eighty-six years. He served as surgeon to one of the New York regiments during the war of the Rebellion, and was captured and confined for some time in Libby prison.—Dr. William Wallace died at his home in Brooklyn a few days ago at the age of sixty-one years. He was born in Ireland and obtained his qualifications at the Royal Colleges of Surgeons and of Physicians. He served for a time as surgeon in the British navy and later was for several years surgeon to the Cunard steamship company. He practised many years in Brooklyn, and had been connected with the Home for Consumptives, St. Mary's Hospital, St. John's Hospital, and the Long Island College Hospital. A widow and two sons survive him.—Dr. N. W. Swords, of Lecompte Rapids Parish, La., was assassinated on December 23d, by a man with whom he had had a quarrel.—Dr. Gustave Mourraile, of this city, died at his brother's plantation in Porto Rico, where he had gone to pass the winter, on November 18th. He was born in Guadeloupe in 1823, and studied medicine in Paris, where he obtained his degree in 1854. The following year he came to New York and had since then practised here. He was prominently identified with several of the French charitable organizations in this city. A widow, two sons, and a daughter survive him.—Dr. Emil Heinrich DuBois-Raymond, professor of physiology at the University of Berlin, died in that city on December 26th. He was born in Berlin in 1818. He began studying theology, but abandoned this for natural science. After a sojourn at Bonn he returned to Berlin and studied anatomy and physiology under Jean Muller, and by his advice undertook his researches in animal electricity, on which subject he published several works. In 1868 he replaced his master as professor of physiology at the University of Berlin, and was named in 1867 perpetual secretary of the Berlin Academy of Sciences.—Dr. Byron W. Munson, of Sharon, Conn., died on January 3d, of heart disease. He was a graduate of Yale Medical School and was surgeon in the war of the rebellion. From 1881 to 1890 he was superintendent of the Soldier's Home at Noroton, Conn.—Dr. William Newman, of Brooklyn, died at his home in that city on December 31st. He was born in London, England, in 1820, received his medical education there, and came to this country immediately after, in 1845. A widow and four children survive him.—Professor Stadfeldt, the well-known obstetrician of the University of Copenhagen, died on December 12th, aged sixty-six years.—Dr. Theodore G. Wormley, professor of chemistry and toxicology at the medical department of the University of Pennsylvania, died in Philadelphia on January 3d, after an illness of several months. He was born in Wormleysburg, Pa., on April 1, 1826. He was educated at Dickinson College, and in 1849 graduated in medicine at the Philadelphia Medical College. In 1852 he was called to the chair of chemistry and natural sciences at Capitol University, Columbus, O., which he held until 1865. He was also professor of chemistry and toxicology in Starling Medical College, in Columbus, from 1854 to 1877. In 1877 he was called to the chair of chemistry and toxicology in the medical department of the University of Pennsylvania, which he had since held.—Dr. Patrick H. Bryant, passed assistant surgeon, United States Navy, died on board the training ship *Constellation*, at Newport, on December 29th, of apoplexy. He had been in the service since 1888.

New York in 1896.—During the past year there were 55,623 births in this city, an increase of 1,892 over 1895; and 41,652 deaths, a decrease of 1,767 as compared with 1895, the death rate being 21.54 instead of 23.105. There were not so many marriages by 99 as there were in 1895, but there were 16,042 more arrests by the police.

Influenza in Galveston.—It is reported that influenza has been epidemic in Galveston, Tex., during the past three weeks. The number of persons attacked is very large, but the disease is in mild form and there has been no appreciable increase in the death rate.

The Western Ophthalmological, Otological, Laryngological, and Rhinological Association will hold its next meeting in St. Louis, on April 8 and 9, 1897. The railways into St. Louis have offered the usual one and one-third fare rate to members of the association attending the meeting.

The American Physiological Society held its ninth annual meeting in Boston, on December 29 and 30, 1896.

A Memorial Statue to Dr. Parke, who was the surgeon of Stanley's expedition in Africa, has been erected at the south side of Leinster Lawn in Dublin. The statue is to be unveiled this month.

The Death Rate in New York State.—The bulletin of the New York State board of health for November shows that the number of deaths reported for the month was 7,888, which represents a death rate of 14.75 per thousand. This is the lowest death rate for years. Compared with the preceding month, in which the mortality was unusually small, the number of deaths is less by 800, and 500 less than were reported in November, 1895. November is uniformly the month of lowest mortality in the year in this State.

A Lawyer on a Physician's Diagnosis.—A referee in habeas corpus proceedings for the release of a patient in one of the State hospitals for the insane recently reported to the supreme court that the man is not insane. A physician in the hospital stated that the man was suffering from acute mania, but the referee asserted that the diagnosis of the witness was worthless.

The Pasteur Monument Fund.—An American committee has been formed to receive subscriptions to the international fund for a monument to Pasteur, to be erected in Paris. The treasurer of the committee is Dr. George M. Sternberg, surgeon-general, U. S. A., to whom contributions may be sent. We hope America will send a large subscription to honor the memory of one of the world's greatest benefactors, and we would urge every physician in the country,

after sending his subscription to the Rush monument fund to the chairman, Dr. Gihon, to send another check to Dr. Sternberg for the Pasteur monument fund. Thus will the heroes of science be honored.

The Philadelphia Pediatric Society.—Over one hundred physicians met at the College of Physicians, Philadelphia, on Tuesday, December 22, 1896, to organize the Philadelphia Pediatric Society. A constitution and by-laws were adopted and the following officers were elected: *President*, Dr. J. P. Crozer Griffith; *Vice-Presidents*, Dr. Edwin E. Graham, Dr. Arthur V. Meigs, Dr. Frederick A. Packard; *Secretary*, Dr. Alfred Hand, Jr.; *Treasurer*, Dr. C. F. Pettibone.

An Old Swindle in a New Field.—A correspondent writes: "The following trick is new, I think, and I therefore inform you concerning it, if you choose to give it publicity.

"Act 1.—A man introduces himself at my office as Dr. E. L. Adams, of Stroudsburg, Pa., talks (and talks learnedly about the throat) of sending a patient of his, a Mr. Henry Sawyer, in consultation. He then speaks of desiring to buy a spray apparatus, asks me of whom I recommend B. As the "doctor" is leaving, he asks incidentally for one of my cards. It is given.

"Act 2.—He afterward writes on my card a line of introduction to B. Presents it, saying he was sent by me, giving details. He orders the apparatus, and desires it sent to Dr. Adams, —— Street (who promptly replies by telephone, saying he knows nothing about it). Presents a check made payable to his order, endorsed by him in payment for the spray, and receives a balance in cash (in this instance $10, I believe).

"Act 3.—Check returned; no good. B. writes to Stroudsburg. No Dr. E. L. Adams and no Mr. Sawyer reside there or are known to the postmaster. I, of course, have never seen the Mr. Sawyer.

"Act 4.—The bogus and plausible representative of the medical profession has the money. The trick is, of course, capable of various modifications."

Still Another.—An old trick is being worked upon the members of the medical profession with success in several instances. A man calls at the doctor's office at a time he knows he is away. Asking for the doctor and learning he is out, the man is oh! so sorry, but may be the good doctor's wife would answer. The doctor's helpmate is summoned and is informed that the visitor is a patient of the doctor and lives (in one instance) in Newark, N. J.; he is anxious to settle a bill of $20 and asks the wife to give a receipt for that sum. The good wife, overcome both by the vision of a $20 debt being settled and also by the flattering remarks of the pleasant-mannered fellow, gives the receipt. In exchange he presents a certified check for $25, gets the $5 in change, and—well, in due time the poor doctor jots down in his account book on the credit side, "For experience, $5."

An Epidemic of Typhoid Fever.—For more than a year an epidemic of typhoid fever has prevailed at Rock Run, a hamlet of not more than two hundred persons, situated on a small stream of the same name emptying into the Brandywine near Coatesville, Pa. The first cases appeared at a small house on the hillside, and altogether forty persons have been attacked. The drinking-water of the place is obtained from springs and wells, one of which—from which the larger number secured their supply regularly and all have at times taken water—is situated in front of the village store and in close proximity to a cesspool, so that contamination is almost certain. In fact, all of the springs and wells are dangerously close to privy vaults. An investigation has been ordered by the State board of health and samples of the water have been secured for analysis and bacteriologic examination.

Epidemic of Grippe.—A dispatch from Galveston, Tex., states that over one thousand persons in that city are suffering from the grippe. Physicians are said to be overworked and druggists are kept busy filling prescriptions. There has been no marked increase in the death rate.

"New Treatment for Hydrophobia."—In a communication to a Philadelphia morning newspaper Mrs. C. E. White, president of the "Women's Branch" of the Pennsylvania Society for the Prevention of Cruelty to Animals, after condemning the Pasteur method of treating hydrophobia, proposes a "new method for both the prevention and cure of hydrophobia now coming into vogue, unattended by any cruelty to either human beings or the lower animals." The method is known by the name of its accidental discoverer, Buisson, a Frenchman, "and consists in the administration of vapor baths, accompanied by sudorific medicines, in order to remove by sweating the poison of rabies from the system." The plan of procedure is said to have been attended with much success, especially in India, where a number of stations have recently been established. A Buisson Institute has also been organized in London. Arrangements have been made for introducing and testing the plan of treatment at two places in Philadelphia, one a bathing-establishment and the other a woman's hospital.

The Meyer Memorial.—The contributions for the erection of a memorial to the late Dr. William Meyer, of Copenhagen, have reached the sum of $5,000. The fund, therefore, has been closed, since this is all that will be required for the completion of the monument, which is to be designed by a Danish sculptor.

The German Congress of Internal Medicine.—The Fifteenth German Congress of Internal Medicine will be held in Berlin on June 9 to 13, 1897. The subjects proposed for discussion are chronic articular rheumatism, epilepsy, and exophthalmic goitre.

"L'Union Médicale," of Paris, after a life of more than half a century, has ceased to appear. It was founded by Dr. G. Richelot and was edited by him for nearly fifty years. Since his death his son, Dr. L. G. Richelot, has conducted the journal, but now announces that he is forced to discontinue it because of the pressure of other engagements.

Insanity in Prisons.—It having come to the notice of Judge James Gay Gordon, of Philadelphia, that an

insane convict was confined in the Eastern Penitentiary, a commission consisting of Drs. S. Weir Mitchell, Thomas G. Morton, Charles K. Mills, J. H. W. Rhein, and ex-Judge Henry J. McCarthy was appointed to inquire into the mental state of a number of prisoners in the penitentiary. According to the report of the commission, just issued, of eight convicts examined, five were found to be insane, one of doubtful mental condition, and two not insane. The commission recommended that all but the last be sent to a hospital for the care of the insane. Two of the number were classed as belonging to the criminal insane, for whose special care regret was expressed no institution exists in the State of Pennsylvania. The six named were accordingly committed by Judge Gordon to the State Hospital for the Insane at Norristown. A commission appointed by the Harrisburg court to inquire into the alleged insanity of two prisoners at the Eastern Penitentiary from Dauphin County has reported that both are insane and has recommended their removal to the State hospital for the insane.

Italian Honors for Behring.—The King of Italy has conferred upon Dr. Behring, by virtue of his discovery of diphtheria antitoxin, the grand cordon of the crown of Italy.

Asepsis and Gallantry.—The Hungarian government permits women to study medicine if they so desire, but one of the professors at the University of Budapest has recently proclaimed that he has something to say in the matter. Of the five women now studying medicine there, one has a remarkably fine head of hair, which the professor of surgery says must come off before she can be permitted to attend his clinics. The reason he gives for his prohibition is that "wool carries infection."

A Jenner Memorial in England.—A meeting was held in St. George's Hospital, London, on December 7th, for the purpose of promoting a national memorial to Jenner. The meeting, which was presided over by Sir Joseph Lister, was well attended. It was proposed to open a subscription with the view of founding some institution in connection with the British Institute of Preventive Medicine to be distinguished by Jenner's name. There was, however, some opposition to the memorial taking this form, and it was then voted that a public meeting be called early in 1897 to consider the resolutions passed at this meeting and finally to decide the form of the memorial.

An Interesting Case is on trial in Pittsburg. By the testimony of a Dr. George T. McCord, a man secured $6,000 damages for injury from the Central Traction Company. The lawyers took $3,000 for fees, one getting $1,900 and the other two $550 each. The doctor is now suing the lawyers for a small fee, having been paid nothing, and each lawyer is trying to prove that the other one should pay the doctor's fee.—*Cleveland Journal of Medicine.*

Vital Statistics of Philadelphia.—For the week ending December 26th there occurred in the city of Philadelphia 395 deaths, of which 121 were of children under the age of five years. The whole number is 11 greater than that of the preceding week and 50 less than that of the corresponding week of the previous year. The largest number of deaths was due to the following causes: Pneumonia, 57; pulmonary tuberculosis, 42; heart diseases, 21; carcinoma, 20. During the week there were reported to the board of health 93 cases of diphtheria, 77 of typhoid fever, and 32 of scarlet fever.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. December 28th.—Assistant Surgeon L. Morris ordered to the *Essex*. December 29th.—Passed Assistant Surgeon A. R. Wentworth detached from naval hospital, Portsmouth, N. H., on relief and ordered to the *Marblehead*. Surgeon E. H. Green detached from the *Marblehead* on reporting of relief and ordered to naval dispensary at Washington, D. C. Passed Assistant Surgeon H. B. Fitts ordered to naval hospital, Portsmouth, N. H. December 30th.—Surgeon A. C. H. Russell detached from the naval medical examining board, New York, on relief and ordered to hold himself in readiness for the *Lancaster*. Surgeon J. M. Edgar detached from the *Saratoga* and ordered to the *Vermont*. Surgeon H. Wells detached from the *Vermont* on relief and ordered as member of naval examining board, New York. Passed Assistant Surgeon W. C. Braisted detached from the *Columbia* and ordered to the Naval Hospital, Newport, R. I.

Obituary.

PROF. WILLIAM H. PANCOAST, M.D.,

PHILADELPHIA.

Prof. William H. Pancoast, the distinguished surgeon, died, January 4th, at his home in Philadelphia, aged sixty-four years. He was the son of the famous surgeon, Joseph Pancoast, and was born in Philadelphia on October 16, 1835. He was graduated as bachelor of arts at Haverford College, Pa., in 1853, took his medical degree from the Jefferson Medical College in 1856, and afterward studied for three years in London, Paris, and Vienna. On his return to this country he established himself in practice in Philadelphia, and soon acquired a high reputation as a bold, rapid, and skilful operative surgeon, who was seldom mistaken in his diagnosis and was always conservative in his treatment. In 1859 he was appointed visiting surgeon to the Charity Hospital, Philadelphia, in 1862 demonstrator of anatomy in Jefferson Medical College, in 1868 adjunct professor of anatomy in the same institution. He served as a surgeon in the army during the civil war, being for the most time attached to the military hospital in Philadelphia. In 1874 he was elected to succeed his father as professor of anatomy in the Jefferson Medical College. Ten years later he obtained possession of the bodies of the Siamese twins, and demonstrated that the band by which they were united could not have been divided after early childhood without endangering their lives. His investigations, afterward published under the auspices of the College of Physicians of Philadelphia, attracted a deservedly wide interest of scientific men throughout the world. He was a voluminous contributor to medical literature and his writings always bore the evidence of sound learning and conscientious study. He became professor of the Philadelphia Medico-Chirurgical College in 1886.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, November 6, 1896.

ANDREW H. SMITH, M.D., PRESIDENT, IN THE CHAIR.

Some Plain Rules for Operating in Appendicitis.—DR. GEORGE F. SHRADY read the paper (see p. 37).

DR. CHARLES MCBURNEY could heartily agree with most of what Dr. Shrady had said on the various points relating to appendicitis mentioned in the paper. There were two or more on which he would make some comments. With regard to the pulse rate, the degree of pain, and the temperature, they certainly were very important. While he attached high value to the condition of the pulse, yet we must consider the stage of the disease at which this and the other points were noted. A very rapid pulse within the first twelve hours of the disease, and with a great deal of pain, did not necessarily indicate that the disease was going to be very severe. It might be very sharp indeed during the first twelve hours, and the temperature might run up very high, but he should not think that an operation was necessarily called for, although the pulse, the temperature, and the pain all had the characteristics which the author had spoken of, if it were at this early stage. A few hours later they might all have disappeared, or disappeared to a large extent. But a continuance beyond a limited time, say twelve or twenty-four hours, or an increase of these various symptoms during the whole of that time, constituted a very important indication for operation. Of course the question whether one could safely wait during so many hours, to see whether the symptoms would increase or diminish, was a question of gravity, and one which could only be decided by careful weighing of the conditions and by experience. What he wished to emphasize was that one observation of the pulse, pain, and temperature was not sufficient to determine the question to operate or not to operate.

He had to differ entirely from Dr. Shrady with regard to suppurative cases and the formation of adhesions. His experience led him to have little or no regard for the value of adhesions in protecting the patient and preserving the lesion for the more convenient and safe handling by the surgeon. He believed they did not. There was no question, however, but what adhesions were a very valuable means of separating the suppurating focus from the general peritoneal cavity. But the value of these adhesions did not increase with age. His own experience would lead him to operate in a case which he believed to be a suppurative one at the earliest possible moment, if there was no special contraindication. Trèves had laid down the rule strongly as to when one should wait for adhesions to form, and stated that the longer one waited the easier the operation would become, for with age the pus would come nearer the anterior abdominal wall. Dr. McBurney thought he was entirely wrong. The pus worked its way from the surface in a larger number of cases than toward it. Although we met with a good many suppurative cases which did come near the anterior wall, yet while waiting for this result there was a larger number of cases in which it would seek its way up toward the liver, or in some other direction away from the anterior surface, and there form adhesions which would be found more difficult to break down with age. He had never seen a suppurative case which he would not have preferred to handle as soon as suppuration took place. He could make that a general rule, unless he were to except a few odd cases, as in very fat or very old persons in whom the further course of the case showed that the abscess approached the anterior wall. Such cases, having passed through all the dangers, finally reached the surgeon when there was nothing to do but to make an incision. Then, of course, one was very glad to find that it was not necessary to open the general cavity or to separate adhesions. But that was not the question. This had to do with the course to be determined upon in the early stage. He was much more in favor of operating as soon as pus had formed, avoiding in that way all the subsequent dangers. He had not found the handling of abscesses without special adhesions to involve extra danger, for, with ordinary care in packing off the rest of the peritoneal cavity and working down to the abscess through an artificially formed funnel of pads and sponges, pus could be evacuated in all without soiling the peritoneum. That had been done repeatedly without bad results.

Regarding the statement that recurring cases did not necessarily require interference, he believed the author had given no rules by which to infer that a patient who had had one attack of appendicitis would not have another. In fact, he had not received rules from anybody which would assist him in coming to a conclusion whether a patient would or would not have a subsequent attack. He was well aware that some patients had a well-defined attack and never had another. But how were we to recognize such cases? He knew of no way in which it could be done. When a person had a well-defined attack of appendicitis he expected it to recur, and was rarely disappointed if it was not operated upon. The cases which did not recur were, in his experience, rare. The cases which had had well-defined attacks, one, two, or three, and had not been operated upon, had in a very unpleasant percentage terminated fatally; so that, taking the two propositions together, the fact that one could not define the particular case which would not recur, and the fact that a considerable number of subjects which had had one or two attacks finally had one which proved fatal, he was led to advise every patient who had had one well-defined attack to submit to an operation for removal of the appendix in the interval. He looked upon the operation done in the interval as not only very safe indeed, but as one which under modern methods enabled one to leave the abdominal walls quite free from danger of hernia—an enormous advantage over the condition left after an operation performed during the acute attack.

DR. ROBERT ABBE said Dr. McBurney had expressed his own views perfectly. The most important point which faced us, and to which attention had been directed by the author, was that of the gravity of the early symptoms, and whether the case could be operated upon to advantage at the onset, in the presence of rapid pulse, pain, and temperature. He thought most cases had some one of these symptoms pretty intense at the start. Most cases which subsided within twenty-four hours had a rapid pulse, vomiting, and pain. This intensity of the symptoms at the onset seemed to him an exact imitation of the toxin poisoning obtained when one injected the toxins of erysipelas hypodermatically. In the onset of acute appendicitis there was not always what would be taken for perforation, but rather a very quick absorption, very likely without more than an abrasion of the mucous membrane of the appendix. At any rate a very minute amount of toxic effect would give these grave symptoms within a few hours, which would subside if there had not been actual perforation. Certainly in many cases operated upon within twenty-four hours, we found that there had not been perforation, and yet there was superficial lymph exudate, etc. He there-

fore agreed with Dr. McBurney that for twelve hours at least, if the pulse rate was 120, we should give the patient the benefit of the doubt, apply ice, and wait for the subsidence of the symptoms. If any one of the symptoms progressed after twelve hours, he thought the time had come to operate.

Medical Appendicitis. — Dr. Beverley Robinson said he hesitated to discuss the subject of appendicitis, in view of the remarks which had been made, for his ideas were based upon clinical rather than demonstrated pathological facts, and he feared would not receive credence from the surgeons. There was no other organ of the body for which it could be said that in a state of disease the medical man could do nothing, and he could hardly believe that the appendix would continue to be a uniform exception to this rule. He had before expressed very strong personal convictions regarding recurring cases of appendicitis, to the effect that they were sometimes of rheumatic origin. His reason for believing this was clinical experience and the fact that the appendix bore a close relation in structure to the tonsils, which were known frequently to take on rheumatic inflammation. Such inflammation was not necessarily suppurative, and he did not believe but that there might be appendicitis without suppuration demanding surgical interference. He had in mind one case, within a stone's throw of the present meeting, in which during a second attack a distinguished surgeon said he would have operated had he seen the patient twenty-four hours earlier. As it was, she recovered without an operation, and having since visited the Hot Springs and others, and taken antirheumatic precautions, she had gone five years without another attack of appendicitis. The rheumatic tendency had shown itself in the joints, etc. He had certainly seen salicylates do a great deal of good, and in some instances they had enabled him to get along without calling a surgeon. He had seen the appendix removed in several instances when it showed nothing but inflammatory signs, which could be accounted for on no theory more plausible than that of rheumatism.

Dr. McBurney would be very sorry indeed to see it stated that this society indorsed the rheumatic theory of such a serious disease as appendicitis, a theory which, so far as he knew, had no basis. The mere fact that a patient recovered from appendicitis after taking a given medicine need not justify the indorsement of that medicine for appendicitis, for we frequently saw patients recover who might have had salicylate of sodium or anything else. The grave objection to having this theory go out with the indorsement of a professional society was that there was a strong tendency among practitioners in the country, who were either inexperienced or without aid, to search anywhere and everywhere for means to avoid the real treatment. A statement from New York that salicylate of sodium was useful in appendicitis would lead to its use in very many critical cases for which there was no hope except in a timely operation. He had himself removed the appendix frequently, and he had not seen anything in the lesions—which were always well marked—which could be accounted for upon the theory of rheumatism. We had to account for an actual pathological lesion. There was in almost every case —indeed, he was almost prepared to say without exception—some form of obstruction to the escape of the contents of the appendix into the intestine. That had nothing to do with rheumatism.

Dr. Shrady remarked, in closing the discussion, that Drs. McBurney and Abbe had misunderstood what he had intended to make plain. Of course, he did not mean to say that the mere elevation of the pulse or temperature, or increase of pain as evident in a casual examination, were sufficient to advise immediate operation. The very transient condition of these phenomena was indeed an argument in favor of waiting. It was of the greatest importance to make a study of the phenomena and not be in a hurry to arrive at a conclusion. The whole thing, as Dr. McBurney expressed it, was in the proof that the symptoms named continued to manifest themselves in a progressive way, and of course time was required to settle these points. In regard to the suppurative cases, in one sense he entirely agreed with the opinions of Dr. McBurney; at the same time he did not believe it was wrong to watch and wait for a day or two longer while an abscess was forming, in order to be the better prepared to run the risk of breaking up imperfectly formed adhesions. He was, in fact, speaking more for the practitioner away from large cities than for such as were well prepared to meet the complications and emergencies of such cases. An operative case in the country was very different from one in a large city, with its plentiful resources of skilled work. In this respect in an ordinary case it reduced the chances of bad result with the younger operator. Personally, he always operated when an abscess existed, as with abundance of skilled assistance he had found it comparatively safe, especially when the peritoneum was guarded against infection by the methods so well demonstrated by Dr. McBurney.

Only the day previous Dr. Shrady had operated in such a case in the practice of Dr. St. John, of Hackensack, N. J. In that instance the case belonged to the irregular ones. The cardinal symptoms of pulse rate and temperature were negative, and the pain was of a very ordinary character. The only portentous symptom was vomiting. He differed from Dr. McBurney in always advising operation after recovery by other means from a first attack. He was always willing to wait for a second one before deciding, and had never had cause to regret such a course. His judgment had been influenced, perhaps, by experience, notably in two cases. One of these was that of a farmer, near Dr. Shrady's country residence. That patient had a well-marked and severe case of appendicitis twenty years since, was still alive, and had never suffered from the slightest inconvenience. At the time of the attack Dr. Shrady advised an operation, and the patient every time he had an opportunity of answering questions took occasion to remind the doctor of a lucky escape from the knife. The other was the case of a well-known medical gentleman of this city, who had four distinct attacks of appendicitis, in one of which he was seen by Dr. Shrady, and on which occasion the diagnosis was confirmed by the late Professor Loomis. The patient declined operation, died of another disease, and at the autopsy no lesion of the appendix was discovered. There were often circumstances in a case that militated against an operation. They occurred to every practitioner. The paper was intended to challenge discussion from such a conservative basis.

Anal Fissure.—Dr. Sims (*North Carolina Medical Journal*, November 5, 1896) says that in recent cases a cure can often be effected by keeping the fæces soft by laxatives and enemata, washing out the rectum with carbolic acid or other antiseptic solution after each evacuation, the application of silver nitrate and some antiseptic powder or unguent to the ulcer. When this fails, the next best treatment is to paralyze the sphincter by stretching it with the thumbs. Complete anæsthesia is required for this operation. Another method is to make an incision through the base of the ulcer, dividing either the whole or a portion of the sphincter. Any small tab of mucous membrane or polypoid growth complicating the fissure should be removed at the time of the operation.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting, December 14, 1896.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Tuberculosis of the Kidney.—DR. FRED KAMMERER presented a young woman, whom he had first shown to the section six years ago after removal of the left kidney for tuberculosis. Before that she had had suppuration of the cervical glands, and three months prior to removal of the kidney he had evacuated a lumbar abscess, evidently connected with the kidney, which he removed as soon as the patient was able to withstand the operation. The right kidney seemed to be healthy. A sinus remained until eight months ago, until which time the patient remained well, but when the sinus closed the lymphatic glands in various parts of the body enlarged, and the remaining kidney could now be felt double its normal size.

Dr. Kammerer presented a tuberculous kidney from another case, that of a girl, fifteen years of age; family history negative; personal history negative, patient having been well until three weeks before he saw her, when pain developed in the left side; there was elevation of the temperature; a fluctuating tumor formed in the lumbar region, which he incised and evacuated pus. At that time the kidney was not recognized, but three months later—the sinus persisting—he reopened the wound and enucleated the tuberculous kidney. There was no other tuberculous focus, and the patient was still well.

In the first case the tuberculosis of the kidney seemed to be secondary; in the last one it seemed to be primary. Examination of the urine yesterday of the patient shown revealed no evidence of tuberculosis of the remaining kidney, although the increase in size would point to its involvement.

Plastic Operations on the Lip and on the Face.—DR. C. N. DOWD presented a man whose lower lip he had removed for epithelioma a year ago. There had been no recurrence, and the cosmetic effect left by Malgaigne's method of closing the gap had been perfect. The scars were scarcely visible. The glands below the inferior maxilla, including the submaxillary, were removed.

Dr. Dowd's second case was one of small epithelioma of the cheek, removed five years ago. The gap was filled by sliding in of the skin in such a way as to leave no deformity, and no recurrence had taken place. There was now a little nodule beneath the skin, scarcely perceptible to the touch, yet exciting some suspicion.

Tuberculosis of the Knee; Arthrotomy.—DR. R. A. SANDS presented a boy who two and one-half years before had fallen, and ever since had suffered from tuberculosis of one knee. It had been treated by apparatus, but got worse, and when he saw the boy, last August, he proposed arthrectomy to the father, but was permitted only to make two small incisions, through which he introduced a spoon and removed what tuberculous material he could. It was evident, however, that not all was reached, yet under packing with iodoform emulsion the wound rapidly healed. There was ankylosis, but no pain and no local temperature.

Exophthalmic Goitre Treated Successfully with Thyroid Extract.—Dr. Sands also presented a young woman who had come to him in September, this year, for œdema of a lower limb and headache; and it was in looking for a cause of these symptoms that he found enlargement of the thyroid, some exophthalmus, and a pulse of 128. Under the use of thyroid extract all the enlargement of the thyroid gland had disappeared; all the symptoms had disappeared except some tendency to increased frequency of the pulse under excitement. Usually it was not above 80.

Old Irreducible Dislocation of the Humerus; Arthrotomy.—DR. J. P. TUTTLE presented a man whom he had seen in September, two months after subclavicular dislocation of the humerus. He had no use of the arm whatever. Attempts at reduction were made under ether, but as soon as the head of the bone was brought nearly within the glenoid cavity, something would act to pull it back to its former position. He then cut down and found that the head of the bone had passed around the coraco-humeral ligament in such a manner that when it was brought nearly within the glenoid cavity the ligament would jerk it out like the string of a bow. Reduction was easily effected on replacing the ligament. The man now had good use of the arm.

Extensive Skin Grafting of Arm.—DR. A. L. FISK and DR. ROBERT ABBE presented a case of extensive skin grafting of the arm, forearm, and hand, and also various fractures, etc., with radiographs. The case of skin grafting was that of a woman who had sustained a burn over a year ago, which involved the whole arm to the shoulder, and had left the skin hanging in shreds from the wrist to the elbow. After some months grafts were taken from the thigh to cover the forearm. The operation was discontinued at this point on account of the low condition of the patient. These grafts grew, but subsequently some which were implanted on the arm failed. Her health was poor; she suffered much pain in the arm, until one day it occurred to him to give iodide of potassium. The pain then ceased, the granulations took on a healthy appearance, the grafting was completed successfully, and the patient was shown in illustration of the excellent results. The elbow, which before promised to be permanently helpless, now had all of the normal movements, the skin was supple, and the patient had an entirely useful limb.

Various Fractures, with Radiographs.—The series of radiographs presented by Drs. Fisk and Abbe illustrated fractures of the upper and lower extremities at various points; also a biliary calculus, an enterolith, a tumor of the lower third of the humerus, presumably malignant, etc.

Laryngeal Stenosis (Cicatricial) Treated by Intubation.—DR. JOHN ROGERS presented a young woman, who had come to the hospital with acute œdema of the larynx and cicatricial contraction, extending from the thyroid cartilage to the entrance to the trachea. There was a history of syphilitic infection in 1894. He tried intermittent dilatation, but failed to pass the intubation tube, then did tracheotomy, and later, after one failure to pass the intubation tube while the tracheotomy wound was open, succeeded when this had healed. The tube became plugged on November 25th and had to be removed, but the larynx collapsed and it was reintroduced.

DR. A. M. PHELPS, speaking of Dr. Sands' case, expressed the opinion that in children under twelve, suffering from tuberculous knee, an apparatus should be applied, protecting the limb but permitting them to go about. If the condition progressed, arthrotomy should be done. After the twelfth year excision gave the best results. He had performed excision seventy-one times, without a death.

DR. HERMAN MYNTER, of Buffalo, differed from Dr. Phelps, for he believed there was a focus of tuberculous disease in the bone, either in a condyle or in the tibia, and unless this were removed there would be recurrence. It was only in a minority of cases a synovial, not a bone affection.

DR. PHELPS said he would try other treatment for six months, and seek to spare destruction of the joint by operation.

Dr. Mynter replied that he would remove the focus of disease in the bone, and thus prevent it from spreading to and destroying the joint.

Dr. Sands agreed with Dr. Phelps. If he were a child he would not want his knee-joint gouged into until there was evidence that it contained tubercles.

Dr. Abbe remarked, regarding skin grafting, that the tendency to contraction was obviated by removing granulation material before grafting.

Fracture at the Ankle.—Dr. A. M. Phelps presented radiographs of a case of fracture of the internal and external malleoli, in which the pictures alone enabled him to make the diagnosis of the exact condition and how to repair it without unnecessary surgery.

Early Diagnosis and Early Nephrectomy for Tuberculosis of the Kidney.—Dr. Willy Meyer read the paper. One patient was shown, and one or more tuberculous kidneys were exhibited. On some points he quoted from his paper read at the last meeting of the State Medical Society on the early diagnosis of tuberculosis of the kidney. The following case illustrated some of the points which he wished now to emphasize. A woman entered the hospital, giving a history of frequent micturition, lancinating and burning pain during micturition, pain in the pelvis, headache, insomnia, urine slightly turbid. She was sent to his ward, and in accord with his custom he had a careful examination made, and no evidence was found of tuberculosis of the lung or elsewhere, and yet cystoscopic examination revealed a slight change in the bladder, which convinced him that there was probably tuberculosis of one kidney. About the mouth of the right ureter was an appearance as of footprints in snow, and at the orifice was slight congestion. The rest of the bladder was normal. Introduction of the ureteral catheter revealed some constriction, about three-fourths of an inch from the orifice. An attempt to collect the urine from the right ureter failed, but succeeded with the left one. The urine thus collected was clear, whereas that passed by the urethra contained tubercle bacilli, which it was fair to infer came from the right kidney. The diagnosis was then made of primary tuberculosis of the right kidney, with secondary local infection of the bladder. Nephrectomy was then performed; the kidney (the right one) was tuberculous. The patient made a good recovery; the symptoms disappeared, the tubercle bacilli disappeared from the urine, and the tuberculous spots about the right ureteral orifice disappeared.

A case almost exactly similar had been published by Caspar, of Berlin, the only difference being that Caspar was able to catheterize both ureters. Dr. Meyer had seen other cases, but later in the disease. The one related belonged among the very few thus far reported showing what could be done to prevent secondary infection when early diagnosis, leading up to nephrectomy, was made. He impressed the necessity for cystoscopic examination in all cases of obscure bladder or urinary troubles. While in the majority of cases calculi might be the cause of the symptoms, yet in some tuberculous trouble would be found.

The chairman, Dr. Curtis, remarked that in women Kelly's cystoscope could be used by one not specially expert. The fact that the localized bladder changes had disappeared so promptly in Dr. Meyer's and the other cases referred to, would seem to indicate that it was due only to irritation, and had not yet resulted in true tuberculous infection.

Dr. F. Tilden Brown had had opportunity in two autopsies to verify the existence of a local congestion around one ureteral orifice, the side on which there was tuberculosis of the kidney. It was very fortunate that Dr. Meyer had met with such a case in time to operate and prevent secondary infection. He would prefer to use the term local to that of primary infection of the kidney, for it was difficult to conceive of the bacilli reaching the kidney primarily. Tuberculosis might exist in the kidney for a variable period of time without evidence of it being found in the bladder or urine, this evidence appearing only after communication had become established with the pelvis of the organ. Even if one operated as soon as urinary and vesical symptoms developed, he might then find the kidney practically destroyed. He mentioned two cases of general tuberculosis, in which lesions were also found in the kidney, evidently of a chronic nature. In one at least he thought the patient might, as far as the kidney lesion was concerned, have lived on indefinitely under a change of climate and correct diet. While he regarded Dr. Meyer's position as correct, and thought that in time many cases might be saved by early diagnosis and operation, yet too rash interference was to be avoided, for no doubt there were cases of commencing or limited tuberculosis of the kidneys, as of other organs, from which the patient might recover. If, after six months' climatic and hygienic treatment, one found the patient declining, he should operate.

Dr. Mynter, of Buffalo, congratulated Dr. Meyer on his pioneer work in cystoscopy and the diagnosis of kidney disease, in this country. He repeated the opinion expressed while discussing Dr. Sands' case of tuberculosis of the knee, that one should remove a tuberculous focus as soon as he established the diagnosis. He would likewise remove the tuberculous kidney. He mentioned a case in which the cystoscopic examination alone could, and did, reveal a piece of chewing-gum in a man's bladder, the patient having introduced it into the urethra to determine whether he had stricture. He also mentioned a case in which a large cast came down from one ureter; the diagnosis of tuberculous nephritis was made, nephrectomy was done, and the patient's symptoms disappeared.

Dr. Meyer closed the discussion.

SECTION ON GENERAL MEDICINE.

Stated Meeting, December 15, 1896.

R. W. Wilcox, M.D., Chairman.

Mucous Colitis, a Functional Neurosis.—Dr. Walter Mendelson read the first paper. Under the term mucous colitis (and numerous synonyms) there had been known for three hundred years a complex of symptoms which deserved to be more generally recognized by the profession at large than it was. The condition existed in various degrees of severity in many patients—in neurasthenia, chronic dyspepsia, and other troubles. Confining himself chiefly to his own observations, the author said there were three cardinal symptoms which were so characteristic as to be pathognomonic. They were neurasthenia, mucous passages, and abdominal pain. These three symptoms were not always present to the same degree nor at the same time. Some one might be so slight as scarcely to attract attention. Another marked feature was chronicity. The attacks were usually brought on by nervous strain. The mucus was usually in the form of flat or round cords, often a foot or more in length, but might appear in flakes, in balls, etc. There was usually some tendency to diarrhœa. Few cases came under the physician's care which had not been treated for a variety of supposed causes, but usually for an inflammatory condition of the intestine or nervous dyspepsia, the latter thought to be secondary. It occurred oftenest in women at the childbearing age, seldom in children; old age was almost exempt. Of the pathology we knew nothing, as the disease was never fatal. Dr. Mendelson regarded the bowel trouble as but one of the many disturbances of the nervous function, whose

totality was summed up in the convenient term neurasthenia. It might be regarded as the metabolic product of glands whose particular nerve apparatus had become involved in the general nervous disturbance. Treatment naturally resolved itself into the treatment of the obscure causes of neurasthenia. The plan which had given him the best results was the rest cure, combined with irrigation of the bowel. He told the patients that if they would follow his instructions and he could manage to increase their weight ten pounds, they would be cured, and usually it so happened. Persistence and patience were required. Milk diet was important, but not sufficient alone. The bowel was irrigated twice a day. Incidental points were brought out in several cases related.

Dr. Charles L. Dana opened the discussion. He had heard only a part of the paper, but thought it probable his views coincided with those of the author, that while mucous colitis often occurred in neurasthenic people, yet it was not always so, and in some instances the neurasthenic state seemed secondary. Where it was primary he thought it might act only in bringing about a state in which the germs which constantly infested the intestine had opportunity to produce more or less inflammation, which he supposed existed in some degree in these cases. Why mucous colitis should be present in women oftener than in men was a fact which he could not explain, for neurasthenia occurred oftener in men. The prognosis as to permanent cure was bad.

The discussion was continued by Drs. M. Putnam Jacobi, Morris Manges, Max Einhorn, Leonard Weber, and the author closed.

Purpura Hemorrhagica.— Dr. Leonard Weber in this paper cast a general view over the subject of purpura hemorrhagica, and then read the histories of three cases, two seen in his own practice, one in that of another physician. The first patient, a strong man, had had a slight attack of purpura, accompanied by rheumatoid pain, six years before. He had also glycosuria and some varicose veins. The attack of purpura seen by Dr. Weber had followed indiscretion in eating and drinking. The purpura spots multiplied until they existed over the back and various portions of the limbs and body, also on the mucous membrane of the mouth. The urine contained six per cent. sugar, but eventually the sacchaine matter fell to less than one per cent. It was some weeks before the spots disappeared. His second case was that of a servant girl, aged twenty-four, second attack. There was a bad condition of the teeth and the gums bled. After excluding malaria, he thought the condition of the teeth might have given rise to toxins, on which purpura possibly depended. The third case referred to was shown before the German Medical Society by Dr. Moschcowitz, and illustrated the danger of a patient exposing himself too soon after improvement or disappearance of the hemorrhagic spots. The man went out to the baseball ground, and while there was stricken by hemorrhagic pneumothorax. He gave a history of frequent attacks of gonorrhœa. The three patients recovered. Dr. Weber thought purpura of different forms and passing under different names was of one kind but of different degrees.

Dr. S. S. Burt opened the discussion. He had always looked upon purpura as one disease differing in degree. In treatment he had relied upon improving the nutrition, but he had had no severe cases. In 1883 a writer claimed to have found a germ associated with purpura, but he did not classify it.

Dr. C. C. Ransom had frequently seen in children purpuric spots associated with urticaria. He was inclined to believe that purpura, developing upon urticaria or skin eruptions and following fevers, belonged to one category, while purpura hemorrhagica belonged to another category. Purpura hemorrhagica, as described in the text-books, was by no means a simple disease, for in a large percentage of the cases collected by Dr. Lockwood the subjects had died. Dr. Ransom had seen two cases, both of which were fatal. He regarded it as an infectious disease.

Dr. Hollis had hoped to hear more definite proof of the infectious theory. All anæmias were liable to be attended by hemorrhages. He saw no reason to believe a dyscrasia might not be at the basis of purpura.

Dr. Richard Van Santvoord remembered a case in which hemorrhagic eruptions disappeared upon stopping considerable doses of quinine.

Dr. Morris Manges related three cases of purpura hemorrhagica, which, he said, effectually proved the infectious origin of the condition, as suggested by Dr. Weber. Recurrent attacks had taken place and were rebellious to treatment, until he directed his attention to the throat. The eruptions disappeared with cure of quinsy sore throat.

Dr. Weber closed.

Dr. H. Newton Heineman demonstrated instruments of precision used in the observation of cardiac disease.

SECTION ON GENITO-URINARY SURGERY.

Stated Meeting, December 8, 1896.

William K. Otis, M.D., Chairman.

Urethro-Rectal Fistula.—Dr. J. P. Tuttle presented a man showing the result of an operation which he had performed to close a urethro-rectal fistula. There had been for some reason a sloughing of the tissues, which left an opening as large as his thumb in the prostatic portion of the urethra, connecting this with the rectum, three-fourths of an inch from the margin of the anus. All the urine poured into the rectum, and there was a great deal of irritation. He performed a preliminary colotomy, then dissected out the cicatricial tissue of the cavity constituting the fistulous connection, closed the opening in the gut, made an opening at a lower point in the urethra, inserted a catheter for bladder drainage, and left the original opening in the urethra to heal by granulation. It was his intention to leave a perineal opening for bladder drainage, but union had taken place more rapidly and completely than he had expected, so that only a few drops of urine escaped during straining. He thought the urethral fistula closed more smoothly in these cases when allowed to heal by granulation than when the edges were united by suture.

Drs. Eugene Fuller and F. Tilden Brown related somewhat similar cases.

Tuberculous Epididymitis.—Dr. Eugene Fuller presented a specimen consisting of the testicle and the scrotal contents of one side, removed from a young man with a tuberculous history and some pulmonary signs, and in whom tuberculous epididymitis had been lit up by an attack of gonorrhœa about three months before he operated. When he first saw him the tumor of that side of the scrotum was about the size of a cocoanut; the tissues were infiltrated and angry looking. Previously, some one had attempted to treat the case as one of ordinary epididymitis by use of the Paquelin cautery, and had caused two great sloughs on the surface of the scrotum. Dr. Fuller hoped by operating to keep the man from becoming bedridden, but in private cases of persons of means he thought he would not have operated even in such extremity. At first he removed only the thickened tissues and left the testicle, but next day removed the latter also, lest it should delay healing. He had never before seen a case with such rapid tuberculous infiltration of the tunica.

Prolapse of Glans Penis through a Preputial Opening.—Dr. Guitéras related a case in which the glans penis prolapsed through an opening in the prepuce made by chancroidal ulcer, and in which he relieved the strangulation by doing circumcision.

Double-Current Rectal Irrigator and Prostatic Cooler.—Dr. Robert C. Kemp showed the instruments and spoke of their general use in connection with diseases of the intestine and of the prostate. Some older instruments which could be utilized for these purposes were also shown, but the one which he had found to fulfil the purpose best he had devised at the suggestion of Dr. William H. Thomson as to the need of such an instrument. It consisted of an outer tube, with one or two side perforations for the return flow, and of an inner tube, screwed into the distal end of the outer one, for the entering current from the fountain syringe. The material used was hard rubber, but might be of glass, and was somewhat modified for cooling the prostate. Soft-rubber tubes and bags were not sufficiently good conductors of cold. By attaching a Y-tube, one arm connected with hot, the other with cold water, one could get the effect of alternate use of hot and cold—an idea suggested to him by Dr. Minor. Rectal irrigation was indicated and practised by this means by Dr. Thomson and Dr. Delafield in colitis, for cleansing purposes, for diuretic purposes, etc. Dr. Grandin had thus injected many gallons of salt solution in cases of eclampsia. The prostatic cooler was indicated in prostatic irritation, congestion, and some other conditions of this and neighboring organs.

Dr. R. W. Taylor expressed his intention to use the prostatic cooler, believing that it would be of value in certain troubles of the prostate.

Dr. William H. Thomson said he had for years observed a nervous connection between the stomach and rectum in disease of one or the other of these portions of the alimentary tract, and the need of an instrument like that devised by his friend, Dr. Kemp, was based not alone upon the local effect of irrigation, but also upon its reflex action. He spoke at some length upon its action in dysentery, in fevers, its diuretic effect by close proximity to the kidney as well as by absorption of the injected fluid, etc. It was also a means of acting upon disease of the central nervous system, for recent histology had shown that the axis cylinder was an actual part of what formerly was spoken of separately as the nerve cell, but now was recognized as only a part of a whole called the neuron.

Dr. P. A. Morrow inquired whether the speakers had observed any influence upon the general temperature. Some years ago he had used the rectal cone in treatment of hemorrhoids, the patients had complained of the cold, and on taking the temperature he had sometimes found it subnormal. It was known that the hot dry-air treatment of joints caused an elevation of the general temperature.

Dr. Thomson replied that he had made no thermometric observations.

Dr. James P. Tuttle said that he was gratified at the interest shown in this method of irrigation, although surprised that any one should consider it new. It had been used for nearly a century in the treatment of diseases of the rectum and sigmoid. The instrument exhibited was almost identical with one devised by himself in 1886, and which itself was a modification of Skene's irrigator. In 1889 he had read a paper upon this subject, and had exhibited the instrument before the surgical section of the academy, in connection with a paper on hemorrhoids, and had published a cut of it in Morrow's "System of Genito-Urinary and Cutaneous Diseases." He had described its application to genito-urinary affections in a paper on "The Rectum and Urethra as Related in Disease," published in the New York *Polyclinic*, in 1894, and had again referred to it in the same journal in a paper on "The Rectum and Female Reproductive Organs as Related in Disease," published during the present year. He had made use of the instrument almost daily for the past ten years, and could corroborate almost everything Dr. Kemp had said with regard to it. He had also made some experiments on a colotomized patient, and proved to his own satisfaction that the current did ascend the descending colon and maintain its temperature almost entirely. His instrument, he said, had been favorably received by a large number of the profession throughout the country, and he had received the most gratifying testimonials as to its benefits. He thought, however, that the value of the method was greatly enhanced by using it, in connection with the long Wales bougies, to dilate contractures and straighten out the folds of the sigmoid, and with the sigmoidoscope to diagnose and treat localized ulcers of the lower bowel.

The Detection of Stone in the Bladder.—Dr. Willian K. Otis read a paper on this subject. Ordinarily the detection of stone in the bladder was an easy matter, but sometimes the most skilful surgeon failed to recognize even a large one. The first symptom mentioned was pain in the perineal region, radiated to the prepuce, sometimes in the thighs or elsewhere, variable in severity, worse on severe exercise, sometimes entirely absent on lying down, severe at the conclusion of micturition; frequency of micturition, sometimes dribbling only, because of partial obstruction from the stone lying at the internal orifice of the urethra; cystitis in greater or less degree; hemorrhage. The microscope might show particles of stone in the urine which the unaided eye failed to detect, and point out the composition of the stone. But these symptoms might exist without a stone being present, and they were exceedingly variable in degree, so that other methods were necessary to establish the diagnosis. The most important of these was the use of a metallic sound, which gave a click when it came in contact with the stone. The one most commonly used was that originally devised by Sir William Thompson in 1860. But Thompson himself had modified this, and it was this modified instrument, still further modified by Dr. Otis by making it hollow, so that it could be used as a catheter like the original Thompson instrument, which the reader now used. The advantage of weight was obtained by inserting a solid stylet when not using the instrument as a catheter. The distal end was somewhat flattened so that it would not roll off of the stone too readily. The proximal end or handle was composed of a round and a flat portion, the former corrugated, the latter roughened on one side. Sounding-boards attached to the handle were not an advantage. The small lithotrite was the best instrument for taking the diameter of the stone.

Dr. Otis spoke of the tendency of stones to hide themselves behind the prostate, or anterior to the urethral opening, and to become sacculated. When exploratory incision became necessary, he advised suprapubic cystotomy, as the advantages which it possessed over a perineal opening far outweighed the slight risk. He also spoke of the cystoscope and the Roentgen ray. Uric-acid stones were not so opaque as the bones through which the Roentgen rays had to pass, and consequently could not be thus detected. Some oxalates could be thus detected, but it was phosphatic stones which were most opaque to the rays.

The discussion was participated in by Drs. Bangs, Fuller, Brewer, and the author.

Hysteria.—Treat the attack by mechanical irritation of the pharynx and nasal mucous membrane or by violent cutaneous excitation.—Clozier.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 28, 1896.

LANDON CARTER GRAY, M.D., PRESIDENT, IN THE CHAIR.

The Presidency of the Board of Health.—In the report of the *comitia minora*, it was recommended that steps be taken to have a hearing before the commission on the charter of the Greater New York, and urge that the new charter not only do away with the present discrimination against the medical profession in not permitting a doctor to hold the office of president of the health board, but that it make it obligatory to appoint a doctor to that position. After some discussion, participated in by DR. WARDEN and others, a resolution offered by DR. J. P. TUTTLE was adopted, empowering the president to appoint a committee of five to appear before the charter commissioners and urge upon them the importance of not discriminating against physicians as officers in the new organization of the Greater New York. Later, the president appointed Drs. Tuttle, Fisher, Brill, Murray, and Lewis.

Methods of Typhoid Bathing and an Analysis of the Result in Two Hundred Cases.—DR. J. P. THORNLEY read the first paper of the evening. It was based on 230 cases of typhoid at the Presbyterian Hospital, 1893–1895. Of this number 200 received the bathing treatment in some form, 48 of them the tub bath alone, 26 of them sponging alone. In describing the tub bath, friction by the hand of the nurse was mentioned as an important factor. The bathtub was narrow. It was rolled to the bedside and the patient was lowered into it by three persons. The extremes of the water temperature were 90° and 60° F. The patient was kept in the bath fifteen minutes, but in some instances a shorter period with a lower temperature was better than the full period with a higher temperature. The cases were analyzed with reference to the period of admission, stay, method of treatment, relapses, mortality, etc. Thirty-eight were admitted the first week of the disease—mortality, 7.8 per cent.; duration five weeks; 112 were admitted the second week—mortality, 7.4 per cent.; stay nearly six weeks; 38 were admitted the third week—mortality, 18.9 per cent.; stay seven weeks. Of the 48 who received the full bath alone, 3 died. Of 26 who were simply sponged, 4 died. When both tubbing and sponging were used, because of some special feature in the case, the mortality was about 13 per cent. The mortality for the whole number, irrespective of the method of bathing, was about 8 per cent. Up to the fourth week the percentage of complications was greater the later the cases were admitted.

Tub Treatment the Best Routine Treatment.—DR. W. P. NORTHRUP opened the discussion. Most of the cases mentioned in the paper had entered the Presbyterian Hospital during the months of his service. He believed the tub treatment of typhoid was the best for routine treatment. In the severe cases which had entered the hospital, it was the one thing which had done much to carry the patients comfortably through their sickness. He did not mean to say, however, that the tubbing was actually going to save the lives in a large percentage of severe cases. But it was urgently demanded, because it helped such patients to traverse pretty comfortably the weeks of continuous fever and made the prognosis better. He had seen mild cases get along well under sponging. But observers of epidemics could give us points which could not be squeezed out of hospital records, and he hoped those who had witnessed the Stamford and other epidemics would give their experience.

Experience at Roosevelt Hospital.—DR. W. H. THOMSON had seen sixty-one cases of typhoid fever in his service at Roosevelt Hospital in the fall of 1895 and 1896. Five of these subjects had died. One of these had lobar pneumonia when admitted; one died apparently of syncope after the typhoid ulcers had healed; three were admitted the third week, were delirious, and remained delirious until death. But in judging of the value of any treatment, the question of greatest importance was, what was the condition of the patient during the course of the sickness? Of the 61 subjects, only 11 were delirious, and 5 of these were delirious on admission. Number of cases of tympanites, 9; relapses, 4; hemorrhage, 4; no subsultus tendinum, no dryness of the tongue, no sordes. This absence of the classical symptoms of typhoid, as it was seen formerly, was attributed to the tub treatment and intestinal antiseptics. The patient was put into the tub as often as the temperature rose to 103° F. Every patient was given, every third night to the middle of the third week, five to ten grains of calomel with thirty-five grains of compound jalap powder; also, for every twenty-four hours, ten grains each of saccharated pepsin and subnitrate of bismuth. The diet consisted exclusively of equal parts of milk and lime water. He had no doubt that, with the intestinal antiseptics and the cold bath, the entire picture of typhoid had been changed.

DR. SIMON BARUCH remarked, regarding the tendency of the profession to make the bath mild for the patient, that he was convinced it was a mistake. Unless we followed Brandt's method strictly, we could not expect to get his perfect results. Dr. Baruch applied the method in every suspicious case of fever until the diagnosis could be made, and continued it in the cases proven to be typhoid. The temperature of the water was 65° F.; repetition in three hours.

DR. CHARLES E. QUIMBY mentioned a case in which the attending physician was trying to reduce the patient's fever by opening windows. It did not succeed, while tubbing did. He thought the explanation was that cold alone applied in that manner drove the blood from the surface capillaries to the interior, and tended to raise rather than lower the temperature. The tubbing brought the circulation to the surface and acted upon the nervous system. A few years ago leading men in the profession had opposed the Brandt method in this hall, while to-night no voice was raised in opposition. Dr. Baruch had convinced us of the efficacy of the method.

DR. THORNLEY closed.

Kidney Diseases in Relation to Disturbances of the Alimentary Tract.—DR. WILLIAM VISSMAN read the paper. It was customary to divide diseases of the kidneys into three classes—those affecting the epithelial lining of the tubules, those spending their force upon the interstitial tissues, and those affecting both epithelial cells and interstitial tissues. Clinically the diagnosis of the several classes was not unusual, but anatomically one seldom found the line of demarcation between the first two well defined. The blood-vessels of all organs of the body at times revealed the same type of lesions found in the blood-vessels of the kidneys. Post-mortem examination of the bodies of persons who had succumbed to kidney disease usually showed some lesion somewhere in the parenchyma of the alimentary tract. Naturally, the functions of these organs would be interfered with in proportion to the lesion. It was only necessary to refer to any epidemic of Asiatic cholera, in which many apparently healthy persons succumbed to the disease, to prove that they must have had some condition which interfered with the healthy function of the stomach, for the cholera spirillum could not stand the healthy secretions of that organ. Most people committed indiscretions of diet, taking food too hot, too cold, etc. The conse-

quences of such indiscretions were many. It was hardly to be supposed that one would always take sterile food, but it was reasonable to suppose that he would reject food containing pathogenic micro-organisms. The former, however, might not always prove harmless. A nourishing bouillon would be found sour and containing many micro-organisms after standing for a time in a glass. The same changes would take place in the alimentary canal if its physiological function were disturbed. According to the micro-organism would a certain well-defined disease be produced, such as cholera, diphtheria, etc. The constitutional effects on animals into which the germ products were injected varied more or less. In children suffering from summer diarrhœa, we saw symptoms of uræmia in mild degree, even coma and convulsions. Autopsy was likely to show kidney lesion, but generally nothing more than cloudy swelling of the parenchyma. Often cleansing of the bowel so mitigated the symptoms as almost to convince one that they had been due to absorption of something from the alimentary tract. That indican, which appeared in the urine under certain conditions, originated in the alimentary tract, was evident from the fact that it disappeared from the urine when that tract was thoroughly cleansed. It was also probable that some bacteria, including some of the non-pathogenic, entered the circulation and appeared in the kidneys and urine. Further, the product of dead bacteria might produce suppuration. It was only necessary to examine the kidney of a patient who had succumbed to an infectious disease to find proof of some of the facts mentioned. Cloudiness was seen, up to the most serious changes. The object of the paper, however, was to impress the close etiological relation of disturbances or lesions of some form in the alimentary tract to diseases of the kidneys. A great many persons suffered from slight damage of the alimentary canal without even suspecting it. Their urine might be pronounced normal, but careful examination at different times might show it to be highly acid and irritating, or give other evidences of not being normal. Persons supposing their bowels to be acting normally, might on close questioning be found to have two or three small passages a day, while there still were scybalous masses obstructing the bowel and constituting ideal lodging-places for bacteria. Perhaps these facts would account for the large number of cases of kidney lesions among commercial and professional men.

Dr. R. C. M. Page opened the discussion. The profession had not yet entirely freed itself of the false belief in the uræmic theory of the symptoms accompanying kidney disease. The three prominent factors were depreciated condition of the blood, irritability of the nerve centres, increased arterial tension. There were many evidences of certain symptoms being due to gastro-intestinal disturbance. For the convulsions he calmed the nerve centres by hypodermic use of morphine, and relieved arterial tension by the same use of Norwood's tincture of veratrum viride. Between the attacks much was to be gained by attention to the gastro-intestinal tract.

Dr. C. E. Quimby expressed gratification at the fact that Dr. Vissman had come to the same conclusion by pathological study that he had himself arrived at from clinical observation. We had all heard something of New England frugality. The history of one family there had taught him some new facts bearing on the discussion. The parents and all the children except one suffered in various ways from gout, rheumatism, tuberculosis, etc. That one son drifted from home to New York, dropped the frugal ways of his parents, ate plenty and drank some whiskey. He alone was free from headaches and various other symptoms. Malnutrition had something to do with this question. Arteries did not have to be hard to be more or less degenerated.

Dr. Thomas E. Satterthwaite said there was a class of cases in which he believed the intestinal contents actually poisoned the system. He referred to the condition in which there was diminution of pancreatic juice. He believed it had been shown that the pancreatic juice was antiseptic, and if it were absent from the intestine the fæces would be capable of poisoning the system. The fact had apparently been overlooked in text-books that there were many cases of enteritis, especially in children, which were followed by nephritis. Intestinal irrigation was very important.

Dr. H. D. Chapin had repeatedly seen cloudy swelling in the kidneys in fatal cases of enteritis in children.

Dr. Vissman said he had tried to impress the fact that there were a great many slight troubles along the alimentary tract, such as caused the patient apparently no inconvenience, yet which interfered slightly with nutrition. A great many of these people got up a very slight nephritis; they led a comfortable life for many years; the urine might show nothing unless examined at just the right time, perhaps just after considerable exercise, when some albumin would be found. At other times we might find only peptones. But such patients suffered some from malnutrition, and nearly all of them from some arterial degeneration. It was not necessary that the change extend to the point of causing calcareous degeneration. But the walls were thickened and weakened, which was the probable cause of so many cases of apoplexy in comparatively young men.

Report of Committee on Leprosy.—Dr. George B. Fowler, chairman of the committee appointed to report on the contagiousness of leprosy in New York City, and the importance of its segregation here, read the report. It said in part: Judging from experience in the past, whatever prospective danger there may be from this source (leprosy) it is not such as to create alarm, and is certainly not imminent. In regions where the disease is apparently on the increase through the development of new cases, it is a menace to the community and segregation may be justifiable and proper. To adopt the principle of segregation here, and apply it indiscriminately to all lepers, would be unnecessarily arbitrary. It would be on the part of the authorities who should carry it out tantamount to proclaiming the existence of a serious danger to the community when in reality the danger is slight, and by so much create an alarm which is unnecessary, and add to the popular prejudice against the disease and its victims that is already excessive. The indiscriminate enforcement of this treatment would entail great and unnecessary injury upon many lepers. There is reason to believe that under such treatment the disease would run a less favorable course. It lay with the discretion of the city authorities as to what should be done with indigent lepers. As all lepers were liable to become a public charge, it was recommended that they be excluded from our port, as far as possible. The report was signed by Drs. G. H. Fox, H. G. Piffard, E. B. Bronson, A. H. Smith, and the chairman, Dr. Fowler. It was accepted by the society without debate.

Special Committees.—The President appointed the following special committees: On the abuse of public charity, Drs. Chapin, Polk, Ball, Wiggin, Burtenshaw, Cole, Bullard, Hadden, Boldt, Rottenberg, Washburn. Legislative committee, Drs. Van Fleet, Roosa, Grandin, Nammack, Pryor.

Civil Service for Hospital Appointments.—Dr. F. R. Sturgis offered a resolution requesting the legislature to place hospital appointments in New York under civil service rules. It directed the counsel for the society to draft an appropriate bill. Dr. Grandin also spoke to the resolution, and it was adopted without opposition.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE POLLING FIGURES—A TRIAL FOR SLANDER—SIR C. BROWNE'S APPEAL—CURIOUS CASE OF AMNESIA—OPERATION FOR VIOLENT JACTITATIONS—RENAL TENSION AND OPERATIONS—CEREBELLAR TUMOR OPERATED ON—SIR W. MACCORMACK—BELFAST HOSPITAL MOVEMENT—HOSPITAL REFORM.

London, December 19, 1896.

A good deal of surprise is being expressed at the figures of the polling for the General Medical Council which have been officially published. With all the excitement in large places and with unprecedented electioneering tactics, the number actually voting seems to decrease with each election. It is strange that about half the electors should not have taken the trouble to fill up and post their voting papers. Out of 22,577 issued, only 11,990 valid papers were returned, though 237 invalid were sent in, of which 115 were not signed, 15 were quite blank, and the others irregular. These facts are curious enough, but it remains to add that the proportion voting on the three elections that have taken place has regularly declined. Mr. Brudenell Carter, who disapproves of "direct representation," has offered a further contribution in explanation, though with less than his usual taste and acuteness he attempts to belittle the position of the successful candidates and says they have no right to speak in the name of the profession, because a majority of the profession did not vote. If those elected by valid votes of 4,910, 5,369, and 6,646 respectively have not this right, how can Mr. Carter have such right, seeing he is only appointed by the governor and assistants of Apothecaries' Hall, a trading company, of which hardly a dozen members have appointed him? If I admit with him that direct representation, as now established, is a "farce," what is the proper word to apply to his own appointment? The real moral of the election is that the constitution of the council must be altogether changed before the latter can obtain the confidence of the profession.

A trial for slander between two doctors has occupied the law court for eight days and the jury has awarded £75 damages to the plaintiff. This painful case arose thus: The plaintiff attended a gentleman for indigestion and lithæmia. Later on appendicitis developed. The patient's brother, a doctor, came to see him from some distance, and seems to have said that it was no doubt appendicitis from the first and that the case was aggravated by erroneous diagnosis and treatment. The evidence was very contradictory and the jury was left to decide on which side the truth lay. It seems, however, a curious tribunal to which to submit many of the recondite medical questions which were brought forward. The trial will certainly not tend to increase the esteem of the public for the profession or to remove the belief that doctors always differ.

Another legal case is that of Sir Crichton Browne, whose appeal has been successful. You will remember a nurse sued him for refusing to put to a meeting over which he presided a resolution she had sent him. Her resolution was not sent in the manner required by the laws of the association. She was doubtless supported by a discontented set who wanted to get control of the association of nurses of which this was a meeting. The fact is, nurses have been so petted and flattered that many of them think themselves more important than doctors. If things are to go on in this way, we may soon be worse off than before the rise of the modern nurse, who, with all her excellences, does not always seem to "know her place."

A remarkable case of amnesia of eighteen years' duration, with the result of a necropsy, has occupied the attention of the Medico-Chirurgical Society. It was brought forward by Dr. Bastian, who has observed it at intervals since 1878. The voluntary speech was limited to a few words, but the man could repeat words he heard and understand what was said to him. He spent much time in reading and evidently understood what he read, but could not read a single word aloud nor write one from dictation, but could copy it when placed before him. At the post-mortem there was found complete atrophy of the convolutions supplied by the middle cerebral artery, extending inward so as to lay open the lateral ventricle—thus the region was occupied by a pseudo-cyst. The supramarginal and angular gyri had also disappeared, as had the posterior two-thirds of the upper temporal convolution. Dr. Bastian suggested that the atrophy of the convolutions occurred at an unknown period of the illness and that functional compensation must have gradually taken place from development of the corresponding opposite centres. Sir William Broadbent did not quite agree with this, and called to his aid two extra centres, viz., an idea centre and a propositionizing centre. Of course it is easy to imagine any number of centres, but until some evidence of their existence is offered beyond a suggestion to explain a single case the majority will be content to confess ignorance. The discussion of the case was adjourned, and at the last meeting Mr. Spencer Watson resumed it and remarked that number symbols differed from word symbols, as they were learned by rote, were related to touch, but never associated with emotion. The president, Dr. Dickenson, related a case in which there was remarkable separation of aphasia and agraphia, suggesting that the subject wrote with one side of the brain and spoke with the other. He was a left-handed man. The speaker alluded to the case of Dr. Johnson, who, it will be remembered, lost the use of speech but wrote as usual—in fact wrote Latin verse and a Latin letter to Dr. Heberden, and thus satisfied himself that he retained his intelligence. Dr. Bastian replied, after which Dr. Guthria described a case of violent jactitations of twenty-two years' duration, affecting chiefly the left arm and leg, but involving in a less degree the opposite limbs. At last trephining was done and the right motor area of the cortex removed. Paralysis of the left hand and arm followed, but lasted only a week, during which seventeen epileptic fits occurred. Symptoms of partial bulbar paralysis also occurred for several days. Normal action of the arm gradually returned, but jactitations soon supervened, and three months after the operation the case was just as it had been before. It was admitted that in severe cases, such as this, the possible advantages of operation are overbalanced by the dangers.

At the last meeting of the Clinical Society Dr. David Newman, of Glasgow, had an interesting paper on "Increased Vascular Tension in the Kidney as a Cause of Renal Pain, Hæmaturia, and Albuminuria." The causes of increased tension are, as he said, mechanical in some cases and in others morbid processes. He related four cases due to direct mechanical interference and three due to morbid conditions. The latter illustrated the benefit to the patient of relieving the tension even when, as in some of the cases, there did not appear on operation the condition anticipated. In the discussion on this paper, several cases were cited in which the kidney was cut down upon and even incised in search of a stone which did not exist, and yet the patients were greatly relieved. In one the speaker said his patient passed such a large amount of uric acid after the operation that the urine was almost solid

on cooling. It was suggested that in these cases manipulations of the kidney might dislodge uric acid which blocked the tubules. At any rate, it is well known that patients have lost their suffering after these operations. The president, Dr. Buzzard, grimly congratulated surgeons, as they seemed to relieve patients even when they operated on mistaken diagnosis.

The president made another *bon mot* in the evening, in commending another surgeon for waiting a year and a half before bringing forward his case, as surgical cases improved by keeping, like wine. This case was one of cerebellar tumor removed by Mr. Parkin, of Hull, from a child of four years. A portion of each lateral lobe and the posterior part of the middle lobe were excised. The tumor was of a gliomatous nature. Up to date there has been no return of the symptoms. The child has had whooping-cough and measles since the operation, but now remains quite well.

A case of excision of the cæcum for colloid cancer also occupied the attention of the meeting.

Sir W. MacCormack may be considered convalescent, as he has been out for drives.

Belfast is going in for a new hospital to celebrate the Queen's long reign. The lord mayor has contributed largely and the wealthy citizens are following the example. Lord Dufferin at a meeting on the 9th inst. made an excellent speech on the use of hospitals.

Mr. Garrett Horder, founder of the Hospital Reform Association, delivered a most interesting address recently at Manchester, in which he traced the history of the movement in favor of the reform he is so powerfully advocating.

OUR PARIS LETTER.

(From our Special Correspondent.)

DEATH OF PROFESSOR STRAUS—LEAGUE AGAINST ALCOHOLISM—SUBSTITUTION OF FEMALE FOR MALE EMPLOYEES IN GOVERNMENTAL DEPARTMENTS—CONGRESS TO PROTECT AND INCREASE THE POPULATION OF FRANCE—DANGER OF DEPOPULATION—THREE NEW HOSPITALS FOR CHILDREN—PROFESSOR BOUCHARD'S NEW APPLICATION OF X-RAYS—THE "CHEMICAL DISEASE"—DR. ROUX'S DECORATION—PROFESSOR DIEULAFOY AT THE HÔTEL DIEU—HIS BOOK, ETC.

PARIS, December 28, 1896.

THE Faculty of Medicine and corps médical of the Parisian hospitals have just met with another loss in the person of Professor Straus. We had hardly recovered from the shock caused by the sudden demise of Professor Hanot, when Straus fell almost as suddenly. Professor Straus' more intimate friends had known for some time past that he was a martyr to angina pectoris and it was an attack of that dreaded disease that caused his death. His colleagues, students, and friends were devoted to him. He was one of the most esteemed professors at the Faculty of Medicine and his course of lectures on bacteriology always one of the most crowded. His works on charbon (carbuncle or pustule maligne), tuberculosis, and cholera need no encomium; their author was a patient, careful worker, and his contributions to science were of the highest order.

A national league against alcoholism has now been formed, and it is to be hoped that the effect of the league upon this ever-increasing evil will be practical as well as moral. On Sunday a meeting of the league took place in the grand amphitheatre of the "ecole pratique" of the Faculty of Medicine, presided over by Professor Brouardel, dean of the faculty. Professor Laborde proved by experiments the toxic effects of alcohol and the essences used in the preparation of apéritifs (or drinks before dinner having an aperient action the following morning) and absinthe. He was followed by Dr. Legrain, who pointed out the deleterious effects of alcoholism on the individual and his descendants, demonstrating by tables the frightful progression of the consumption of alcohol and the baneful consequences resulting therefrom. Dr. Philbert, after thanking on behalf of the league the president and speakers, closed the meeting by an appeal to the public to give their support to this great and good work.

The substitution of female for male employees has been made in several of the governmental administrations, for instance, in the postal and telegraphic departments, and one point that touches medicine directly is to know which of the two sexes is most subject to lighter ailments and in consequence to absence from service. It would seem that the women have largely the disadvantage of the men in this respect. The following figures are taken for one year and show that the average of absences for cause of the milder forms of disease have been 19.2 days for the men and 33.5 days for the women; in other words, 17.4 days of indisposition for the women against 100 for the men. This is a much higher average, as far as the women are concerned, than in either Switzerland or Great Britain, the average in the latter country being 154 for the women and 100 for the men.

The second congress to protect and increase the French population is now in progress and will continue its daily sittings until December 20th inclusive, under the auspices of many notabilities and the French branch of the Alliance of Learned Men and Philanthropists, the presidents of honor being the ministers of the interior and of public instruction. The object of the congress is to enlighten the French people upon the gravity of the situation and to stimulate them to put into practice propositions capable of immediate application, the Alliance of Learned Men and Philanthropists considering it an imperious duty to raise a cry of alarm and to tell patriots the whole truth in order that they may take steps to prevent France from perishing and may hold the country in respect before its enemies. Blinded by past glories and present prosperity, considering France the first country in the world, they lose sight of the fact that in Europe France is the country where the fewest children are born and where the most die, and if that continues the result will be that the neighboring nations, which increase more and more, will surround France like so many wild beasts ready to devour her.

The society or alliance seems to think the danger can be averted, or at least attenuated, and hence the congress has been called in order to act in the matter before it is too late.

The following are some of the subjects that will be discussed: "Extension or Increase of Nuptiality and Natality," by M. Levasseur of the Institut: "Increase of Natality," under the presidency of Dr. Dumontpallier of the Academy of Medicine;" "Protection of Maternity," by M. Alfred de Foville, of the Institut: "Protection of Children in the First Years of Life," by Dr. Théophile Roussel, of the Institut, senator: "Protection of Children of All Ages," "Protection of Adults," etc.

At the final sitting on Sunday, December 20th, Dr. Charles Richet, the eminent professor of physiology, will endeavor to devise the means of adopting the views of the congress and of putting them into practical working.

Absinthe drinking, cigarette smoking, abortion, preventing conception, prostitution, and mistress keeping are evils too firmly rooted in France to be swept away by any set of resolutions or by the action of any congress or leagues—to say nothing of the fact that, as

things exist to-day, young men are actually discouraged from matrimony. Dr. Bertillon's remedy is to tax households without children. The object is certainly praiseworthy, but the task, alas! that of sweeping out the Augean stables.

The increase in the number of sick and weakly children has warranted the transformation in the near future of the Hérold Hospital into a children's hospital. In addition to this transformation two other hospitals will be constructed, one in the Rue Michel-Bizot, the other in the Rue Etex, both for children.

These facts add strong confirmation to the assertions made in the congress, and are exactly what might be expected as a result of existing causes already referred to.

An extremely interesting clinical application has been made by Professor Bouchard with the famous Roentgen rays. He has shown us a series of radiographic proofs that in their way surpass anything that has as yet been done with the rays, at least in so far as the practice of medicine is concerned. The proofs of the first series give perfectly delineated images of a pleuritic effusion at the different stages of its resorption. In one of them, in which the pleurisy is complicated with an intercurrent complication, the induration at the summit of the lung is distinctly and clearly marked.

The proofs of the second series have reference to tuberculosis, giving the photographs of the thoracic cages of a number of patients affected with pulmonary tuberculosis. The presence of two caverns diagnosed by auscultation and percussion is confirmed in a most remarkable manner, as are also other lesions.

Enough has been said in this brief note of Professor Bouchard's valuable and new contribution to science, to show from a clinical standpoint what immense services the *x*-rays are destined to render in confirming the diagnosis made by auscultation and percussion, not only in cases of pleurisy but also in pulmonary tuberculosis and pneumonia, more especially in the stage of hepatization.

We may look for still further interesting results shortly in this field, as Professor Bouchard assures us that he intends to prosecute his studies with the radiograph in other diseases as well.

The "chemical disease" is a new name given to an old malady that is just now raging in France, in a form bordering on the epidemic; endemic it most assuredly is, and that to an alarming degree. We refer to phosphoric necrosis, which is playing havoc with the workmen engaged in the manufacture of matches, to such an extent that the government has called the Academy of Medicine to the rescue.

It is curious, however, that it is only in France that the disease is so flagrant, so tenacious, and so deep-seated; for instance, of two hundred and thirty workmen recently examined by Drs. Vallin, Magitot, and Monod in the great manufactories of matches at Aubervilliers and Pantin, in the environs of Paris, only seventy could be passed as absolutely valid; one hundred presented symptoms of more or less gravity. All of them required careful and specific treatment. In addition to this, thirty more were put on the invalid list.

It is the white phosphorus that is so highly toxic, and the problem to solve is how to exclude this dangerous component from the fabrication of matches and produce a match in other respects equal to those with, say, permanganate or chlorate of potassium as a basis.

It will be remembered that by a decision of the Academy of Medicine the antitoxin prize of 25,000 francs, known as the "Saint Paul prize," was to be evenly divided between Dr. Behring, of Berlin, and Dr. Roux, of Paris, the present director of the Institut Pasteur. In accordance therewith, on the 15th of December the prize was officially awarded, and on that very day arrived a dispatch from His Majesty the Emperor William of Germany, conferring upon Dr. Roux the Order of the Crown. *Noblesse oblige.*

Dr. Dieulafoy, the distinguished professor of internal pathology, was not long ago transferred from the Necker Hospital to the Hôtel Dieu. A clinical professorship at the Faculty of Medicine of Paris with a service in the Hôtel Dieu is considered the highest and most coveted medical or surgical position. Professor Dieulafoy's manual of internal pathology is just beginning its sixth edition. Revised and enlarged, it has grown from two volumes to three, with fifty-nine drawings and seven colored plates. It is now a veritable treatise of medicine, being at the same time a marvel of precision, exactness, and exposition, in accordance with the advanced science of the present day. The book has always been as popular with doctors and students as the author himself. Dieulafoy is a universal favorite, whether in the lecture room, at the hospital, or in private practice.

WHAT MOSES KNEW ABOUT LEPROSY.

To the Editor of the Medical Record.

Sir: Just now, when considerable is being said regarding lepers and leprosy, I would like to call your attention to the manner of diagnosis—that is, the way that the Lord told Moses to inform the priests so that they might be able to make a proper one:

When the hair in the plague is turned white, and the plague in sight is deeper than the skin of his flesh, it is a plague of the leprosy.

If the bright spot be white and not deep in the skin, nor the hair turned white, why then the priest is to shut him up seven days. At the end of that time he is to look him over again, and if the spot be somewhat dark and spread not, the priest shall call him clean. It is but a scab, and he shall wash his clothes and be clean. If the priest see that the scab spreadeth in the skin, then he shall pronounce him unclean, for it is the leprosy (Lev. xiii.).

Chapter xiv. 40–45 says the Lord spake unto Moses about the cleansing of leper houses, and commanded the priests to take away the stones, to scrape the house within, and pour out outside the city into an unclean place the dust that they scraped off, to put in new stones and mortar, and plaster the house again. If the plague broke out after all this had been done, he was to break down the house, the stones and the timbers and the mortar, and cart them all away out of the city.

Some first-rate authorities do not consider this a contagious disease, but the above vigorous measures show pretty clearly how Moses viewed it thirty-five hundred years ago, and he had good authority to back up his statements.

Do any of your subscribers ever read the Bible? If so, they will find very interesting reading round about Leviticus xiii., xiv., xv.

H. R. Porter, M.D.

Bismarck, North Dakota.

CATAPHORESIS IN TUBERCULOSIS.

To the Editor of the Medical Record.

Sir: I noticed in a recent number of the Medical Record that a committee had been appointed by the Paris Academy of Science to investigate an alleged cure for consumption practised by Dr. Crotte. The item briefly states that: "The method comprises the use of electricity and antiseptics, the electricity being employed to open the way for the parasiticide."

This may or may not be the same idea which I have been working upon in a small way since last June. I

use the continuous galvanic current, and medicate the positive electrode. Having made the diagnosis and located the diseased area, I place one electrode upon the front and another upon the back of the chest, with the affected portion of lung between them, using electrodes of at least six inches in diameter. Pieces of wire gauze well padded with absorbent cotton make good electrodes for the purpose. Upon the moistened cotton of the positive electrode I sprinkle a solution of iodine and iodide of potassium, and use a current of about twenty milliampères for fifteen minutes. I find that quantity is about all the patient will bear, on account of the pain which comes with a stronger current. The treatments have been repeated every second day at first, and at longer intervals later.

I have used the treatment in six undoubted cases of consumption, and though the time has been too short to make any positive deductions, I must say I am greatly impressed with the results obtained. Two express themselves as cured, and appear to be. The others are much improved, with the exception of one little patient, who was so frightened that the parents desisted from the treatment. Whether the results are due to cataphoresis, the iodine reaching the diseased tissue and acting as an antiseptic, or to the antiseptic effect of the continuous current, or to both, I do not pretend to say. Further experiment would determine that point.

N. H. Williams, M.D.
Jackson, Mich.

LINEAR ELECTROLYSIS FOR STRICTURE.

To the Editor of the Medical Record.

Sir: In your issue No. 20, of November 14th last, you published an article by Dr. Ramon Guitéras, of New York. In speaking of operating for stricture by means of my linear electrolyzer, Dr. Guitéras makes a few errors which I beg to correct, in order that your readers may thoroughly understand the operation in question. Dr. Guitéras states that:

1st. I have only recently invented the electrolyzer.

2d. That it resembles the Maisonneuve urethrotome.

3d. That the operation lasts from thirty seconds to four minutes.

4th. That after the operation the urethra will admit an 18 F. sound.

5th. That the stricture can be still further enlarged with the Otis urethrotome.

Permit me in a few words to show that the writer has not fully understood my method.

1st. I invented and have been using the electrolyzer for the last fifteen years, or in other words since 1881.

2d. The electrolyzer does not resemble the Maisonneuve urethrotome, the latter being composed of three separate pieces which adjust themselves during the operation; the former is composed of one single piece, and resembles a small whip from which, toward the centre, a platinum blade projects. The practical value of the instrument is at once apparent in the fact that it is composed of but one piece. The metal end acts as a conductor for the electric current which is applied to the platinum lance, and, as the latter is placed in contact with the stricture, there is no posibility of error or laceration.

3d. The operation, as a rule, lasts from twenty to thirty seconds. It should not last longer than a minute, and if it does the current should be stopped and a urethrotome used. An operation which lasts four minutes is worthless. In 1893 in a paper which I had the honor of addressing to the Academy of Medicine of Paris, I demonstrated from operations performed that there were five or six soft strictures for every hard one.

4th. In place of passing an 18 F. sound after the operation, as a rule 22, 23, or 24 F. can be used.

5th. In regard to making further enlargement afterward by means of the Otis urethrotome, such a statement is directly contrary to the principles taught by me in the use of the electrolyzer.

My sole idea in perfecting the electrolzyer was to avoid bloody operations and the use of urethrotomes, on account of their danger, from which my method is entirely free.

If under such circumstances the Otis urethrotome is used, it places the patient, who has already undergone one harmless operation and then a second dangerous one, in a state of danger. Such action would stamp my method as inferior, in fact, as preliminary to the use of the Otis urethrotome.

I must protest against such a statement, which is entirely incorrect. My electrolyzer cures equally well and better than urethrotomes, and is amply sufficient in itself.

Dr. T. A. Fort.
31 Rue François Premier, Paris.

CATARRHAL SALPINGITIS.

To the Editor of the Medical Record.

Sir: In your issue for December 19th, Dr. Adelaide Lambert makes some strictures upon Case III. reported in my article on "Catarrhal Salpingitis" in the Medical Record for November 21st. She states that she fails "to see that he proves Case III. to be one of catarrhal salpingitis." There is nothing surprising in this failure, but what is surprising, nay, even inexplicable, is that she also fails to see that the case was not reported as one of catarrhal salpingitis at all, but as an instance of general peritonitis from an obscure cause which was mistaken for acute appendicitis. To quote from my article: "The next case (Case III.), though strictly not belonging to the disease (catarrhal salpingitis) under consideration, affords another striking example of how a general peritonitis, in some obscure way depending upon the generative organs, can be mistaken for an acute appendicitis." The case was reported in illustration of the difficulties frequently encountered in the diagnosis of abdominal affections, and to serve the purpose of teaching a lesson which often can be more forcibly done by our errors than by our successes.

To those who know medicine from observation at the bedside, the error, which was also shared by two eminent consultants, will appear excusable; to the others I make no explanation, as they would fail to understand it. The several questions the doctor asks show further that she read the article very carelessly and superficially. "What benefit did she receive from the operation?" The benefit that accrues from treatment that aims to be based on knowledge and not on blind chance by giving medicines haphazard. A careful reading of the history of the case will convince one that the symptoms justified an exploratory incision. I can safely assert this was attended by fewer dangers and ill effects than the administration of a powerful purgative would have been. To another question put, I can only answer that she did receive "the same treatment before the operation as she did when her life was despaired of."

The premature birth of the child had nothing whatever to do with the operation, for in the first place the child was not born spontaneously. When the abdominal distention grew more and more intense and threatened life by interfering with breathing, labor was induced, and finally manual dilatation was done and the child extracted, as is clearly recorded in the paper. Under the circumstance I should have been only too glad had the exploratory laparotomy been followed by spontaneous expulsion of the child. From a close observation of the case at the bedside, and from sub-

sequent thought and study, the conviction has been gained that the peritonitis and partial obstruction of the bowels were due to the gravid uterus pressing against the sigmoid flexure, producing an incomplete occlusion of its lumen. Had the uterus not been emptied when it was, the vomiting would soon have become stercoraceous (it already had a suspicious odor) and the end would not have been far off. The critical condition following the emptying of the uterus was, no doubt, due in part to the shock attending the procedure and in part to the preceding peritonitis, which did not immediately subside on the removal of the cause.

The doctor saw nothing alarming in her condition as reported. I admire and envy the doctor's temerity. As for myself I must confess to a certain degree of timidity, and when a patient, pregnant or not pregnant, presents the symptoms of general peritonitis and has a temperature of 104.8° F., a pulse varying from 170 to 180, I must own to a feeling of considerable anxiety.

From what has gone before, it will readily be seen that I entirely agree with my critic when she says "the case was just as good an illustration of the mania for operating as of catarrhal salpingitis."

Now for a few general remarks to my critic and to future ones of that ilk. Before assuming the rôle of censor and mentor, the critic ought in justice to the author and the readers of the MEDICAL RECORD peruse the article carefully and with a modicum of discernment. Had the critic in this instance followed this very obvious course, the author would have been saved some trouble and the readers of the MEDICAL RECORD some confusion of thought and waste of time. My critic, like many others, has caught upon a phrase, "the mania for operating," and flings it at random in place and out of place, as chance may have it.

The whole tenor of the article which she criticises is strongly against indiscriminate operating, and in the three cases reported in full only one patient was subjected to operative interference, and that only after due thought and consultation with as able counsel as this city affords.

HIRAM N. VINEBERG, M.D.
127 EAST SIXTY-FIRST STREET, NEW YORK CITY.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 2, 1897:

	Cases.	Deaths.
Tuberculosis	201	100
Typhoid fever	19	7
Scarlet fever	127	8
Cerebro-spinal meningitis	2	2
Measles	132	5
Diphtheria	240	35
Laryngeal diphtheria (croup)	15	4
Chicken-pox	18	0

Hard Lines for an American Doctor.—A singular verdict was returned by a jury at the London sheriff's court last week in a libel action, remitted from the high court. The plaintiff, Mr. Ferdinand, is an American doctor, practising in Chelsea. The defendant, Mr. Richard Brown, is a medical man in Peckham. These gentlemen apparently are rivals and have on various occasions addressed audiences on medical—and personal—matters in public places. It seems that the defendant in some of his public utterances characterized the plaintiff as a fraud and a liar, and stated that he had killed a woman by his treatment in three weeks. For this serious libel the plaintiff claimed £2,000 damages. Judgment went against the defendant by default in the high court, and it became the task of a jury in the sheriff's court to fix the damages. The jury awarded the plaintiff just 5*s*. It would be interesting to know the mental process by which this result was reached. Of course, it has to be kept in view that the jurors see the witnesses and hear their evidence, and so are in a favorable position for estimating the rights and wrongs of a case. But, after every allowance on this score has been made, the verdict still bears an ugly resemblance to a miscarriage of justice.—*The London Standard.*

Hysterical Polyuria.—Most instances of simple polyuria or of diabetes insipidus belong to the class of hysterical polyurias. The term diabetes insipidus is destined to disappear from medical nosology. Hysterical polyuria exists either alone or associated with stigmata of hysteria, or with psychical or physical stigmata of degeneration. Chloruria would seem to be a constant sign of this form of polyuria. Suggestion holds the first place in diagnostic and therapeutic importance, but valerian and hydrotherapy also influence this condition.—KOURILSKY, *Thèse de Paris*, 1896, No. 383.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE PRACTICE OF MEDICINE. By James Tyson, M.D. 8vo, 1,184 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $5.50.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Twenty-sixth annual convention, June, 1896. 8vo, 448 pages.

REFERENCE OF PRACTICAL THERAPEUTICS BY VARIOUS AUTHORS. Edited by Frank P. Foster, M.D. In two volumes. Volume I. 8vo, 652 pages. D. Appleton & Co., New York.

A TEXT-BOOK OF BACTERIOLOGY. By Edgar M. Crookshank, M.B. Fourth edition. 8vo, 715 pages. Illustrated. H. K. Lewis, London. Price, 21*s*. net.

A TREATISE ON THE SURGERY OF THE ALIMENTARY CANAL. By A. Ernest Maylard, M.B. 8vo, 724 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $7.50.

DISEASES OF THE STOMACH. By Max Einhorn, M.D. 8vo, 478 pages. Illustrated. William Wood and Company, New York. Price: muslin, $3.50; flexible morocco, $4.25.

COMPRESSED-AIR ILLNESS, OR SO-CALLED CAISSON DISEASE. By E. Hugh Snell, M.D. 8vo, 251 pages. Illustrated. H. K. Lewis, London. Price, 10*s*. 6*d*.

THE SEQUELS OF DISEASE. By Sir Dyce Duckworth, M.D. 8vo, 227 pages. Longmans, Green & Co., New York. Price, $3.50.

THE DISEASES OF THE MALE URETHRA. By R. W. Stewart, M.D. 8vo, 221 pages. Illustrated. William Wood and Company, New York. Price: muslin, $2.50; morocco, $3.25.

THE A B C OF THE X-RAYS. By William H. Meadowcroft 12mo, 189 pages. Illustrated. The American Technical Book Company, New York.

THE PRINCIPLES OF THEORETICAL CHEMISTRY. By Ira Remsen. Fifth edition. 12mo, 326 pages. Lea Brothers & Co., Philadelphia, Pa.

THE PROFESSION OF MEDICINE. By Charles West, M.D. 12mo, 115 pages. Kegan, Paul, Trench, Trübner & Co., London.

SIR JAMES Y. SIMPSON. By Eve Blantyre Simpson. Famous Scots Series. 12mo, 160 pages. Charles Scribner's Sons, New York. Price, 75 cents.

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Original Articles.

RESECTION OF ARTERIES AND VEINS INJURED IN CONTINUITY—END-TO-END SUTURE—EXPERIMENTAL AND CLINICAL RESEARCH.

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THE idea of suturing an artery after it had been injured was conceived by Lembert, and a case is reported by Broca in 1762 in which suture of a longitudinal incision of an artery was successfully made. Assmann in 1773 treated of it in a dissertation at Gröningen. The latter made two experiments on animals; both resulted unfavorably through an obliterating endarteritis. He then abandoned the work. Henry Lee, of London, in 1865 made some experiments with puncture to ascertain how large an opening could be made without fatal hemorrhage, and described the method of repair in arteries without suture; Beale made an extensive microscopic examination of Lee's specimens, giving the pathologic histology of repair.[1] In 1883 Gluck reported nineteen experiments with arterial suture, but in all of these cases his efforts were futile, because he was unable to control the hemorrhage from the needle punctures through which the suture was introduced. He also devised aluminium and ivory clamps for the purpose of uniting longitudinal incisions in the vessel, and succeeded with the ivory clamp in one experiment on the femoral of a large dog.[2] Von Horoch, of Vienna, had thrombosis in six experiments, including one end-to-end union (1887). The most extensive and indeed the only work of true merit performed in this line was by Dr. Alexander Jassinowsky, of Odessa. His first paper was read in Dorpat in 1889; his second was published in *Langenbeck's Archiv*, 1891. Bruci in 1889 sutured six longitudinal incisions in arteries of dogs, and was successful in four. Tansini, of Modena, in 1890 endeavored to close the arteries by absorbable horn clamps. Muscatello successfully sutured a one-third division of the abdominal aorta in a dog. Heidenhain, May 28, 1894, closed by catgut suture an opening in the axillary artery one centimetre long, which was accidentally made while removing adherent carcinomatous glands. The patient made a good recovery; circulation in the extremity was not disturbed. In the same year, 1894, Robert Abbe made some very interesting and instructive experiments, placing sterilized glass tubes in vessels with the intention of uniting them and re-establishing the circulation.[3] Von Zoege-Manteuffel in April, 1895, operated on an arterio-venous aneurism in Scarpa's triangle. He wounded the common femoral and made a successful lateral suture of the wall.[4] J. Israel, in discussing Gluck's paper, mentioned that he had closed the common iliac, which had been torn for two-thirds of its circumference in an operation for a perityphlitic abscess, by inserting five fine silk sutures through the entire wall of the vessel.[1] It does not seem possible from my observations experimentally, that two-thirds of the circumference of a vessel of the size of the common iliac could be closed with five sutures and have the seam blood proof. Heidenhain endeavored to accomplish the closure of arterial wounds in the carotid of dogs by suture but failed. Sabanyeff, of Odessa, successfully closed a small opening in the femoral artery with suture, in 1896. Billroth, Schede, Braun, of Koenigsberg, Schmidt, and others successfully sutured wounds in veins, and the closure of wounds in veins by suture is now an accepted surgical procedure. I recently closed an opening three-eighths of an inch long in the common jugular with five continuous silk stitches. Small openings in veins have frequently been closed with lateral ligature. I cannot find recorded a case in which an artery has been sutured after complete division.

For the purpose of determining whether this were practicable, and whether a considerable portion of the artery could be resected, I have performed the following experiments:

EXPERIMENT No. 1.—March 4, 1896; male dog, weight forty pounds. An oblique incision dividing one-third of the circumference of the left common carotid was made and closed with a continuous silk suture penetrating all the coats of the artery: only a small portion of the artery was denuded. There was some hemorrhage from needle punctures after the clamps were removed, which subsided rapidly under digital pressure; the wound was closed. The dog showed no unpleasant symptoms after the operation. There was a slight swelling on the left side, which lasted about a week.

Post-mortem, March 25th, twenty-one days after operation: There was some new-formed connective tissue at the seat of operation. The sutures were not infected; the calibre of the vessel was only slightly diminished. The silk was covered and could be seen under a thin layer of exudate from the inner side of the vessel. There was no thrombosis. The intima had been fractured by one of the clamps, at which point it was rough and somewhat thickened.

EXPERIMENT No. 2.—March 4, 1896: dog, weight fifty pounds. The right common carotid was exposed and opened by a longitudinal incision of one-third of an inch. The opening was closed by interrupted sutures involving all the coats. There was some hemorrhage after the clamps were removed, which ceased after a digital pressure of two minutes' duration. The external wound was closed with silkworm gut.

Post-mortem was made March 25th, twenty-one days after operation. There was considerable exudate around the position of sutures, but the sutures were not infected. The wall of the vessel was thickened on the side of the suture. The calibre of the vessel was diminished one-third; the suture was not exposed in the vessel; it was covered with a deposit. There was no thrombus. There was some roughening of the intima at the position where the clamps had been placed.

EXPERIMENT No. 3.—March 7, 1896: hunting-dog, weight about fifty pounds. The left femoral was ex-

[1] The Transactions of the Medico-Chirurgical Society, vol. L., p. 477.

[2] Langenbeck's Archiv, 1883.

[3] New York Medical Journal, January 13, 1894.

[4] Berliner klin. Woch., No. 34, 1895.

[1] Berliner Cent. für Chir., December 7, 1895.

posed and an incision one-half inch long was made in its wall; it was closed with a continuous silk suture; vessel one-eighth inch in diameter. The vessel was clamped with eight-inch Billroth forceps covered with rubber, care being taken not to compress the artery sufficiently to injure the intima. There was no difficulty in producing an accurate approximation of the margins of the wound with silk suture. A very slight hemorrhage took place through the needle holes after

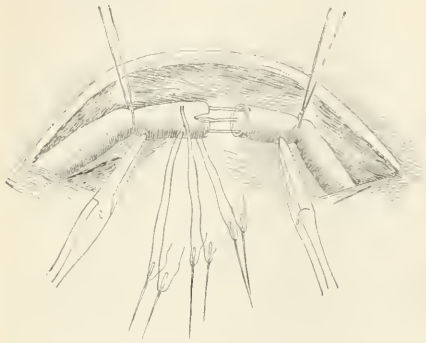

Fig. 1.—Shows Method of Inserting Sutures to Produce Invagination.

the clamps were removed, which ceased in less than a minute. The external wound was closed with silkworm gut.

Examination of left femoral, March 15th, eight days after operation: Union, no hemorrhage, no suppuration; the vessel was completely thrombosed.

Experiment No. 4.—Same day, same dog. Invagination of right femoral after complete division. Two double needled silk sutures were used to draw the intussusceptum one-third of an inch into the intussuscipiens, as shown in Fig. 1. Several interrupted sutures bind the end of the intussuscipiens to the circumference of the intussusceptum (Fig. 2).

Examination, March 15th, eight days after operation: There had been no hemorrhage from the vessel. A slight infection had taken place around the seat of operation. The artery was thrombosed.

Microscopic examination showed the lumen filled with a red thrombus and the wall to consist of two distinct muscular layers, both diffusely infiltrated with round cells. The lumen was very small and the wall very thick.

Experiment No. 5.—March 11, 1896; dog, weight sixty pounds. Large head and neck. Resection of three-fourths of an inch of right common carotid. The proximal end was invaginated with three silk sutures; several sutures penetrating the adventitia and media were used to secure the end of the intussuscipiens to the periphery of the intussusceptum. The sheath was sewed over the vessel. The adventitia was separated from the media on either end. The Billroth clamp forceps were used to suppress the hemorrhage.

Post-mortem, April 15th, thirty-five days after operation: Some periarteritis and adhesions existed. The sutures in the skin had suppurated. The area around the vessel was not infected; there was but little contraction at the position of approximation.

Microscopic examination: There was some thickening in the wall. The thickening in the media was more pronounced than in the intima; the process was not progressive. There was nothing to indicate that the artery would not have remained patulous. The wall of the artery showed no evidence of injury by the clamps.

Experiment No. 6.—March 11, 1896; left common carotid in same dog as in Experiment No. 5. Resection of one-half inch of artery. End-to-end suture without invagination. The suture penetrated all the coats; it was continuous and contracted the artery considerably at the line of approximation. It was made with two needles on one thread and a continuous figure-of-eight stitch. There was a little hemorrhage from the needle holes after the sutures were placed. This subsided under a sponge pressure of two minutes' duration. The sheath was not sutured around the vessel. Clamps were the same as used in Experiment No. 5.

Post-mortem, April 15th, thirty-five days after operation. The wound was suppurating down to the artery. A pocket of pus existed deep in the neck. All of the arterial sutures were exposed in the bottom of the wound. The artery was thrombosed.

Microscopic examination: The artery presented just the opposite condition from its fellow on the left side, described above. The intima was very much thickened and was rapidly obliterating the tube. The histology was that of organization of clot; connective tissue cells and blood-vessels were taking the place of coagulated blood. The media was likewise somewhat inflamed. There was some inflammation along the lymphatics and adventitia, and there were numerous foci of infection. The case was a typical infective endarteritis with formation of coagulum.

Experiment No. 7.—March 15, 1896; dog, weight forty pounds. Longitudinal incision in the right iliac, five-eighths of an inch in length, was closed with a continuous silk suture including all of the coats of the artery. Five days after the operation a very marked swelling appeared at the position of suture and blood began to ooze from the line of union. The dog was again anæsthetized, the cutaneous sutures were removed, the margins of the wound were separated. A clot about the size of a hen's egg was carefully elevated, decomposed. There was an absence of union of the wall of the vessel, and when the clot was removed profuse hemorrhage ensued. A ligature was placed above and below the incision in the artery and that portion of the vessel excised. The cause of the non-union of the vessel in this case, I believe, was infection. There was no clot in the artery.

Experiment No. 8.—March 18, 1896; dog, weight

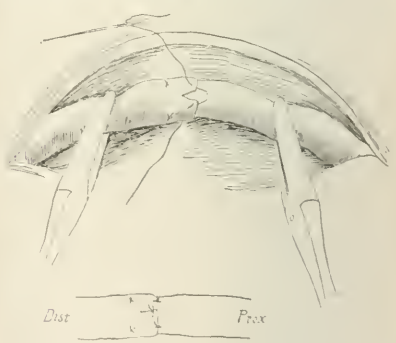

Fig. 2.—Shows Method of Inserting External Sutures.

thirty pounds. A longitudinal incision one-half inch long was made in the abdominal aorta, which was closed with a continuous silk suture including all the arterial coats. A slight hemorrhage occurred through needle punctures after the clamps were removed, which ceased on one and one-half minutes' digital pressure. No effort was made to cover the line of suture with adventitia or peritoneum.

The dog died March 28th. Post-mortem: Retro-

peritoneal abscess around artery. Complete occlusion of calibre of artery. General suppurative peritonitis was the cause of death.

Experiment No. 9.—March 26, 1896; dog, weight sixty pounds. Invagination of left carotid by three double-needled threads attached to the intussusceptum and interrupted silk suture of the intussuscipiens involving only the tunica adventitia and media of the proximal side.

Post-mortem, April 25, 1896: Left common carotid surrounded by considerable exudate and suppuration around one of the cutaneous stitches. A small sinus led down to one of the sutures at the position of approximation. The vessel wall was considerably thickened at the line of union, as shown in Fig. 3. The vessel admitted a considerable stream of water through it immediately after its removal. It was somewhat dilated on the proximal side. The collateral branches were enlarged.

Microscopic examination: Most evidence of endarteritis at 3 and 4 (Fig. 3). Much of the tissue between 2 and 5 seemed accidental. The invaginated walls could be outlined, but the line of demarcation between them was scarcely discernible. The connective tissue around the artery showed a large number of blood-vessels and a cross section of a nerve of considerable size. There was a small amount of inflammation of the vascular and lymph channels at that point. In the adventitia there was a violent acute inflammatory process, with foci which resembled those of suppuration. The showing in the media was the same as in the right carotid. In the intima the process was still more violent. The inner elastic lamina was so broken up as to be unrecognizable.

Experiment No. 10.—Same dog as in Experiment No. 9, same day. Resection of one-half inch of right carotid. Adventitia peeled back. Three double-needled sutures were attached to the intussusceptum and put through the intussuscipiens from within outward, invaginating the intussusceptum one-third inch; then sutured the intussuscipiens to the periphery of the intussusceptum, as shown in Fig. 2. The sheath of the artery was sewed around it; the adventitia was not sutured.

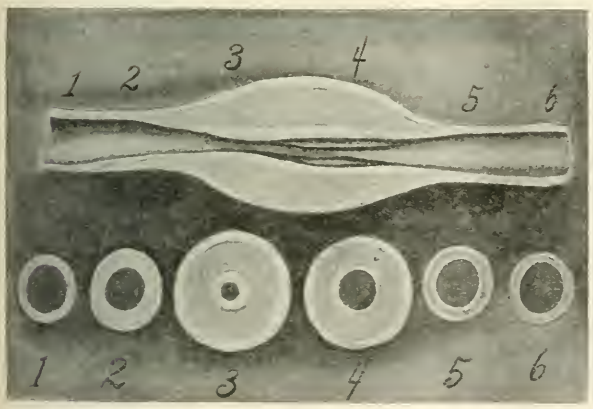

Fig. 3.—Shows the Diminution of Lumen of the Vessel with Thickening of the Wall, form Experiment No. 9.

Post-mortem on right carotid, April 25th, showed no suppuration around the artery; considerable inflammatory exudate; artery enlarged at position of invagination, as shown in Fig. 4. Nerve and vein involved in exudate. Vessel admitted a stream of water about one-half its normal diameter. It was enlarged on the proximal side of the union.

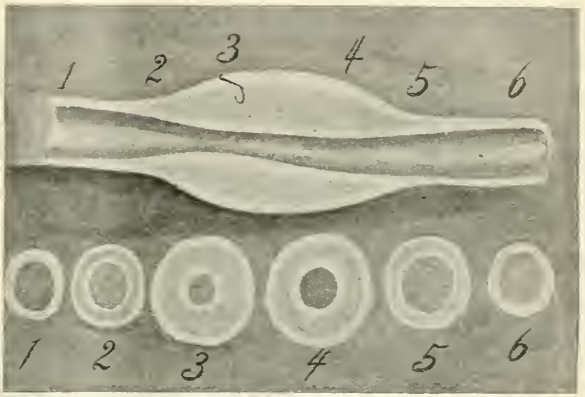

Fig. 4.—Shows the Thickening of the Arterial Wall and Diminution of the Lumen of the Vessel, from Experiment No. 10.

Microscopic examination showed marked evidence of endarteritis. The line just below 3, Fig. 4 indicates suture. At 2 much exudate, but less than at 3. At 4 the lumen is about one-half as large as it is at 1 and 5. The lumen at 3 is one-half of what it is at 5. Most of the tissue between 2 and 5 is foreign. There are a moderate amount of inflammation in the adventitia and a large number of new blood-vessels. Muscle fibres of the media alternate with bands of small round cells. Capillaries in the outer walls are apparent. The region of the intima is the seat of a very marked round-celled infiltration; capillaries can be seen in this coat. The thickness of the intima is markedly increased and the lumen is about one-third of the normal size. There are no endothelia lining the intima. Another section presents the same appearance, except what remains of the lumen is a triangular opening. There are sections of nerves in the loose tissue surrounding the vessel.

It will be noticed that notwithstanding the invagination had been made thirty days previous to the post-mortem there was no clot in the vessel, and the diameter of the lumen was one-third of that above and below the point of union, showing that the endarteritis had progressed slowly.

Experiment No. 11.—April 26, 1896: calf, six weeks old. Excision of one-third inch of left common carotid. Invagination of all coats of proximal into distal end for three-eighths of an inch. The artery was clamped with Billroth forceps. It was found to be elastic and free from tension when replaced. Peripheral sutures were used to secure the invaginated portion, as described above. There was little hemorrhage after the operation was completed. The sheath was sewed around the artery. There was a tumor around the area of approximation with considerable swelling for three weeks after the operation, which disappeared almost entirely before the specimen was removed for examination.

Specimen secured June 1st, thirty-four days after

operation: one and one-half inches of carotid at point of suture was removed and the ends were ligated. There was considerable inflammatory deposit over the entire field of operation. The union of skin was complete. The collateral vessels around the position of approximation were considerably enlarged. The vessel was

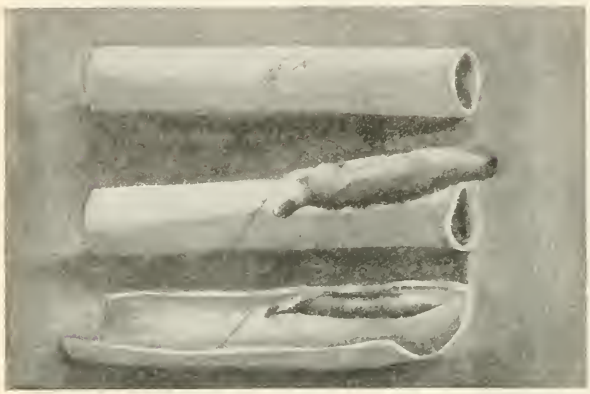

Fig. 5.—Shows the Line of Suture and the Formation of Internal and External Coagulum in Experiment No. 14

not patulous, the lumen being filled by a clot for a considerable space on the distal side of approximation; it extended but one-fourth of an inch on the proximal side.

Microscopic examination showed on the outside a loose layer of connective tissue, the fibres of which did not run in any particular direction. Internal to this was a layer of felted connective-tissue interlacing and a very rich supply of blood-vessels, richer than that which is normal in the adventitia. Most of these fibres were of the yellow elastic variety and interlaced in the general trend of the artery. Internal to the adventitia was the tunica media, consisting of muscular fibres, elastic tissue, and a great abundance of inflammatory cells. Internal to this was the inner elastic lamina. Within this there was a zone which at some of the points of its circumference was composed of mature connective-tissue fibres; at others it consisted of a pool of blood. Internal to this was a dense mass of muscle fibres. The fibres of the media were swollen and granular and not in a good state of nutrition. Internal to this was the inner elastic lamina of the invaginated portion of the artery and the lumen of the tube was filled with a clot. There was some evidence of connective-tissue growth in this clot. The union between the artery ends was incomplete.

Experiment No. 12.—Right common carotid of calf, same as used in Experiment 11. Operated May 3, 1896. Resection of one-half inch of artery, united with three invaginating sutures. Three peripheral sutures were made as above; but very little bleeding followed the operation. Sheath was drawn over artery. Clamps used as temporary hæmostatics, as above. The skin was approximated with catgut. There was no swelling or tumefaction after operation, as on opposite side.

June 1, 1896, one inch of artery at point of union was removed and artery was again sutured (see Experiment 13). But little inflammatory deposit was found around the seat of wound. Primary union of skin and subcutaneous tissue had taken place. Some reactive inflammation had taken place around the artery. Water passed freely through the artery when removed.

Microscopic examination: The section showed a mass of granulation older at the periphery than at the centre. The inflammation was somewhat nodular; there were some places where it was more intense than at others. In the centre there was a small opening, in the walls of which there were young embryonal cells. The artery was being obliterated by a general arteritis.

Experiment No. 13.—June 1, 1896, the second experiment on right common carotid of calf. In the first experiment of May 3d one-half inch of artery was removed. On June 1st the specimen was removed, one inch being taken out at seat of union. The artery was then sutured end-to-end with interrupted silk suture, without invagination. There was some tension on the sutures and the artery was somewhat diminished in size. The left carotid had previously been removed and the ends ligated. When the clamps were taken off there was no hemorrhage at the line of suture. The calf rallied after the operation and was perfectly well.

Post-mortem, June 5th, four days after operation: Primary adhesion of wound; the artery was carefully dissected out. There had been no hemorrhage around the line of union; the vessel was patulous; its lumen was slightly diminished. A small white exudate covered the line of union. The sutures were not exposed in the lumen of the artery, being covered by the exudate. The intima had not been fractured at the point where the clamps were placed.

Experiment No. 14.—August 26, 1896; brown dog, weight forty pounds. Median abdominal incision. The abdominal aorta was located just above its iliac bifurcation and exposed for two inches. Billroth clamps were placed in position. A transverse incision was made in the artery for two-fifths of its circumference. It was sutured with kangaroo tendon involving all the coats. There was some hemorrhage

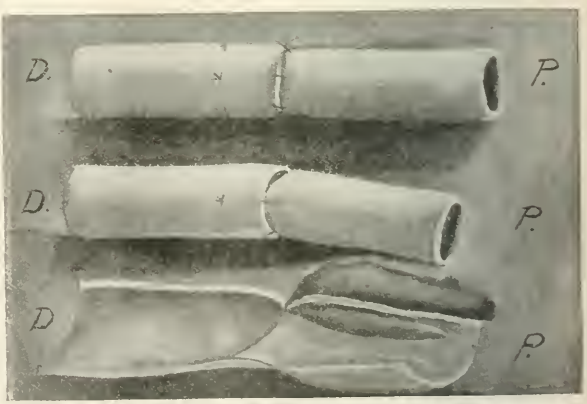

Fig. 6.—Shows Perforation of Artery and Line of Union after Removal of Clot in Experiment No. 14.

after removal of the clamps. An additional superficial suture was inserted. The retro-abdominal peritoneum was closed over the artery. The abdominal wound was closed with silkworm gut sutures. The dog died three days after operation.

Post-mortem: Abdominal cavity filled with blood;

no peritonitis. An opening was found in the posterior abdominal peritoneum leading to the vessel. The vessel was removed. A clot of considerable size existed in the retroperitoneal space around the opening of the vessel; this was continuous with a small clot within the vessel shown in gelatin specimen No. 2 (Fig. 5). The clot on the inner side of the vessel measured three-eighths inch in length and one-eighth inch in diameter. It was not adherent to the wall of the vessel but was continuous with the clot from the outside. There was some discoloration of the intima from the upper clamp and a roughening of the surface at that point, but no clot was formed. The lumen of the artery above and below the vessel was free. The kangaroo tendon was softened and would not support its own weight, which accounted for the hemorrhage. On the inner surface of the artery were seen the openings of the small arteries, which were free. There was a ragged transverse opening, which was gaping widely at the centre. The point of adhesion of the clot was without the arterial wall. The remnants of the sutures were seen penetrating the intima. One and one-half centimetres above there was a point of ecchymosis. One centimetre above that a second point of ecchymosis could be seen, the result of the clamps. The ecchymotic patches were transverse in their long diameter and three-fifths centimetres wide. In the one next to the incision there had been rupture of the deep arterial coats, but the intima had been preserved except at one small point; in the other fracture of the intima and media had taken place. There was no clot at either of these places (see Fig. 6).

Experiment No. 15.—Black dog, weight forty pounds. Operated August 26, 1896. Median abdominal incision. Exposure of abdominal aorta two inches above its iliac bifurcation. A longitudinal incision was made in the artery one centimetre in length. Sutured with kangaroo tendon taken from same bottle as for Experiment 14. Arterial clamps were placed on artery, as above. Slight hemorrhage from the wound after the clamps were removed. This was controlled by digital pressure for one minute. Posterior peritoneum was not sutured over artery. A great deal of difficulty was experienced in retaining the artery in an elevated position sufficient to admit of suture, as the dog was fat and his abdomen deep. The dog died forty-eight hours after operation.

Post-mortem: Abdomen full of blood. Loose large clot existed in retroperitoneal space. The artery was removed for several inches above and below the clot: its lumen was free. There was no clot on the inner side. The kangaroo tendon was completely disintegrated. Cause of death, hemorrhage.

The general appearance of the artery was normal. Small arteries were seen emerging at different points. The line of incision could be readily recognized. Its edges were roughened and projected about one millimetre into the lumen of the vessel. The ragged incision extended throughout the wall of the artery; in it were seen the remains of the tendon suture. There was no evidence of regeneration; that is, no reaction process in the walls of the vessel. There was some fibrinous deposit on the roughened edges; no tendency to coagulation on the inner side of the artery. About one centimetre below the line of incision was a small ecchymosis where the intima was roughened and endothelia were absent: there was also a loss of substance, showing a fracture of the intima. There was a small fibrous deposit on this area.

Experiment No. 16.—September 6, 1896: black male dog, weight seventy pounds. Transverse incision dividing one-half of the anterior wall of the abdominal aorta: the opening was closed by a continuous suture of silk with round needle involving all the coats of the artery. After the clamps were removed there was bleeding from the angle of the wound; an additional suture was applied without the aid of the clamps. After this was done the bleeding ceased and the abdominal wound was closed. The dog died fifty-four hours after operation.

Post-mortem revealed the abdomen full of blood. An examination of the artery showed three-fourths of the line of suture approximated and surrounded by a clot. The last suture which was inserted in the angle of the wound was shown to have included on one side only the tunica adventitia, it did not grasp the media nor the intima. This suture gave way and from this point hemorrhage took place. There was no regenerative reaction in the intima around the punctures made by the needle. There was no clot formed on the silk that was exposed in the lumen of the vessel. From

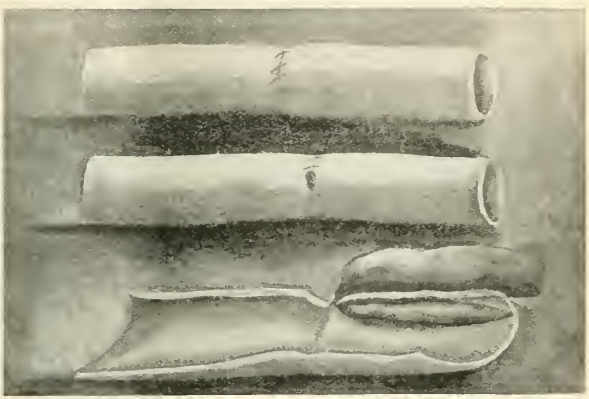

Fig. 7.—Shows the Position of Sutures in Edge-to-Edge Union of End of Artery and Defect in Line of Suture in Experiment No. 6.

the ragged edge at the position of penetration a small clot was adherent and suspended within the artery, but not adherent to the intima; it was continuous with the external clot. This clot was about a centimetre in length and a millimetre in thickness; smooth on its outer edge. The endothelium in the immediate neighborhood was milky white and somewhat roughened.

Experiment No. 17.—September 6, 1896; black and white female dog, weight forty-five pounds. Complete transverse section of abdominal aorta. Continuous silk suture with three needles; edge-to-edge union of artery (Fig. 7). The stitches were closely applied. After the clamps were removed free hemorrhage took place, particularly at one point, where the beginning and end of the sutures met. The clamps were reapplied and one stitch was placed at this point. It would have been better if I had made the final stitch overlap the primary stitch, as the artery was contracted when the arterial pressure was off; while the first and last stitches appeared to be close together then, when the artery dilated they were quite a distance apart. The abdominal wall was closed with silkworm gut.

The dog died September 12th. Post-mortem showed silkworm gut to have cut through; absence of organic union over entire length of abdominal incision. An external fistula communicated with the peritoneal cavity. The peritoneal cavity contained a large quantity of pus and some blood. There were many adhesions and a clot of considerable size around the iliac vessels. A clot also existed on the right side of the incision

ochind the iliac vessels. On the inner side of the artery the clot was adherent and sealed over the line of union. The clot was not adherent to the intima but adherent to the line of union. A slight thin white clot had formed over the point where the temporary hæmostatic forceps were placed during the operation. There were no manifestations of inflammatory reaction or regeneration in the intima; a small thin clot extended from the point of injury by the hæmostatic forceps above down to the line of union. A small flat coagulum extended from the line of union down to the injury of the intima made by the lower hæmostatic forceps. On the outside of the point where the hemorrhage took place the sutures were exposed. An opening one-sixteenth of an inch existed on the anterior surface of the vessel at the line of union communicating with its calibre and was partially occluded by a clot. This was the opening through which the fatal hemorrhage occurred. There was excellent union over the line of approximation. There was no clot in either of the iliac vessels. The intima was somewhat roughened over the entire distance between the position of application of both of the forceps. One of the stitches from the point where the hemorrhage occurred had cut through. There was a small perivascular clot around the position of approximation, and blood had burrowed between the tunica intima and media.

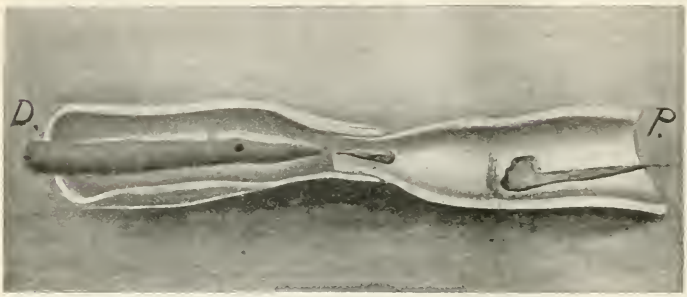

Fig. 8.—Shows Contraction of Artery at Line of Suture, with Clots on Proximal and Distal Sides, from Experiment No. 19.

Experiment No. 18.—September 6, 1896; black dog, weight sixty-five pounds. Complete transverse section of abdominal aorta. Invagination of proximal into distal end with three internal sutures; eight external interrupted sutures were inserted, including all of the coats of the artery in each. When the clamps were removed profuse hemorrhage took place from one point. Clamps were replaced and an additional suture was inserted; the clamps were again removed, with no escape of blood. Abdominal wound closed with interrupted catgut sutures. On the sixth day after operation there was some bleeding through abdominal wound.

Dog died on the eighth day. Post-mortem: General suppurative peritonitis; a complete thrombosis of the artery had taken place at the site of suture. There was some blood in the peritoneal cavity; suppuration around the seat of arterial approximation. Two of the sutures had cut through. A thrombus occupied the vessel for two centimetres above the seat of injury, and two and one-half centimetres below; that is, between the points where the arterial clamps had been placed. The clot was adherent at these points and free in the vessel over the intermediate area.

Microscopic examination: A clot had formed, completely filling the lumen of the vessel. The surface of the clot was filled with round cells and developing connective tissue. The connective tissue developed from the intima in such a manner as to map the clot off into plaques of round cells mingled with leucocytes, and connective-tissue cells surrounded by borders of connective tissue. The intima was markedly thickened, the fibres being separated by bands of young connective-tissue cells. The spaces between the fibres filled with cells were broader than the fibres themselves. The same was the case in a lesser degree in the media and adventitia. Union had not progressed very far; it was not firm and tore apart upon slight manipulation. The granulation tissue by which it was held together was in the round-cell stage.

Experiment No. 19.—October 27, 1896; merino sheep, weight ninety pounds. Transverse incision of left common carotid artery. Compression of artery with strands of gauze. Proximal invaginated into distal end in the usual manner. Four needles threaded with silk were used. After compression there was some hemorrhage; as one of the sutures had cut through the wall of the artery, another suture was inserted in its place. The artery was very small for invagination.

The sheep died twenty-eight hours after operation, from cerebral anæmia. See Experiment 20. Post-mortem: In the left common carotid artery the line of suture was scarcely discernible, it being covered with a cleavage; there was a very small clot on proximal side of suture (Fig. 8). There was injury to the intima by the peripheral sutures. Clot on distal side was not adherent except at position of approximation. Clot on proximal side extended beyond the position of division of the artery one-third inch from the point of approximation. The walls of both arteries were firmly adherent. The canal was almost completely occluded by the invaginated portion. Line of union was a little difficult to locate with the naked eye. The calibre of the vessel was so small that the clot at the point of union was about one sixty-fourth of an inch in diameter.

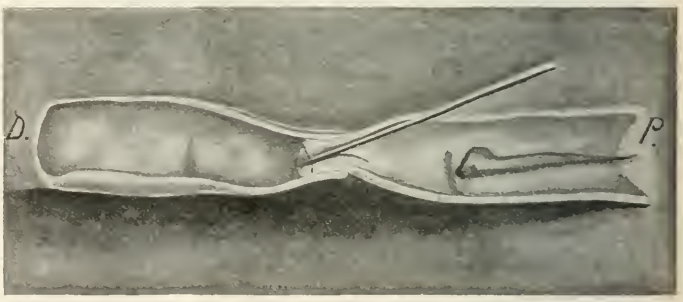

Fig. 9.—Shows the Marked Diminution in the Size of the Lumen of the Vessel at the Point of Approximation, from Experiment No. 20.

Experiment No. 20.—Same sheep as in Experiment 19. Right common carotid artery. Transverse incision; end-to-end invagination. Artery invaginated with four needles threaded with silk. Adventitia was carefully peeled off. At one point hemorrhage took place, but was checked by an additional suture. Sutures were dipped in beeswax before insertion.

Post-mortem: The artery on the right side was thrombosed for three-eighths of an inch on proximal side and three inches on distal side of the line of suture. The clot was not adherent to the wall of the vessel above or below the line of approximation, showing that it originated at the line of union. There was no hemorrhage between the adventitia and the media where the former overlapped the line of union, showing it was completely sealed. The artery was very much diminished in size where the four invaginated sutures were tied. There was a discoloration and apparently a rupture of the intima at the position where the temporary hæmostatic ligature was placed. A small clot existed on the proximal side of the suture; both layers of both walls were firmly adherent, requiring considerable force to separate them. The agglutination of the walls was very firm. The calibre of the artery was diminished to the size of a knitting-needle at the position of invagination (Fig. 9). The clot formed from the end of the intussusceptum. One of the stitches crossed on the inside of the artery, to which the clot was firmly adherent. There was a slight roughening of the intima where the temporary ligature had been attached, and a small clot one-half of an inch in length formed at that position.

Experiment No. 21.—October 29, 1896, sheep, weight about eighty pounds. Excision of one-third inch of left common carotid. End-to-end continuous suture of wall of artery which was not invaginated; sutures waxed while wet. Considerable hemorrhage: three additional stitches inserted. Hemorrhage controlled by forceps while operating. Adventitia sutured over line of union; sheath replaced and sutured. Irregular active rhythmic contraction of coats of wall of artery noted after removing adventitia.

Post-mortem: November 3, 1896, left common carotid. Clot on distal side occluding artery. Artery contracted and bent at a right angle. There had been hemorrhage around the line of union; no suppuration. Line of union was difficult to make out. Specimen retained without opening the lumen of vessel.

Experiment No. 22.—Same sheep on same day as Experiment 21. Oblique incision in right common carotid artery, one-third inch long, was made; continuous silk suture including all coats. When the adventitia was removed there was a rhythmical contraction of the artery, the same as in an intestine when injured. Artery diminished one-third in diameter (see Fig. 10). No hemorrhage followed the removal of forceps.

Post-mortem: November 3, 1896, right common carotid. Clot extended one inch to the proximal side and one-half inch to the distal side of the line of suture. This was very small; it had formed over the position of suture, but was not adherent to the wall of the vessel. It did not completely fill the vessel and extended upward from the line of union to the line of fracture in the intima, where it was again adherent. Over one-half of the length of union the silk was covered so that it could not be seen. The artery had been fractured by the clamp.

Experiment No. 23.—Sheep. Operated October 31, 1896. Resection of one-half inch of left common carotid; artery invaginated with four double-needled sutures. The adventitia of the proximal side was torn back; then the proximal was drawn into the distal, bringing the media of the proximal in contact with the intima of the distal. The edge of the intussuscipiens was then approximated with two sutures to the periphery of the intussusceptum. The adventitia of the intussusceptum was then drawn over the line of union and sutured to the periphery of the intussuscipiens, making the order of the coats overlapping each other from within outward: two internal coats of proximal, three coats of distal, adventitia of proximal.

The sheep used in this and the following experiment died November 14th. Post-mortem of left common carotid. Thrombosis at the position of union and a fracture of artery on the proximal side where the hæmostatic forceps had been placed, but no clot adherent to it. On the distal side there was also a fracture of the artery with a clot adherent. A thrombus which did not completely fill the artery existed from this point to the line of suture. The two coats were firmly adherent and could not be separated without laceration. There was a firm connective-tissue deposit outside completely covering the line of union, so that it could not be recognized. There was no hemorrhage around the seat of union. The greatly diminished size of the artery at the position of invagination was, I believe, the cause of the formation of the clot. Only one suture was exposed outside the exudate and that was the one used to draw the adventitia over the line of approximation. Specimen given to pathologist for sections.

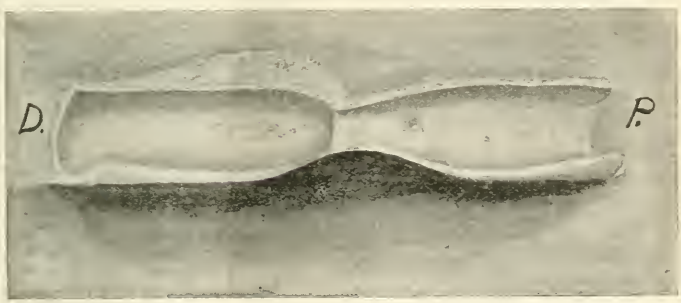

Fig. 10.—Shows the Usual Contraction at Seat of Approximation. See Experiment No. 22.

Experiment No. 24.—October 31, 1896: same sheep as in Experiment 23. Right common carotid artery. A V-shaped incision of one-fourth of an inch on each side was made. It was closed with a continuous suture of six stitches involving all coats of the artery. The sheep was very sick for two days before death, showing all symptoms of sepsis.

Post-mortem, November 14th, fourteen days after operation: All of the tissues of the neck were infected. There was an absence of union in a portion of the skin and a most offensive discharge of pus and blood. The tissues of the neck were so much inflamed that their recognition was difficult. A clot the size of a walnut existed on the anterior side of the artery at the line of suture. A thrombus filled the proximal side for a half-inch from the opening in the vessel. The opening had increased to three-fourths of an inch in length on the anterior surface of the vessel, showing that there had been an elongation of the opening by a necrosis of the wall of the vessel at the line of suture.

The clot had a very offensive odor; pus surrounded the wall of the artery. The distal end of the artery was closed by a thrombus up to the head. This specimen shows the destructive effect of infection in arterial suture better than any of the former ones. Cause of death, sepsis.

Experiment No. 25.—November 2, 1896; sheep, weight about seventy pounds. Resection of one-fourth inch of right carotid artery; invaginated; continuous external suture. Artery very small; adventitia not removed; silk had been boiled in a saturated solution of oxalate of ammonium and waxed. Sheath closed over artery with a few catgut sutures.

Post-mortem, November 30, 1896: There was no clot on proximal side of suture, no infection at point of suture. A white organized thrombus existed, filling the vessel. The exact line of union could not be seen when the thrombus was removed. Thrombus extended for one-half inch on the distal side of the line of suture. Specimen was given to Dr. Evans for examination. Union of ends of artery from a macroscopic standpoint was perfect.

Experiment No. 26.—November 2, 1896; same sheep as in Experiment 25. Transverse incision of one-half the circumference of the right jugular vein. Opening closed with a continuous silk suture, which was oxalated and waxed. The wall of the vein was very thin and required considerable care to prevent its laceration with the suture. It was diminished considerably in size by the suture.

Post-mortem, November 30, 1896: Periphlebitis existed at the site of suture. There was no thrombus in the vein. The diameter of the vein at the point of suture was about one-third of its diameter above and below. A white exudate covered the line of suture.

Experiment No. 27.—November 2, 1896; same sheep as in Experiment 25. Complete division of left jugular vein; edge-to-edge union with continuous oxalated waxed silk suture. Wall of vein was very thin. The continuous suture contracted the vessel to about one-half its normal size. There was but little bleeding after the digital pressure which had been used for hæmostasis was removed.

Post-mortem, November 30, 1896: Periphlebitis of slight degree existed; no œdema or evidence of infection. When the vein was opened, it was found that there was a complete occlusion by adhesion at the line of suture. There was not the slightest thrombus on either the distal or proximal side of the suture. The thickening from the exudate at the line of suture was scarcely perceptible. The vessel appeared to have retained its normal diameter on the proximal and distal sides of the suture.

Experiment No. 28.—November 3, 1896; sheep. Resection of one-third inch of left common carotid. End-to-end approximation of artery with continuous oxalated waxed silk suture. There was considerable hemorrhage from artery when clamps were removed, which ceased with slight pressure. Adventitia was not removed.

Post-mortem, November 30, 1896: The diameter of the artery above and below the point of approximation was one-eighth of an inch. The artery was thrombosed for one inch on distal side and three-fourths of an inch on proximal side of suture. The sutures were infected; the lumen of the artery was entirely obliterated.

Experiment No. 29.—November 3, 1896; same sheep as in Experiment 28. A semilunar piece one-half inch long, involving one-half the circumference of the left jugular vein, was excised. The opening was closed with a continuous oxalated waxed silk suture; but very little bleeding after pressure hæmostatics were removed.

Post-mortem, November 30, 1896: A thickened inflammatory cord existed at the site of the suture. There was some œdema of the surrounding tissue; about one-fourth of the lumen of the vein was patulous. A white exudate covered the sutures within the lumen of the vessel. There was no thrombus.

Experiment No. 30.—November 8, 1896; black dog, weight about forty pounds. A transverse division through all coats of one-third of the circumference of the abdominal aorta, one inch above its bifurcation, was made. A continuous silk suture of seven stitches was inserted, including all of the coats of the artery. The silk had been boiled in a saturated solution of oxalate of ammonium. The adventitia was peeled off the artery. The suturing was done with a full curved sharp needle with cutting edges. The needle was inserted so closely that three of the openings cut into one; some bleeding took place from this point when the clamps were removed. Two additional stitches were required. The abdomen was closed with two rows of continuous catgut sutures.

The dog was killed December 5, 1896, twenty-seven days after operation. The abdominal wound was entirely closed. The dog had increased much in weight. There was no peritonitis; a slight elevation of connective tissue on the anterior surface of the artery at the site of suture was noted. The artery was divided; it was very slightly contracted in size at the line of suture. The silk was covered over by a thin white fibrous exudate. There was a slight depression of the surface at the site of union. The arterial wall was perfectly healthy above and below, showing none of the effects of the compression clamps. From a macroscopic point of view the greatest support given the artery was from the connective tissue on the outer wall. Specimen was given to pathologist for examination. This specimen illustrates beautifully the process of repair when the field is kept aseptic.

Experiment No. 31.—November 8, 1896; black hunting-dog, weight thirty-five pounds. Left common carotid; a longitudinal incision two centimetres long was made. It was closed with a waxed silk suture which had been boiled in a saturated solution of oxalate of ammonium, and included all the coats of the artery. The technique of the operation was the same as in the other experiments. Seven stitches were inserted in the artery; there was no hemorrhage after hæmostatics were removed.

Post-mortem, November 24th: A small clot was found, one-third the size of the calibre of the artery, not adherent to it except at point of infection. A pocket of pus, one-fourth of an inch in diameter, existed around the point of suture, showing that the stitches had been infected. On the proximal side of the suture the clot filled the vessel for one-fourth of an inch and was adherent. A small free clot existed for three-fourths of an inch on the distal side.

Experiment No. 32.—November 8, 1896: dog same as in Experiment 31. Both carotids were exposed by an incision deep in the neck. A longitudinal incision, one and one-half centimetres long, was made in the right common carotid. It was closed with a continuous waxed oxalated silk suture, including all of the coats of the artery. There was no hemorrhage when the hæmostatics were removed. The incision was closed with a continuous suture of catgut.

Post-mortem, November 24th: The dog died on the evening of November 23d. A sinus leading from the external opening was traced down to the opening in the vessel. The clot around the vessel had suppurated, and the sutures had cut through the vessel. There was no thrombus within the lumen. A small white clot was adherent close to the margin of the wound; there was no effort at definitive union. Cause of death, hemorrhage.

Experiment No. 33.—November 10, 1896: calf,

eight months old. A resection of one-third inch of right common carotid was made. Invagination by three internal sutures and seven external sutures. The artery was the size of the common femoral in man: no blood escaped: sheath around artery was sutured with catgut; no drain. The invaginating sutures in this case were inserted differently from those in any of the preceding experiments. They included only the adventitia and media of the invaginated portion, and when tied were not exposed in the lumen of the artery in any place (Fig. 11). By this method the size of the artery was not diminished in the same degree as it had been in any previous experiment. It can be seen that by this method there was no foreign body left in the lumen of the artery, as had been done in the previous method of invagination, and therefore there was less likelihood of thrombosis. The peripheral sutures included only the media and adventitia. Temporary hæmostasis was produced by a fine strand of gauze tied firmly around the artery. Specimen removed December 5th. Primary union of the external wound had taken place: an extensive induration two and one-half inches in length by one and one-half inches in diameter was found at the site of approximation. This mass was carefully dissected out and the artery was found patulous at each end, although considerably diminished in size. On opening the mass it was found to be a pus pocket, about three-fourths of an inch in diameter. In the centre were found the necrotic ends of the artery and the sutures. The infection had occurred at the suture. The vessel was thrombosed for one-third of an inch on either side of the abscess. The ends of the artery in which the sutures were inserted were well preserved, though the vessel had been amputated by the inflammatory action on either side of the abscess. The thrombi were very firmly adherent to the intima.

Experiment No. 34.—November 14, 1896: large black calf, about eight months old. A transverse division of right common carotid was made: end-to-end union by invagination: kangaroo tendon furnished by Dr. Longyear, of Detroit, was used. Three invaginating and six external sutures were inserted, as in Experiment 32. No escape of blood after removal of clamps. Adventitia was peeled off and returned over the line of suture. Fascia and sheath were sutured over the artery. A strand of gauze was tied around the artery to produce temporary hæmostasis. The vessel was a little larger than the common femoral in man. Pulsation was normal on the distal side of the approximation immediately after operation.

Specimen removed December 5th. There was no induration or inflammatory action around the site of approximation. Some connective-tissue formation outside the adventitia was found. There was but one suture exposed within the lumen of the vessel, and that for only a very small extent. When the vessel was opened, a thrombus existed on the proximal side of the line of union for one-half an inch, completely occluding the vessel. This was firmly adherent for the first half of that space; over the line of union and for one-fourth inch on the distal side the thrombus was not adherent; again it was adherent for one-fourth inch, occluding the vessel. It should be noted that the points of adhesion and formation of the thrombus were where the temporary ligatures were placed during the operation, showing that the injury done the artery by the ligature was the cause of the thrombus. The union between the two walls of the artery was firm. The kangaroo tendon appeared to be as hard and as firm as when it was inserted.

For convenience in treating the subject, arterial and venous suture, we will consider: (1) The pathologic histology of repair of blood-vessels. (2) The class of arteries and veins amenable to suture. (3) The degree of destruction that may exist and still leave the vessels within the range of repair by suture. (4) The technique of vessel suture. (5) The prognosis of arterial and venous suture.

Pathologic Histology of Repair of Arteries and Veins.—That the clinical aspect of the subject may be better appreciated, let us first consider the histology and physiology of the vessels and blood.

Structure and Properties of Arteries and Veins.—The arteries and veins of the body are the channels through which the blood is carried to and from the tissues and organs. The thin-walled capillaries bring the blood into intimate relation with the cells by transudation and migration.

The arteries are distinguished from the veins by their thicker walls due to the greater development of smooth muscular and elastic tissue. The middle coat of the artery is especially thick, while the outer coat is relatively thin.

The arteries consist of three coats, and are derivatives of the mesoblast. The tunica intima, or inner coat, consists of a layer of irregular or oblong fusiform nucleated squamous cells forming the excessively thin transparent endothelial coat immediately in contact with the blood stream. These cells have oval nuclei and the long axis of the nucleus and cell is parallel with the long axis of the artery. The endothelial cells

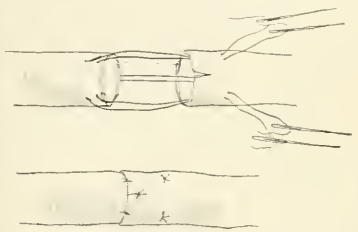

Fig. 11.—Shows Method of Insertion of Sutures in Experiment No. [illegible].

have no distinct blood supply, still they have the power of reproduction, and are possessed of marked potential reactive properties when disturbed mechanically or chemically. This was appreciated first by Jones, who showed in his experiments that on account of its regenerative properties it was necessary to injure the intima to produce successful ligation of the arteries. These endothelial cells are held together by a cement substance. Outside of these lies a very thin, more or less fibrous layer, sub-epithelial, in which numerous spindle or branch-shaped protoplasmic cells lie embedded, with a corresponding system of plasma canals. Outside of this is an elastic lamina. In arteries of medium size it is a fenestrated membrane, while in the largest arteries there may be several elastic laminæ, or fenestrated membranes, mixed with connective tissue. In middle-sized arteries and in larger arteries a few non-striped muscular fibres are disposed longitudinally between the elastic plates or laminæ along with the circular muscular fibres of the middle coat. They may act so as to narrow the artery, but they may also aid in keeping the lumen of the vessel open and of uniform calibre. It is not probable that when they act by themselves they dilate the vessels. The nourishment of the intima is entirely independent of the media and adventitia. Its nutriment is received directly from the blood within the artery.

The tunica media, middle coat, or muscularis, contains much non-striped muscle, which in the smaller arteries consists of transversely disposed non-striped muscular fibres lying between the endothelium and the adventitia, while a finely granular tissue with a few elastic fibres forms the bond of union between

them. As we proceed from the very small to the larger arteries, the number of muscular fibres becomes so great as to form a well-marked fibrous ring of non-striped muscle in which there is comparatively little connective tissue. In the large arteries the amount of connective tissue is considerably increased, and between the layers of connective tissue numerous thick fibres or fenestrated laminæ are concentrically arranged. From a clinical standpoint it can be seen that this coat is composed of histological elements which have very little, if any, power of regeneration. Repair of injury to these elements is accomplished by the formation of new connective tissue. Balance and Edmunds claim that the vasa vasorum penetrate this coat. It is certain from the experiments of Bruci (Pisa, 1893) that the media receives its nutriment from the adventitia either by vessels or nutrient canals, as he demonstrated that a necrosis of the media took place when the adventitia was removed and prevented from readhering by wrapping gutta percha around the vessel; but the intima was not affected by this procedure, except to show evidence of increased proliferation. When the adventitia is torn off and immediately replaced, the alteration of the muscularis is scarcely discernible.

The tunica adventitia or outer coat in the smallest arteries consists of a structureless membrane with a few connective-tissue corpuscles attached to it. In the somewhat larger arteries there is a layer of fine fibrous elastic tissue mixed with bundles of fibrillated connective tissue. In the arteries of medium size and in the largest arteries the chief mass consists of bundles of fibrillar connective tissue containing connective-tissue corpuscles. The bundles cross each other in various directions and fat cells often lie between them next the media; this accounts for the loose adhesion of the two coats and also for the ease with which the adventitia may be peeled off from the media. There are numerous fenestrated and fibrous elastic laminæ. In the medium-sized and small arteries the elastic tissue next the media takes the form of an independent elastic membrane. It contains blood-vessels to the wall, the vasa vasorum, which are supplied from the nearest branch and not from the main trunk of the artery; these vessels usually extend to the media, never to the endothelial cells. It also contains nerves, the small axis cylinders extending through all the coats to the endothelial cells and intercellular substance.

The veins have the same anatomical construction, except that the wall is thinner on account of the smaller amount of non-striped muscle and elastic tissue; there is no noticeable primary contraction of the veins when injured, as there is in the arteries. They are more extensile under the same strain. The adventitia is usually the thickest coat.

The large blood-vessels are therefore cylindrical tubes composed of several layers of tissue, more especially elastic tissue and plain muscular fibres. One of the important properties is contractility of the vascular wall, by virtue of which the blood-vessels may be elongated or shortened, the diameter of the vessel may be dilated or contracted and the supply of blood to a part altered; this contractility plays no small part in the surgery of the vessels. Their elasticity is great, that is, they offer little resistance within certain limits to any force employed to distend or elongate them; if the force be uniform the blood-vessels rapidly regain their original size and form, after the force distending them is removed.

The extent to which the arteries may be stretched has not been accurately estimated. Veins may be stretched fifty per cent. without passing the limit of their elasticity; *i.e.*, when a vein is freed from its adhesions to surrounding tissue, fifty per cent. of the distance may be removed and still the vein possess sufficient elasticity to be approximated. From personal observation I have found that a large portion of carotid arteries could be removed and the ends approximated without difficulty. The internal pressure which a vessel will withstand is very much greater than the normal arterial pressure to which it is subjected, showing that, in the process of surgical repair, a wall much more feeble than the normal wall of the vessel is sufficient to hold the blood in control. Volkmann found the carotid of a sheep would rupture only when fourteen times the normal pressure was put upon it. The carotid of a dog withstood fifty times the normal blood pressure; the jugular vein about one-half of this (Greheut and Quinquand). It may be deduced from the above that there is little danger of aneurism at the point of union, even if the walls are somewhat weaker than normal.

Thrombosis and Coagulation.—Blood in direct contact with living unaltered blood-vessels does not coagulate (Hewson, Brücke). Coagulation takes place within an injured blood-vessel after death of the leucocytes. The action of the paraglobulin on the fibrinogen in solution in the plasma produces coagulation, if salts of calcium be present. Paraglobulin is believed to be the product of disintegration of cellular elements of blood, principally leucocytes and blood plates. Peptones injected into the blood of a dog do not permit of the interaction of lecethin, and thereby prevents coagulation (Wooldridge). Freund believes that the death of the red blood corpuscle causes conditions which produce coagulation. He showed that blood collected in glass vessels smeared with vaseline did not coagulate for a long time if decomposition were prevented. Experiments further show that apparently unimportant changes in the condition of the vessel wall may cause coagulation; this result is confirmed by the observations by many pathologists. "All observers are agreed," writes Thoma, "that the solution of the red blood corpuscle causes coagulation, although they differ as to the explanation." It is probable that the splitting of the fibrinogen molecule is produced by the nucleo-proteid and the thrombosin thus formed combines with the calcium; fibrin is a salt of calcium. Albertoni observed that if tryptic pancreas ferment or histon be injected into the blood of an animal, the blood would not coagulate. The three factors necessary for coagulation are fibrinogen, nucleo-proteid in considerable quantity, and calcium salts. The coagulation is favored by contact with foreign substances of all kinds, but only when it adheres to them. Blood does not readily coagulate in contact with bodies covered with fat or vaseline. Waxed sutures prepared in oxalate of ammonium should, therefore, be used when the intima of an artery is penetrated. We have been taught that a roughening or irregularity in the wall of an artery would produce coagulation thrombosis. My observations on arteries lead me to believe that this statement is erroneous and that thrombosis occurs only when a foreign body is left in the artery to which the blood adheres, or when an infection is present with the foreign body, causing the death of cellular elements of the blood. The theory that injuries to the intima, *per se*, do not produce thrombosis is supported by Porta's observations that thrombosis of the artery was absent in fourteen per cent. of the ligations made by him where the intima was injured, and Schumann found experimentally that thrombosis occurred in a very much smaller percentage of cases. Senn observed that a clot was not formed on the proximal side of ligatures in veins, but always on the distal side. These show that trauma of the ligature, in itself, does not produce coagulation in the vessel.

As a proof that an irregularity in the wall of an

artery does not produce thrombosis, we have the clinical fact that arteries penetrated by bullets rarely ever thrombose. They almost always form dissecting aneurisms, and there is no tendency to coagulation within the vessel at the seat of the injury, nor below that point if sufficient of the wall remains to guide the current of blood into the distal portion. In Case II. of this paper, notwithstanding that the artery had been completely penetrated by the bullet, leaving the irregular edges of the arterial coat projecting into the lumen of the vessel, there was not the slightest tendency to the formation of a clot within the vessel nor on the ragged edges of the wall. This observation is supported by the clinical course of traumatic aneurisms, and numerous cases may be cited to support this theory, that the roughened edges do not produce coagulation. There is no doubt that even a considerable destruction of the intima does not always cause thrombosis, and that this process is lessened if the calibre of the vessel is reduced to certain limits in accordance with Thoma's histo-mechanical principle. Virchow, O. Weber, Paget, and Billroth believed that after ligation of the artery its permanent obliteration is produced by thrombosis and vascularization of the thrombus, and that tissue proliferation within it proceeds from the white blood corpuscles. Rokitansky showed that primary adhesion and definitive occlusion can take place independent of thrombosis. Senn verified this by his experiments. Kocher in 1869 proved that a ligature with primary adhesion of the endothelium would produce closure of an artery. This was further sustained by Lister, Baumgarten, Raube, and others. Waldeyer sustained the belief that the endothelium and subendothelial layer take an active part in producing adhesion of the wall of the vessel after ligation, that the intima receives its blood supply from the capillaries of the media, and that organization takes place from the endothelial lining which forms the basis of a new connective tissue.

Scarpa, recognizing that the endothelial coat of the intima is a derivative of the mesoblast, as the other serous surfaces, the peritoneum, pleura, pericardium, dura, etc., attributed to it the same physiological properties of regeneration. Its reaction to irritants is very much less than that of the peritoneum and much more than that of the dura, being about midway between the two.

The union between the walls of arteries after ligation takes place more rapidly without the formation of thrombus, that is, a thrombus is a foreign body and retards organic union in arterial approximation, whether with ligature with intent of definitive occlusion, or with suture with the purpose of definitive union of the walls. The former was well recognized by Baumgarten. The endothelial cells increase in number, producing long spindle cells and broad embryonal connective-tissue cells from beneath them (Raab). If vessel walls the same as peritoneal surfaces be brought in close approximation after irritation, they adhere primarily through cell proliferation from the intima by the process of budding of endothelial cells and division of connective-tissue cells. The remaining coats of the vessels assist in the definitive organization and vascularization of these adhesions, that is, the media is penetrated by vessels from the adventitia, and capillary loops are formed and joined until organic union is complete.

The subsequent changes in the thrombus are divided into five classes: (1) Hyaline-granular transformation. (2) Organization or replacement by connective tissue and re-establishment of the calibre of the vessel. (3) Calcification. (4) Simple softening. (5) Puriform liquefaction. After an artery has been thrombosed, the thrombus may entirely disappear and continuity of the canal be established. Its absorption is produced by the endothelia of the vessel covering the thrombus and the formation of connective-tissue cells. This gradually produces contraction of the thrombus, as shown in Figs. 195, 196, and 197, page 206, Thoma. Vessels from the vasa propria finally penetrate the intima and media of the vessel; absorption takes place, leaving the vessel patulous and its wall free (Thoma-Heuking).

Ischæmia, Collateral Circulation.—If the trunk of a large vessel be sutured and thrombosis takes place at the seat of union with complete occlusion of the vessel, the life of the part on the distal side will be jeopardized by the interruption in the circulation in proportion to the rapidity with which the circulation is shut off and the rapidity of the establishment of the collateral circulation, which plays an important part in retaining vitality and which requires time for its development. Permanent occlusion of an artery leads, as a general rule, to a permanent alteration and re-arrangement of the vascular system and generally to the development of collateral circulation (Thoma). After ligation of the main artery of an extremity, there is at first a disappearance of pulsation in all the branches. This will remain absent until such time as the circulation is re-established directly through the vessel or by enlargement and development of collateral branches. This can take place with great rapidity after ligation of a large trunk, as of the popliteal and femoral; the return of pulsation in the large vessels below can occur as early as twenty-four hours in the young, and proportionately later in older persons. The veins play an important rôle in the re-establishment of this collateral circulation, so that when the vein and artery are both occluded the danger of death to the extremity is much greater than when only one of them is occluded. Upon ligation of large arteries, corresponding to the first and second divisions, the vessel on the proximal and distal sides of the ligature contracts within five to ten minutes after it is tied, and remains permanently contracted, showing that the diameter of the artery is independent of the blood pressure (Thoma). When a blood-vessel is diminished in size, the tension on the wall at that point decreases. On the basis of this histo-mechanical principle, the invaginating method of the union of arteries diminishes the calibre of the vessel at the position of union, and therefore the tension diminishes while the blood current at that point increases in rapidity. The resisting power of the wall at the point of invagination is above normal, as the arterial coats are doubled at that point. From a mechanical standpoint the danger of rupture, dilatation, or thrombosis is lessened when the approximation has been made, as the diameter of the vessel at that point is smaller and the current more rapid. Experience shows that the gradual occlusion of a vessel always leads to the development of an increased collateral circulation; even the thoracic aorta comes under this rule. After suture of vessels there is a tendency to endarteritis obliterans. As this process is one of slow formation, it is one of minor importance as to the ultimate result of arterial suture. While the endarteritis is occluding the vessel, collateral circulation is being established and the danger of death of the part obviated.

The Effect of Ligature of Large Vessels.—The abdominal aorta has been ligated 10 times; one patient survived 10 days after the operation. The common iliac has been ligated 68 times (Lidell) with only 16 recoveries, a mortality of 76.5 per cent. In 31 cases of ligation of the femoral artery for aneurisms, hemorrhage occurred in 18, *i.e.*, 60 per cent., and was fatal in 12, or 40 per cent. (Balance and Edmunds), a mortality somewhat less than that of ligation of the common iliac, which is 67 per cent. Kammerer collected 28 cases of ligation of the femoral vein,

with gangrene in 2; in 22 cases of ligation of femoral vein and artery, gangrene followed in 12; in 178 cases of ligation of the artery alone, gangrene occurred in 25. Billroth in 1871 and 1872 found that he had secondary hemorrhage from 50 per cent. of large vessels ligated in continuity. Of 106 cases of aneurism of the common carotid, collected by Wyeth, with ligation on the proximal side of the aneurism, 67 terminated in recovery, a mortality of 35 per cent. In ligation for aneurism of the external carotid, according to statistics collected by the same author, there were 17 recoveries and 5 deaths, a mortality of 22 per cent. For aneurisms of the common carotid alone the death rate was 44 per cent. Lipp collected 130 ligations of the external carotid; only two died as a result of the ligation and these from extension thrombosis. In ligations of the internal carotid 13 to 18 per cent. succumbed to brain lesions (Fenger, Lyons, 1894).

The necessity of suturing arteries and veins depends upon their individual importance to the tissue on the distal side of the injured part; that is, we are called upon to suture arteries and veins only in cases in which by their obliteration there would probably be a necrosis or impairment of the vitality of the tissue supplied by them to such an extent that its normal functions would not be performed. Therefore in the upper extremities we shall not be concerned with the arteries below the brachial; in the neck not above the common carotid; in the abdomen we are concerned with injuries to the aorta, renal, splenic, hepatic, and iliac vessels. The greatest need for arterial suture exists after injury to the so-called terminal arteries, but they are the least accessible.

The Extent of the Arterial Resection.—I found that more than one inch of a calf's carotid could be removed and the ends could still be successfully invaginated with sutures. The vessels are very elastic, and when separated from surrounding tissues can be stretched to quite an extent. In dogs three-fourths of an inch could readily be removed and the vessel approximated and sutured. I believe the endarteritis in some of my experiments was caused by the stretching of the vessels and by denuding them of their connective tissue to such a large extent in order to elevate them. In many cases three inches of a vessel was freed from all connection before the hæmostatic forceps were applied. From my observations I cannot believe that a vessel can be repaired with safety when more than three-fourths of an inch is removed, except possibly in the popliteal space, Scarpa's triangle, or in the axillary space, where the position of the limb can be made to relieve the tension of the vessel.

The Technique of Arterial Suture.—For convenience I will divide these experiments on the arteries into four classes: (1) Longitudinal incision; (2) transverse or irregular wounds involving not more than one-third of the circumference of the artery; (3) transverse sutures involving more than one-half of the circumference of the artery; (4) complete division and resection of the artery not exceeding three-fourths of an inch.

The points to be considered in the technique are: (1) Complete asepsis; (2) exposure of the vessel with as little injury as possible; (3) temporary suppression of the blood current; (4) control of the vessel while applying the suture; (5) accurate approximation of the walls; (6) perfect hæmostasis by pressure after the clamps are taken off; and (7) toilet of the wound.

The arterial wall and its endothelium are products of the mesoblast the same as the peritoneum, and react excessively to irritation, but much more slowly than the peritoneum. Infection must be assiduously avoided, as we have not only the regenerative action of the vessel walls interrupted but also the action of the cellular elements of the blood forming a thrombus in their efforts to prevent the admission and advancement of sepsis in the vessel. If we have a suppuration outside the wall of the vessel, we may have a penetration of the infection to the inner wall and a thrombosis, failure of union from infection, or necrosis of the vessel when it is exposed to the action of the pus germs, as shown in Case I.

The vessel wall should be thoroughly exposed and the field prepared. The loose connective tissue should be freed with scissors and dissecting forceps for the required distance above and below the site of operation. If the operation be for a dissecting aneurism, it is well to expose the vessel above and below the tumor so as to control the hemorrhage; then open the aneurismal sac, remove the clot, expose the injured wall of the vessel, freshen the edges of the wound, and suture.

Control of Hemorrhage during Operation.—I find this is best accomplished by a delicate eight-inch Billroth forceps with a broad blade and graduated catch. The blades are first covered with a rubber drainage tube to prevent them from injuring the vessel; the forceps are closed just sufficiently to control the hemorrhage and hold the vessel in the correct position for approximation. If these forceps are not at hand a heavy twisted silk ligature may be used for the purpose; it must not be tied so firmly as to fracture the intima, and is best secured with a loop knot, so as to be readily removed when the operation is completed.

The Control of the Vessel while Applying the Suture.—The best instrument to use is the small rat-tooth catch forceps used by oculists, known as the fixation forceps. The intima should never be clasped with the forceps. The ordinary hæmostatic forceps should not be used in any place on the vessel, as it fractures the coats. The adventitia is sufficiently strong to control the vessel during the operation and is all that is necessary to be included in the fixation forceps.

Accurate approximation of the edges of the wound may be accomplished with needles and suture material. The former should be the same as are used by ophthalmologists and known as the full-curved sharp and round conjunctiva needles. The straight "floss needles," sizes 6 to 10, are very serviceable in experiments on the limbs or neck when the artery can be thoroughly exposed. The ordinary cambric needle may, however, be used, or, better, a fine cambric needle with an elongated eye. The suture material which I found most serviceable in my experiments was twisted silk. The needle and silk should correspond in size, so that the opening made by the former may be filled by the latter. Effort should be made in suturing lateral openings to have the sutures enter only the tunica adventitia and media, the tunica intima being avoided, as advised by Jassinowsky. The sutures should be inserted every one-sixteenth or one-twentieth of an inch; they should be interrupted, should enter the vessel one-sixteenth of an inch from the margin of the wound, and should not include the tunica intima. The reason for not penetrating the intima is not the danger of hemorrhage but of the endarteritis and obliterating thrombosis that might follow.

The ordinary double knot should be used, not too firmly tied. When the wound is transverse or irregular, care should be exercised in inserting the needle in parts that belong directly in apposition to each other. If one-half or a greater division of the artery be incised, the first suture should be inserted in the middle of the incision, then one at each angle.

[1] New York Medical Journal, May 10, 1891.

After the sutures are all inserted the compression forceps should be removed from the distal side first. If there should be hemorrhage from the needle punctures, a compression with the fingers or sponge for from one to three minutes will be sufficient to control it, as a small thrombus forms in each puncture. When it is possible after the approximation is completed, it is advisable to suture the sheath of the vessel, muscle, or fascia over the line of union, to give it additional support.

The field of operation should be thoroughly cleansed after the operation is complete and a gauze drain inserted. In bullet wound the bullet should be located and removed, as it might be a source of infection. An accurate approximation should then be made of all tissues with buried catgut suture. The drain should be removed in forty-eight hours.

Jassinowsky's experiments were confined to incised and irregular wounds involving not more than one-half the circumference of the vessel. I found that when more than half the vessel was destroyed, it was not advisable to suture the edges end-to-end, but to make a resection of the injured portion of the vessel and produce an end-to-end union by invagination. The sutures are inserted as shown in Fig. 11; two or three double-needled threads are prepared and inserted into the end of the proximal portion, including only the two outer coats; these are reinserted at regular intervals one-third to one-half inch above the end into the distal part from within outward; the threads are then tied and this invaginates the artery. In order to facilitate the invagination a small incision is made parallel to its long axis, extending from one-fourth to one-third of an inch; then four or five interrupted sutures are inserted into the intussuscipiens, binding it to the surface of the intussusceptum, the suture in the latter entering only the tunica adventitia and media. By this method we have secured a large surface contact of vessel, the proximal portion of the vessel being inserted into the distal. The arterial blood pressure tends to press the walls closer, thus preventing hemorrhage and favoring definitive union. By this method of approximation fewer sutures are necessary to secure blood-proof apposition.

In experiments it is important to use large-sized vessels, as the lumen of small ones is apt to be filled by a thrombus. The work is delicate; the vessels must be handled with all possible care, as every injury to the intima means inflammatory reaction for repair.

The veins may be subjected to the same treatment with better results.

The indications for operation are:

1. Injuries to large vessels in operation.
2. Injuries to large vessels from stab, puncture, bullet, or lacerating wounds.
3. Traumatic and dissecting aneurisms.
4. Sacculated, fusiform, and arterio-venous aneurisms (see Figs. 19 and 12, 13, 14 and 16).

In the first class of cases, *i.e.*, injuries to large vessels in operation, the injury to an artery, if less than two-thirds the circumference be involved, should be immediately repaired by suture. If more than two-thirds the circumference be injured, the division should be made complete and the invagination method used for approximation, care being taken that the invaginating sutures do not penetrate the tunica intima of the invaginated portion; that the external sutures do not injure the intima and are first inserted in the invaginated portion parallel to the long axis of the vessel and then inserted in the overlapping end (see Fig. 11). By this method the circumference of the artery is not diminished as it is when the suture is inserted transversely to the arterial axis. The sheath should be carefully sutured over the artery, as it gives additional support, and, if the general field of operation should suppurate, the line of union would thus be protected from infection. The field of operation should always be temporarily drained, as a blood clot prevents primary adhesions. When the edges of the arterial wound are ragged they should be freshened and clean cut before the suture is inserted.

In the second class of cases, *i.e.*, injuries to large vessels from stab, puncture, bullet, or lacerating wounds, the primary hemorrhage, as a rule, is not excessive, particularly when caused by bullet wounds, except when the abdominal aorta or renal vessels are involved, as the tissues are irregularly torn and overlap each other in such a manner as to prevent the escape of blood and favor the formation of aneurism; therefore, we have ample time to make proper preparation for the suture of the vessel. The wound may have existed for weeks or months with the dissecting aneurism and still be amenable to suture, as the opening in the vessel itself enlarges but little with time, the aneurismal sac being formed from the surrounding tissues and laminated coagula (see Fig. 12). The technique of suture in this class of cases should be the same as in the first, after the aneurismal sac has been enucleated and the opening in the vessel has been exposed and separated from its attachment to the wall of the aneurism.

In the third class of cases, *i.e.*, traumatic aneurisms

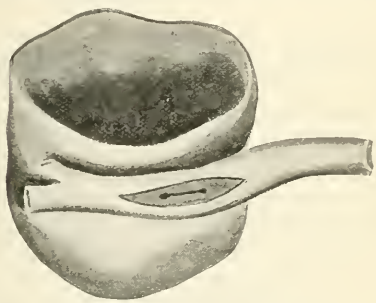

Fig. 12.—Shows Aneurismal Sac Formed from Connective Tissue and Laminated Coagula with no Enlargement of Original Opening in Vessel.

of long standing, we have the best variety of cases for arterial suture. The opening in the artery is usually small, the arterial wall is healthy, and a sufficient quantity of aneurismal stump may be retained to produce a firm line of approximation (see Fig. 12). From a theoretical standpoint, as well as from the result of experiments, there is no danger of the formation of aneurism at the point of primary suture for injuries and should not be for secondary suture, as in aneurisms of this class. The vessel should be exposed above and below the aneurism, and temporary hæmostasis obtained by a very mild compression forceps. The aneurismal sac should then be freely opened and dissected down to the position of the opening in the artery. The edges of the opening should be freshened and closed, the same technique being observed as in primary suture.

In the fourth class of cases, *i.e.*, sacculated, fusiform, and arterio-venous aneurisms, the aneurismal sac should be exposed and dissected down to the position of the healthy coats of the artery (Figs. 13 and 14), where it should be amputated, leaving sufficient of the aneurismal coat and arterial wall to allow a row of sutures involving one-sixteenth of an inch of the margin on either side, so that when the suture is complete the size of the vessel will be below its normal calibre. This lessens the arterial pressure of the vessel at that point and there should follow a union of the walls. Care should be taken not to produce an approximation of arterial surfaces covered with coag-

ulated laminæ. A study of the aneurismal varix (Figs. 13 and 14)[1] shows how the aneurismal sac may be amputated or removed from the opening in the artery and the communicating canal closed by suture; also Warren's case.[2] The same can be said of Ro-

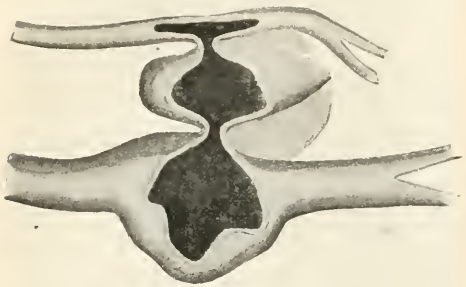

Fig. 13.—Shows Arterio-Venous Aneurism with Small Communicating Canal where Suture could be readily applied (Treves).

land's case.[3] As the longitudinal suture of arteries has been so successful experimentally, little doubt remains but it can be more successful clinically, as asepsis and antisepsis can be more effectually carried out.

Following are reports of two cases in the human subject:

Case I.—Carl A. B——, American, aged thirty-three, married, a salesman; received a bullet wound in the left Scarpa's triangle (22-calibre ball) at two o'clock on the afternoon of October 4th. He was taken to the County Hospital, where I saw him at 6:45 the same evening. The man had profuse hemorrhage from the wound before he was brought to the hospital. There was considerable puffing for four inches below Poupart's ligament; there was no pulsation or bruit in this swelling. The left posterior tibial artery pulsated synchronously with the right and was of the same force and tension. It was believed from these conditions, from the position of the wound, and from the severity of the hemorrhage, that the femoral artery was not injured but that the vein was probably punctured.

Operation: An incision five inches long was made, extending downward from Poupart's ligament parallel with the femoral artery; the internal saphenous vein was exposed and found to be perforated. An opening existed on its anterior and posterior surfaces, the bullet having passed through the middle. These were sutured with a continuous silk suture, No. 8 floss needle. The dissection was continued and the common femoral vein exposed and found injured. The femoral vein had an opening on its anterior surface, three-fourths of an inch above the junction of the profunda, and on

Fig. 14.—Shows Arterio-Venous Aneurism with Large Communicating Canal and No Dilatation of Artery at Point of Communication (Treves' "Surgery")

its posterior surface one-eighth of an inch above the vena profunda femoralis (Fig. 15). It was difficult to control the hemorrhage, as the blood returned through the vena profunda when the clamps were placed upon the femoral vein above and below the wound. It was soon found that the posterior opening could not be exposed without dividing the profunda. A double ligature was placed on the profunda and it was divided between. The posterior surface of the vein was now turned forward and the opening closed with a continuous suture as above. After this was completed the clamps were removed and a little blood escaped from the posterior inferior angle of the wound in the vein; after the insertion of an additional suture in the angle the hemorrhage ceased. The femoral artery had a fragment of tissue torn off the side of its sheath, but the vessel wall was not injured. The bullet was not located. The vein wall was split by the bullet, no part of it being carried away, the usual result of a bullet wound of a vein. There was not a drop of blood escaping from either of the veins when the compresses were finally removed. The field of operation was sponged out with a five-per-cent. solution of carbolic acid, the wound closed, and the leg elevated. No drainage.

The greatest difficulty in the operation was experienced in exposing the posterior surface of the common femoral vein on account of the close relation of the wound to the vena profunda.

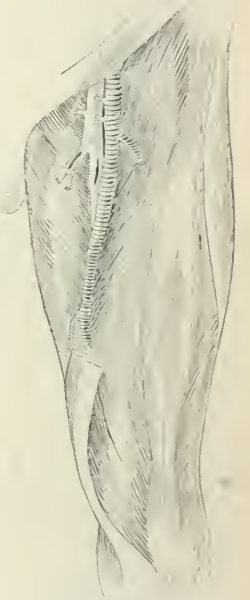

Fig. 15.—Shows Point of Perforation of Internal Saphenous and Femoral Veins.

The patient's temperature began to rise after the operation and on October 8th had reached 104° F. The wound was opened and a gauze drain inserted. The temperature gradually dropped and by October 12th was below 100° F., and remained below 100° F. until November 6th, when it reached 101° F.; November 7th in the morning, 102.2° F. The wound had been suppurating all the time, although the external opening was almost closed. On the morning of November 7th there was considerable hemorrhage, which was believed to be due to suppuration of the sutures in the vein. On November 8th the temperature was 102° F.; pulse, 130; more bleeding. On November 9th the pulse was 144; temperature, 100° F.; patient was coughing and expectorating a bloody mucus. On November 10th I saw the patient for the first time in a week; his temperature was then 101.6° F., and his pulse 104. Examination revealed a large swelling of the upper third of the thigh; the tension of the tumor was very great; blood was oozing from the small opening which still remained, and a dark clot could be seen inside the opening. There was no pulsation in the swelling. It was not auscultated. Patient was anæsthetized, the opening was enlarged, a clot four inches in diameter was shelled out, and in the bottom bright arterial blood flowed per saltum into the wound; digital compression controlled it until the field was entirely cleared. The inner side of the femoral artery for one inch was eroded and had a number of perforations. It was carefully dissected out, about one and one-half inches were resected, a single ligature was placed on the distal

[1] Treves' "Surgery," p. 634.
[2] Boston Medical and Surgical Journal, May 30, 1890.
[3] Bryant's "Surgery," p. 316.

and a double one on the proximal end. The cavity was cleansed and drained. The femoral vein could not be located. Some fragments of the femur which had been broken off by the bullet were removed.

Since November 27th the patient has been doing very well. There has been no disturbance of the circulation of the leg, and the cavity is almost closed. December 8th, there is a very small sinus remaining; patient is in excellent condition. The infection was probably produced by the bullet and the continued suppuration favored by the fragments of bone. January 4, 1897, patient completely recovered; no œdema, and no disturbance of circulation of leg.

Case II.—H. V——, Italian, peddler, aged twenty-nine. He was shot at eleven o'clock September 19th, and was brought to the hospital two hours later.

Clinical history: The patient was shot twice, one bullet passing into the abdominal wall just above the great curvature of the stomach without penetrating the abdomen; the other entered Scarpa's triangle below Poupart's ligament. There was no bruit at this point or increased pulsation noticed at the time the patient was admitted to the hospital. I saw the patient first October 4th; examination revealed a loud bruit, it could be heard with the ear placed six inches from the thigh. There was no tumor and but slight increase in pulsation. The pulsation in the popliteal, dorsalis pedis, and posterior tibial arteries was scarcely perceptible. I examined the case again on October 6th and demonstrated it to a class of students. A thrill could be felt and a bruit could be heard. The latter was the loudest to which I had ever listened. The pulsation though very feeble could now be felt in the dorsalis pedis, but not in the posterior tibial.

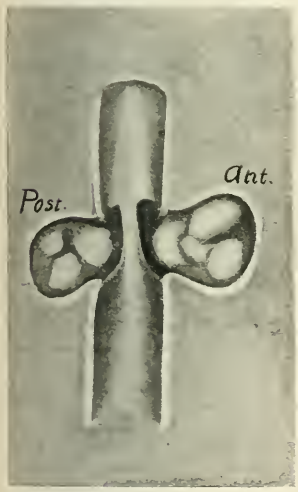

Fig. 16.—Shows Aneurismal Pockets on Anterior and Posterior Surfaces of Femoral Artery. Case II.

Diagnosis: Penetrating wound of the common femoral artery about one and one-half inches below Poupart's ligament. It was decided to cut down and expose the artery, and if a penetrating wound of more than one-half of the circumference was found to make a resection and unite it end to end.

Operation, October 7, 1896. An incision five inches long was made from Poupart's ligament along the course of the femoral artery. The artery was readily exposed about one inch below Poupart's ligament; it was separated from its sheath and a provisional ligature thrown around it but not tied. A careful dissection was then made down along the wall of the vessel to the pulsating clot. The artery was exposed one inch below that point and a ligature thrown around it but not tied; a careful dissection was made upward to the point of the clot. The artery was then closed above and below with gentle compression clamps and was elevated, at which time there was profuse hemorrhage from an opening in the vein. A cavity, about the size of a filbert, was found posterior to the artery communicating with its calibre, the aneurismal pocket. A small aneurismal sac about the same size was found on the anterior surface of the artery over the point of perforation (Fig. 16). The hemorrhage from the vein was very profuse and was controlled by digital compression. It was found that one-eighth of an inch of the arterial wall on the outer side of the opening remained, and on the inner side of the perforation only a band of one-sixteenth of an inch of the adventitia was intact (Fig. 17). The bullet had passed through the centre of the artery, carried away all its wall except the strands described above, and passed downward and backward, making a large hole in the vein in its posterior and external side just above the junction of the vena profunda (Fig. 18). Great difficulty was experienced in controlling the hemorrhage from the vein. After dissecting the vein above and below the point of laceration and placing a temporary ligature on the vena profunda, the hemorrhage was controlled so that the vein could be sutured. At the point of suture the vein was greatly diminished in size, but when the clamps were removed it dilated about one-third the normal diameter, or one-third the diameter of the vein above and below. There was no bleeding from the vein when the clamps were removed. Our attention was then turned to the artery. Two inches of it had been exposed and freed from all

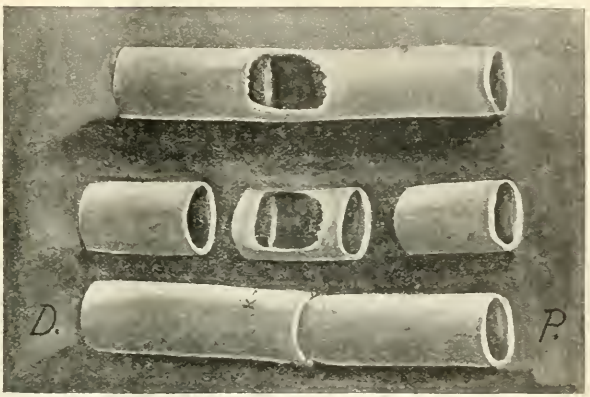

Fig. 17.—Shows Degree of Destruction, Portion Resected, and Appearance after Invagination of Femoral Artery in Case II.

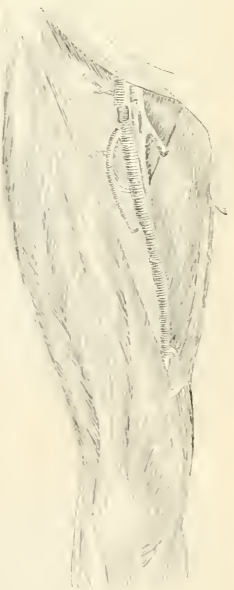

Fig. 18.—Shows Position of Perforation of Femoral Artery and Vein in Case II.

surroundings. The opening in the artery was three-eighths of an inch in length: one-half inch was resected and the proximal end was invaginated into the distal for one-third of an inch with four double-needled threads which penetrated all the walls of the artery, as shown in Fig. 17. The adventitia was peeled off the invaginated portion for a distance of one-third inch; a row of sutures was placed around the edge of the overlapping distal end, the sutures penetrating only the media of the proximal portion; the adventitia was then drawn over the line of union and sutured. The clamps were removed. Not a drop of blood escaped at the line of suture. Pulsation was immediately restored in the artery below the line of approximation, and it could be felt feebly in the posterior tibial and dorsalis pedis. The sheath and connective tissue around the artery were then approximated at the position of suture with catgut, so as to support the wall of the artery. The whole cavity was washed out

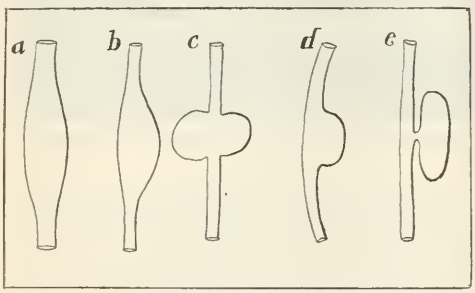

FIG. 15.—Shows Various Forms of Aneurism.

with a five-per-cent. solution of carbolic acid and the edges of the wound were accurately approximated with silkworm-gut sutures. No drainage.

The time for the operation was approximately two and one-half hours, most of that time being consumed in suturing the vein. The artery was easily secured and sutured, and the hemorrhage from it readily controlled. The patient was placed in bed, with the leg elevated and wrapped in cotton.

A pulsation could be felt in the dorsalis pedis on October 11th, four days after the operation. There were no œdema of the leg and no pain. The circulation was good continuously from the time of operation. The wound suppurated; drainage was inserted, but at no time did the patient's temperature exceed 100.8 F. December 8, 1896, the circulation is perfect, the wound has healed with the exception of a small superficial ulcer, one-third of an inch in diameter. The patient has not had an unpleasant symptom since the operation. January 4th, patient is walking about the ward of the hospital, has no œdema and no disturbance of the circulation.

I desire to thank Dr. W. A. Evans for the microscopical work, and Dr. E. H. Lee for assistance in the experiments.

34 WASHINGTON STREET.

Vaccination in Afghanistan.—Miss Lilias Hamilton, who is private physician of the Emir of Afghanistan, has succeeded in convincing her royal patient of the utility of vaccination. Small-pox ravages Afghanistan every spring, killing about one-fifth of the children. The emir has decreed obligatory vaccination in all his States. The order has been given to construct stables and to raise vaccine heifers. Miss Hamilton has been deputed to organize a general vaccination service.—*La Médecine Moderne.*

SULPHO-SALICYLIC ACID AS A REAGENT FOR ALBUMIN IN URINE (THE "SULPHO-TEST").

BY RICHARD STEIN, M.D.,

NEW YORK.

SULPHO-SALICYLIC acid is a white crystalline substance produced by heating salicylic acid with concentrated sulphuric acid. It precipitates all proteid substances. It shows traces of albumin in a dilution of 1–50,000. This reagent was first described by Reoch.[1] Independently of him, MacWilliam[2] described its use, in an exhaustive paper to which I refer those who are interested in details. Ott[3] called attention to it again recently. The reagent was recommended to me by Dr. I. Adler, of this city. I have employed it daily for the last two or three years. As it does not seem to be generally known in this country, a short notice of its excellent qualities as a reagent for albumin for clinical purposes may not be deemed out of place.

MacWilliam employs sulpho-salicylic acid in the form of a saturated solution. I employ it by adding some of the crystals to a small quantity of filtered urine contained in a test-tube. The tube is then shaken. If albumin is present, a white homogeneous precipitate appears instantly. The urine should be acid. Ordinarily, however, it is not necessary to make a preliminary test for the acid or alkaline reaction of the urine. If the urine is alkaline it effervesces after the sulpho-salicylic acid is added. If albumin is present in the smallest traces, a cloudiness appears. When nitric or acetic acid is used for tests, small traces of albumin give rise to stringy, multiform particles suspended in a clear menstruum, the interpretation of which often gives rise to doubt. Sulpho-salicylic acid, however, gives a uniform opalescence which is unmistakable. If albumin is present in greater amount, the precipitate becomes flocculent. The reaction is not interfered with by adding an excess of the chemical. Redissolution of the precipitate never takes place.

As sulpho-salicylic acid precipitates all proteids, inclusive of peptones and propeptones (albumose), it is advisable in every instance to boil the precipitate. If the latter disappears on boiling and reappears on cooling, it shows that it consists of peptones and propeptones (albumose), in contradistinction to the ordinary forms of albumin in urine, viz., serum albumin and serum globulin, which do not redissolve on boiling. By this simple manipulation sulpho-salicylic acid can be used to differentiate between the serines and the peptones.[4] It is important to consider this in pneumonia, for instance, in which peptones are present in large quantities in the third stage. Furthermore, spermatic fluid contains peptones, and thus the first urine passed after the ejaculation of the semen regularly gives a marked precipitate with sulpho-salicylic acid, which disappears on boiling. I have known of candidates for life insurance who were rejected on account of a misinterpretation of this reaction.

Senator[5] has pointed out that propeptonuria may appear as a forerunner of true albuminuria.

The point may be raised, whether it is necessary to employ finer tests than those hitherto used in daily practice. I think that every one will concede that the nitric-acid boiling test is a crude test. It shows only comparatively large amounts of albumin with certainty. In testing for traces with this old test, it is necessary, after boiling the urine and adding a few drops of

[1] G. Reoch Pharmaceutische Centralhalle, 549, 1889.
[2] J. A. MacWilliam Brit. Med. Journal, No. 1,581, 837, 1891.
[3] A. Ott: Archiv f. klinische Medicin, 53, 607, 1894.
[4] v. Jaksch and R. v. Engel. v. Jaksch's "Klinische Diagnostik," 4th ed., 1896, p. 351.
[5] Senator. "Die Albuminurie," 2d ed., 1890.

nitric acid, to allow the fluid to cool in order to cause the albumin to precipitate. In addition to this, there is always the danger of redissolving the albumin by an excess of acid. The "sulpho-test" shows a well-marked reaction in instances in which the nitric-acid boiling test fails completely.

Heller's cold test, which consists in carefully pouring a quantity of urine on top of a layer of nitric acid, thus producing a fine white ring at the point of contact of the two fluids, when albumin is present, will always remain an elegant test. It may, however, fail in minimal traces of albumin, or give doubtful results when the urine contains an excess of urates. Admitting its usefulness for most cases, the sulpho-test is the finer test and the more reliable one.

The old test of accidulating the urine with acetic acid and boiling the fluid in the upper part of the tube shows the presence of very small quantities of albumin. A cloudiness appears in the upper boiled part of the fluid which is in marked contrast with the clear fluid in the lower part of the test-tube. According to my experience, the sulpho-test shows the presence of albumin when the acetic-acid boiling test carried out in this way fails.

As to the presence of mucin or nucleo albumin in the urine, sulpho-salicylic acid does not produce opalescence in the presence of those minimal quantities contained in every normal urine. Opalescence appears only when larger quantities of mucin or nucleo-albumin are present, as in catarrhal affections of the genito-urinary tract.[1]

Although the existence of a physiological albuminuria is undoubted, under conditions which cannot be discussed here,[2] the appearance of albumin in the urine will always remain a sign worthy of investigation in every case. In my office practice I am in the habit of examining two specimens from each patient, a morning specimen passed after rising, and an evening specimen passed after the day's work. As in diabetes (with rare exceptions), we thus find most albuminurias "cyclic," *i.e.*, no albumin or only small traces in the morning, larger quantities in the evening. This proves the necessity of examining the evening urine in every instance. Since the adoption of the sulpho-test, I am generally successful in obtaining traces in morning specimens, when all other tests give negative results. The so-called cyclic albuminuria of the authors must be looked upon with grave suspicion.[3] From personal observations I am inclined to class the cyclic albuminuria under the head of acute nephritis of a very mild type. The systematic use of the centrifuge in this connection, will, I think, prove this conclusively. There is hardly any chronic or subchronic organic ailment which is so amenable to successful treatment as this form of nephritis. It may even be claimed that chronic forms of Bright's disease can be prevented by the early discovery and systematic treatment of this form of albuminuria.

As is well known, in the small contracted kidney, with urine of low specific gravity, albumin is often absent, or it may be present in such small quantities that it cannot be detected by any means hitherto employed. In this instance the "sulpho-test" is of great value, giving positive results when all other tests fail. This is all the more important, as in this form of Bright's disease the search for casts is very often fruitless.[4] A minimal trace of albumin may be the means of revealing this most serious condition.

In conclusion I would say the sulpho-test is more accurate than those tests hitherto employed. It is simple, portable, clean, prompt. It can be used for the differentiation of albumin and peptones. It is the most delicate of all tests for albumin (not excluding that with acetic acid and cyanide of potassium). It is worthy to become universally known as an important aid in the diagnosis of diseases of the kidney.

[1] Ott: Zeitschrift für Heilkunde, 1895, vol. xvi., p. 177.

[2] Senator: "Albuminurie," 2d ed., 1890. "Erkrankungen der Nieren" (Nothnagel's "Speciale Pathologie und Therapie") Part I., p. 15, 1895.

[3] See "Critical Review of Cyclic Albuminuria," by Curschmann, Schmidt's Jahrbuch, vol. xxii., p. 289. Also Ott: Deutsches Archiv f. klin. Med., vol. lii., p. 64.

[4] In order to get a sediment which will precipitate casts, in clear urines with low specific gravity, it might be of advantage to add some substance, like uric acid, before centrifuging.

REMARKS ON TYPHOID FEVER.[1]

By ELMER LEE, A.M., M.D., Ph.B.,

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Typhoid fever is the expression of a group of symptoms which have for their particular determination the lining membrane of the small bowel. The condition that leads to this determination is always one of some general impairment of the system. It may be caused by bacilli or not.

The simple fact that certain forms of bacilli are found associated with the disease is not positive proof that they are the cause of the affection. As in the case of cholera, twenty-four forms of bacilli are found associated with the fæcal discharges. It seems rather assuming for the physician to say that the comma bacillus, which is only one of the twenty-four, is the certain and constant influence which produces cholera; and why might we not, reasoning from analogy, say it is also a problem to determine, whether typhoid fever is produced by one particular kind of germ? However we may decide, all credit and honor to the bacteriologic laboratory and to the earnest workers who are in it.

The practical treatment of typhoid fever, however, does not depend upon experimentation in the bacteriologic laboratory. It was treated just as well before series of experiments were conducted in laboratories, and it has been treated as well since, without regard being paid to the experiments in connection with bacteriologic study.

So it is in the treatment of cholera. The death rate of cholera has averaged fifty per cent., both before bacteriology was instituted and since that time. Notwithstanding that the home of Koch was in Berlin, just a few miles from Hamburg, the fatality at Hamburg from cholera was fifty per cent., the same as in other places and at other epidemics during the century.

The subject of typhoid fever has been one of earnest study by physicians for a great many years. It has now been determined by a long series of experiments upon patients, in both hospital and private practice, that typhoid fever is actually to be cured by the use of water and without the employment of any drugs whatsoever.

The contention is made by Dr. Woodbridge, an earnest investigator and a thoroughly capable clinician, that the practical results of his treatment are due to small doses of guaiacol in combination with other drugs: whereas the real explanation is to be traced to the fact that he gives water. Recently the doctor visited me at my office; he admitted that water alone might be used successfully, but said that so many years had drug remedies been associated with his line of practice he dared not give them up. If he would go a little further and make the experiment, leave out one remedy and then another, it would be

[1] Read by title, at the meeting of the Mississippi Valley Medical Association, St. Paul, September 8, 1896.

found that he could eliminate the entire list. For is it possible to neutralize septic conditions that exist in a tube twenty-five feet long, such as is the alimentary canal, by the Woodbridge or any similar formula?

Septic matter contained in a test tube cannot be made non-septic by any kind or quantity of drug medicament that would be safe to introduce into the human body. If the experiement with a test tube fails in the laboratory under favorable circumstances, how is it possible to disinfect a twisting, ramifying, complex, convoluted bowel, twenty-five feet long? If it were possible, it would be by empiric methods. Practically, it cannot be accomplished. What is the use, then, of talking about giving a drug, whether it be carbolic acid, guaiacol, or some other agent, and expect it to do impossibilities? Why are we deceiving ourselves about this point?

Furthermore, typhoid fever is only a group of symptoms; it is not an entity. Do you ever see two cases alike? The symptoms are always more or less different. In a large proportion of cases you will not see the rose-colored spots on the abdomen, and then again occasionally you will see them. The cases vary. There is no constant, reliable symptomatology to be found in every case.

The physician should treat the body instead of treating the disease. There is no contraindication to the employment of water, but how is it to be used intelligently and scientifically? Baths are excellent, but the internal use of water is still more efficacious. It has been observed in practice that the external use of water and the irrigations of the bowels may be entirely omitted in the treatment of typhoid fever, provided enough water is introduced into the system through the mouth.

How much water shall we use? The normal physiologic requirement of the average human body per day is two quarts. This may vary materially. If the fever is high, more water is needed than if it were comparatively low. The largest quantity ever given one patient, in twenty-four hours, has been three gallons, which was safely borne. Under such treatment the fever subsides during the first week and convalescence is established, although the ultimate recovery of the patient may be protracted. It sometimes requires months under any treatment that may be instituted. But the less harmful the treatment, the quicker the convalescence and ultimate recovery. With few exceptions, I succeed in reducing the fever and having the temperature normal within one week, and bringing about the ultimate recovery of the patient within three or four weeks, sometimes in a shorter period.

Here is the contention which I desire to make. If it is possible to cure disease without the use of drugs given to any considerable extent, is it not a triumph for medicine? The drug method is empiric and expectant, while the hydriatic is rapid and scientific. It happens oftentimes that the medical profession is reproached by the laity, saying that medicine makes practically no progress, while surgery advances with rapid strides. Electricity and steam are discoveries of comparatively recent date, but see how perfect they are. Would the imperfect methods and such confusion as exist in the practice of internal medicine be tolerated in any other allied science?

The confusion which is noticed in the selection of remedies, in the practice of internal medicine, is largely caused by two mistakes. One is that physiology is either forgotten or imperfectly learned; and the other is the overwhelming number of drugs forced upon us, both by the materia medica and by proprietary corporations which keep the medical profession in a state of constant experimentation—in other words, in a position of disappointment and uncertainty.

It was a sad discovery to me, fifteen years ago, to find that all of the prescriptions written for our information in Fothergill, Bartholow, and Watson were practically of very little use in the treatment of typhoid fever. The disappointment was so great that it resolved itself into a resolution of personal inquiry as to whether there was not some sure way of curing typhoid fever. If no other than the empiric drug way had been found, I would have dropped internal medicine and taken up surgery exclusively; but the profession has succeeded in finding a simple, safe, physiologic method by which to treat this disease. Death in my private practice from typhoid fever has not occurred in a good many years, or since the adoption of hydriatic treatment.

As to baths—is it necessary to use the Brandt bath, which is terrifying both to the patient and the friends, and which produces any amount of inconvenience? Is it expedient to resort to any harsh and distressing measures? Sponging is all very well; a tub bath is very good in its way; but cold baths are not absolutely necessary, especially in private practice.

I have recently adopted a sprinkle bath, consisting of a fountain syringe containing water of a temperature below the normal heat of the body, hung on the wall, the chandelier, or the bedpost, and by means of a small sprinkler nozzle fitted to the end of the tubing the patient is sprayed like a bed of flowers in summer time. The water as it goes on the body is allowed to evaporate, not to be wiped off. This is very satisfactory to the practitioner and the patient; besides, the family can have no objections to it, and at the same time it meets all the requirements of a bathing apparatus.

The object of this hydriatic work has been to simplify the method of treating disease, to get down to something that approaches a science. At first it was thought necessary to irrigate the bowels in all cases, and the practice was carried on to the extent of using two irrigations of two and one-half quarts of water each day. Later on it was found one irrigation would do, and afterward that the irrigation could be omitted. While irrigation of the colon may be excluded in many cases, the rule is to employ one irrigation or injection each day. One teaspoonful of elixo, a liquid soap, is dissolved in the water, to render it more cleansing. Also it was determined that bathing could be omitted in the rapid treatment of typhoid fever, if enough pure water be given internally.

The water which is preferable under all circumstances is the purest water, namely, distilled water. The next to it is boiled water; and next to that, such as may be convenient. Organic substance occasionally in water does not necessarily contraindicate its use or interfere with the welfare of the patient. It should be remembered that the gastric juice of the stomach destroys the organic impurities.

If a large quantity of water is admitted into the system, it will reduce the arterial pressure, and thereby materially moderate the action of the heart. It will also assist metabolism, by reason of the action of water upon the tissues, by its power to dissolve dead matter and to convey it to the emunctories, and thus eliminate poisonous elements from the system. Water helps to establish a better blood circulation in the capillaries; it increases the nutrition of the ultimate cells of the entire body by its aid to osmotic transfusion of the serum, which contains the fibrin, albumin, and salts in solution.

Therapeutic fasting is indicated during the acute stage of the fever. The best results are obtained by the omission of all food for the first few days, or until there is genuine hunger, a good and sure test being a piece of dry bread.

A recognition of the laws of physiology is the basis of the treatment which is advocated in these remarks.

Concerning the pathology of typhoid fever, there is much that is indefinite about it. Post-mortem examinations disclose ulcers in the intestinal wall with proliferation of small cells, a diminution in the red blood corpuscles, and alterations in the quality and the quantity of the blood and circulating fluids.

Treatment without drugs was an accidental discovery. It was a great shock when by accident it was proved that quinine could be dispensed with in the treatment of intermittent fever. I did not get over it for some time. By mistake of a nurse, quinine was omitted on a certain occasion, whereas it was supposed that the patient was having it. The patient got well, but the incident of the nurse's mistake was the beginning of the downfall of dependence on drug treatment.

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Progress of Medical Science.

Acanthosis Nigricans. — This is a disease little known hitherto. It is characterized, according to Tenneson and Leredde, by a pigmentation of the whole body; a generalized papillomatosis, which implicates the buccal mucous membrane; a generalized pruritus, which is a symptom not pointed out in the few cases heretofore described; and a pronounced loss of flesh, associated with marked dyspeptic symptoms and with induration of the left lobe of the liver. Darier thinks it well established, especially by the thesis of Couillaud, that the disease points to carcinomatosis. Lesions of the palm present a characteristic papillomatous appearance. In all cases reported, with one exception, there was abdominal carcinomatosis.

The Influence of Intra-Abdominal Pressure upon the Absorption of Peritoneal Effusions.—As the result of an experimental investigation, Hamburger (*Revue de Médecine*, December 10, 1896, p. 1,008) has determined that in animals the resorption of liquid effusions into the abdominal cavity is, up to a certain point, favored by an increase in the intra-abdominal pressure. When, however, the pressure exceeds a certain degree, resorption is impeded rather than hastened, in consequence of interference with the flow of blood through the vessels. These facts, demonstrable physiologically, can be reproduced by means of artificial homogeneous membranes, so that the process is probably dependent upon a simple physical mechanism, and not upon any special vital activity. The results of this investigation are in accord with clinical observation, inasmuch as rapid absorption of large effusions takes place after a portion of the fluid has been removed by puncture.

The Treatment of Retrodisplacements of the Uterus by Shortening the Round Ligaments.—As the result of an elaborate study, based upon an extended clinical experience and a full consideration of the literature of the subject, Edebohls (*American Gynecological and Obstetrical Journal*, December, 1896, p. 671) contends that shortening the round ligaments is the only operation by which the retrodisplaced uterus can be brought into normal and physiologic anteversion, without establishing always pathologic peritoneal adhesions. All other operations for the correction of retroversion depend for their success upon more or less extensive, more or less firm peritoneal adhesions. The operation of shortening the round ligaments is, in capable hands, as safe and as successful as the other operations for the correction of retroversion of the uterus. Shortening the round ligaments is absolutely free from the disturbances and disasters attending pregnancy and parturition following vaginal and ventral fixation of the uterus. It is therefore indicated and should be the operation of choice whenever it will meet the indications as well as or better than either of the other operations named. Shortening the round ligaments is indicated in all uncomplicated cases of retroversion, retroflexion, and excessive mobility of the uterus requiring operative treatment; in extreme and aggravated cases of anteflexion of the uterus; in cases of retroversion of an anteflexed uterus without adhesions; in cases of simple prolapse of the ovaries, when that condition requires treatment; in cases of adherent retrodisplacement of the uterus, with or without adhesions of tubes and ovaries, these organs being in a condition to justify their conservation. The adhesions are first to be broken up by colpotomy, median cœliotomy, or an incision through the peritoneum at the internal ring. Shortening the round ligaments does not compare in efficiency with ventral fixation of the uterus for the correction of uterine prolapse. The operation should always be preceded by curettage of the uterus and is best effected by opening the whole length of the anterior wall of the inguinal canal, drawing the ligament out at the internal ring, and shortening the intra-abdominal portion by stripping back the investing peritoneum, and closing the wound in the manner pursued in the Bassini operation for the radical cure of inguinal hernia, leaving and securing the shortened ligament in its natural situation behind the lower edge of the internal oblique muscle.

The Use of Antitoxin Serum in the Treatment of Diphtheria under the Supervision of the New York City Health Department, with a Résumé of the Published Reports on this Subject. — Drs. Hermann M. Biggs and Arthur R. Guerard (*Medical News*, December 26, 1896), in an exhaustive article on the above subject, conclude by affirming the following facts: 1. That diphtheria antitoxin, when generally employed, has reduced the mortality from diphtheria at least one-half. 2. That it has a distinctly favorable effect on the clinical course of the disease, shortening it and lessening its severity. 3. That the earlier the treatment is commenced, the better the results obtained; the mortality, when adequate doses of antitoxin have been given within the first forty-eight hours of the disease, not exceeding five per cent. 4. That antitoxin is a specific against true diphtheria (*i.e.*, when the symptoms are due solely to the Klebs-Loeffler bacillus) and is less efficacious in mixed infections, but even in these forms of diphtheria is of decided benefit. 5. That it is not necessary to wait for a confirmatory bacteriological diagnosis, but that in every clinically suspicious case of membranous angina, especially in children, a medium dose of antitoxin should immediately be given, and repeated if required by the further developments of the case. 6. That antitoxic serum is a remedy without serious after-effects in the doses which have ordinarily been employed (the after-effects, such as rashes, etc., being insignificant in comparison with the danger of the disease); that it has no injurious action on the kidneys, the heart, or the nervous system; that it does not entirely prevent albuminuria, heart failure, and post-diphtheritic paralysis, because the effects of the diphtheritic toxin which has already entered the system before the administration of the remedy, no matter how soon the treatment is begun, are not always completely counteracted by the antitoxin, though there is every reason to believe that in sufficient doses it does prevent any farther extension of the toxic action after its effects have been produced. 7. That the protection conferred

by immunizing doses of antitoxin is almost absolute for a short period of time, *e.g.*, three or four weeks, when a sufficient number of antitoxin units is administered; and that with a high-grade preparation, when only small quantities of serum are required, the remedy is absolutely harmless, even with the youngest infants. 8. That antitoxin, if not a specific cure for all forms of diphtheria occurring in the human subject, is by far the best remedy for the treatment of the disease. To the critics of the antitoxin treatment, I may repeat the words of a famous German poet, quoted by Professor Soltman:

> "Das ist die richtigste Kritik von der Welt,
> Wenn neben das, was ihm missfällt,
> Einer etwas Eignes und Besseres stellt."

Or, in other words:

> "The best critics in the world are they
> Who, along with that which they gainsay,
> Suggest another and a better way."

The Prognostic Significance of the Diazo Reaction in Typhoid Fever.—As a result of upward of three thousand observations in two hundred and fifty cases of various disorders, Jez (*Wiener medizinische Wochenschrift*, December 19, 1896, p. 2,270) has arrived at the conclusion that the occurrence of the so-called diazo reaction in the urine, especially in cases of typhoid fever, appears to be attributable to toxic substances generated by the typhoid bacillus (typhotoxins) altered in some way in their passage through the human organism. The reaction may appear in the course of a number of diseases and bears no relation to the fever; and it is not dependent upon the form of medicinal or dietetic treatment employed. It appears with considerable constancy in cases of typhoid fever (from the second to the seventh day) and is of a good deal of prognostic significance in this disease, its intensity varying directly with the severity of the morbid process. In cases in which the diagnosis is doubtful, as between typhoid fever on the one hand and gastric fever, acute gastro-enteritis, and malarial fever upon the other hand, the reaction is of differential diagnostic import, inasmuch as it does not appear in the course of any of the three diseases last named. In doubtful cases in which the reaction fails to appear, typhoid fever is to be diagnosticated only with great caution. The occurrence of the reaction in cases of heart disease, nephritis, and tuberculosis must be viewed as a sign of ill omen. On account of its simplicity of application and its great diagnostic and prognostic significance, the test should never be omitted.

Successful Removal of a Cerebellar Tumor from a Child.—At a recent meeting of the Clinical Society of London, Parkin (*British Medical Journal*, December 19, 1896, p. 1,776), reported the case of a child, four years old, who came under observation on account of difficulty in both walking and talking which had been gradually increasing for several months. The child was listless and dull and complained of constant headache. The gait was markedly ataxic, with a tendency to fall backward, and the patient could not raise herself in bed without assistance. The left leg was rigid and both knee jerks were exaggerated. The temperature was subnormal; the pulse was irregular but not slowed. There was no ocular paralysis, but there was intense optic neuritis with hemorrhages, not, however, attended with much loss of vision. The child was treated for a month with large doses of potassium iodide, and during this time had three very severe general convulsions accompanied by marked cyanosis. The condition of the little patient growing gradually worse, the cerebellum was explored. A large scalp flap, with the apex well down on the neck, was raised upward, and after removal of the bone a flap of dura mater with its apex in the opposite direction was turned downward, after ligature of the occipital sinus. A portion of each lateral lobe and the posterior part of the middle lobe were removed, these parts being obviously of a different color than the rest of the cerebellum. Subsequent examination indicated that the tumor was of gliomatous nature. The wound healed rapidly, and in the course of three months the child regained its power of talking distinctly and quickly and was able to walk quite well. The optic neuritis subsided, and there had been no return of any of the symptoms in the subsequent two years and a half.

Acute Spreading Gangrene Successfully Treated with Antistreptococcus Serum. — Steele (*British Medical Journal*, December 19, 1896, p. 176) has reported the case of a girl, a year and a half old, who was accidentally burned on the calf of the left leg with a red-hot poker. The wound was dressed with linseed oil, but would not heal, and the child's health became impaired. In the course of sixteen days a red spot appeared at the centre of the forehead and a small abscess on the left lower eyelid. The lesion upon the forehead increased in size and assumed a gangrenous character, an offensive discharge took place from the nostrils, and profound constitutional symptoms appeared. Ulceration took place at the site of the burn on the leg. The gangrenous portions of the wound on the forehead were cut away and nitric acid was applied with a mop; the ulcers on the eyelid and the leg were curetted and also touched with nitric acid. Improvement failing to take place, these operations were repeated, and again were unattended with permanent good results. The general condition was rather worse than better. At this time, after the lapse of almost a month, five cubic centimetres of antistreptococcus serum were injected beneath the skin and strychnine and brandy administered internally. In the course of a week distinct improvement was noticeable, although suppuration took place in the right elbow-joint, demanding incision and drainage. Perfect recovery ensued ultimately.

The Treatment of Diphtheria with the Antitoxin.—The reports of the results secured with the employment of the antitoxin in the treatment of diphtheria continue favorable. Cuno (*Deutsche medicinische Wochenschrift*, December 24, 1896, p. 483) analyzes 483 cases thus treated at the Children's Hospital at Frankfort on the Main from October 1, 1894, to October 1, 1896. The cases were divided into severe, 282; moderately severe, 112; and mild, 89. Among the whole number there were 51 deaths, 10.5 per cent. Deducting the number of deaths in children brought into the hospital moribund and dying in the first twenty hours, 5, and also those dying of other unrelated disorders long after recovery from the attack of diphtheria had taken place, 12, the mortality was reduced to 7.03 per cent. The reduction in the mortality in the period of antitoxin treatment is made more conspicuous by comparison with the statistics of the previous six years, during which the mortality varied between 32.6 and 43.8 per cent. In the two years considered, the antitoxin alone was used, local applications being eschewed. Full diet was given and heart failure was guarded against by the administration of alcohol and injections of camphor. When albuminuria and nephritis appeared, packs, sweats, and rarely injections of pilocarpine were employed.

The Disintegration of Leucocytes in the Course of Leukæmia and Profound Anæmias.—Two views have been offered in explanation of the increased number of colorless corpuscles in the blood character-

istic of leukæmia. According to the one there occurs diminished disintegration of those cells, while according to the other there is increased production in conjunction also with increased destruction of the colorless cells. Considerable evidence of increased glandular activity has been adduced in cases of leukæmia with augmented production of colorless cells, to confirm which and to demonstrate increased disintegration of leukocytes, Gumprecht (*Deutsches Archiv für klinische Medicin*, B. lvii., H. 5, 6, p. 523) undertook a series of experimental and clinical observations. In concluding the communication embodying his investigation, this author points out that it is generally known that in the majority of cases of leukæmia the excretion of uric acid or alloxur bodies is increased, and that a close relation exists between the degree of cellular disintegration in the body and the amount of uric acid eliminated in the urine. The morphologic characteristics of this degeneration are known for a number of involution and pathologic processes. According to the disintegrating changes in the nucleus, there may be recognized a hyperchromatosis or a hypochromatosis. Gumprecht's investigation showed that free suspended lymphocytes of varied origin degenerate outside of the body, or on exposure to heat, according to the second form, *i.e.*, hypochromatosis. The outline of the nucleus becomes irregular, its structure is lost, and its chromatin slowly disappears. The leucocytes degenerate according to the same type in a number of profound disorders of the blood. Especially in leukæmias, and among them again the acute forms, the abundance of such degenerating cells is peculiar, as the expression of the nuclein disintegration long postulated by chemists. Under these conditions the same morphologic alterations were present in the lymphocytes and myelocytes as in artificially degenerated cells—disappearance of protoplasm, irregularity of contour of the nucleus, loss of its structure, flattening and vacuolation of the nucleus, and especially slowly progressive loss of chromatin. In profound anæmias there occurs frequently, though not constantly, degeneration of leucocytes, at times almost as extensive as in leukæmic blood. Disintegration of leucocytes is wanting or but slight in normal blood, apart from the polynuclear elements, which represent probably the most mature forms of colorless cells.

The Pathology of Aneurism of the Aorta.—In a recent lecture by Dr. A. Fränkel, of Berlin, syphilis was advanced as one of the chief causes of aneurism. In eleven instances out of thirty cases examined, syphilis could be positively proven. Mercurial inunction is therefore the method of treatment advised.

Treatment of Chronic Gouty Affections. — Dr. Murrell (*Lancet*) reports that he has successfully treated the acute manifestations of chronic gouty affections by a local application, which is as follows: Half an ounce of iodide of potassium dissolved in half a pint of rectified spirit (methylated spirit is used in hospital practice); then one ounce of soap liniment is added, and, finally, one-half drachm each of oil of cajuput and oil of cloves. A piece of lint soaked in this mixture is wrapped around the affected part, covered with protective dressing, and kept in place by a bandage. It acts as a powerful counter-irritant, and the inflammation usually subsides in from twelve to twenty-four hours. Dr. Murrell gives, in addition, a drachm of colchicum wine with ten grains of iodide of potassium three times a day. This produces brisk purgation, sometimes accompanied by vomiting, but it speedily cuts short the attack. This treatment is especially indicated in the case of robust, full-bodied men, to whom the loss of a day's work is a serious consideration. In sciatica, lumbago, and rheumatism affecting one joint, the local application of a liniment containing one-half ounce of salicylate of sodium, one-half drachm of cajuput, fifteen minims of oil of eucalyptus, and one-half ounce of soap liniment in six ounces of rectified spirit affords prompt relief.

Entero-Cutaneous Fistula.—Dr. Bonnet reports a case of entero-cutaneous fistula, due to ascarides lumbricoides, in a child of seven years. Intestinal perforation, localized tympanites, abscess, and peri-umbilical fistula, due to the migration of thirty-five ascarides.—*La Médecine Moderne.*

Movable Kidney.—Dr. Cordier (*American Journal of Obstetrics and Gynecology*, October, 1896) deduces the following propositions: 1. A movable kidney often produces a dilated stomach, with all the accompanying symptoms of a disease of the latter. 2. It is a fruitful source of gall stones, by the pedicle producing a partial obstruction of the common duct. 3. The bending of the ureter often gives rise to a hydronephrosis. This in turn is sometimes converted into a pyonephrosis. 4. It may produce death by a complete strangulation, by a torsion of the vessels and ureter. 5. By dragging on the abdominal aorta and kinking of the vena cava, a condition simulating an aneurism of these vessels may be produced. 6. Pain referred to the region of distribution of the spinal nerves is often induced by a movable kidney's disturbance of the abdominal basin. 7. A general nerve exhaustion (neurasthenia) is frequently induced by this condition interfering with digestion, assimilation, and elimination. 8. Nephrorrhaphy is a safe and effective surgical procedure. 9. All cases of movable kidney, if accompanied by symptoms pointing to the kidney as the source, should be operated upon. 10. In summing up the local and remote results of this now often-recognized condition, I think the correctness of the deductions has often been demonstrated by the disappearance of each and every symptom after a restoration and retention of the kidney in its normal position. 11. Symptoms are not to be relied upon in making a diagnosis of movable kidney; the physical examination is the only trustworthy guide.

Hemorrhoids. — Dr. Coston (*Mathews' Medical Quarterly*) prefers the clamp-and-cautery operation over all others for the following reasons: 1. In the operation with ligature you tie up the most sensitive of all nerve ends, and they are sure to resent it by intense pain, which will continue until the stumps slough and the ligatures come away. In the cautery operation you have no such result to contend with; the nerve end is simply cut away and cauterized, and there is nothing left for it to do but cicatrize, and it is left in the best possible condition for this. 2. The ligature may slip and secondary hemorrhage occur; after the clamp and cautery operation there is no danger of secondary hemorrhage. If hemorrhage occurs it does so immediately, and the operator can blame only himself for it. 3. There is no danger of a recurrence. Kelsey, of New York, and Smith, of King's College, London, both support me in this statement, and they have had a vast experience with this operation. It will be admitted by all that recurrences do follow the ligature operation. 4. Convalescence is much more quickly completed, for the reason that it begins at once under the eschar produced by the cautery, and would be completed by the time the ligatures came away should the two operations be used on separate tumors in the same case at the same time. 5. The mortality following the clamp and cautery operation is practically *nil*. 6. The cautery operation requires less care from the physician after the operation. 7. There are no unpleasant sequelæ.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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NEW VASODILATORS.

THE English physiologists and therapeutists have been especially industrious and successful in supplying the profession with drugs which dilate the arteries, and in contributing to our knowledge of their action. The work in this direction of Lauder Brunton, Fraser, Leech, and Hay is well known. In a recent Bradshaw lecture by Dr. J. B. Bradbury, professor of medicine in the University of Cambridge, some new vasodilators are described and their action is discussed. Dr. Bradbury started out to find some vasodilator which had a more permanent effect upon the arterial walls than nitroglycerin and the nitrite of sodium. In looking for this substance, he chose for his investigation the nitrate derivatives of the higher-valent alcohols and their allies. The nitrates of erythrol and mannitol and some of the sugars were examined. The nitrates of sugars were found to have very little effect, and the investigation was, therefore, ultimately directed mainly to the nitrates of erythrol and mannitol. The experiments were made by the perfusion method through excised organs. The method first originated with Ludwig, and is one by which the element of nerve action is eliminated. The kidney of the sheep was the organ specially experimented upon. Blood tracings were also taken of the vessels in rabbits and pulse tracings in man. It was found that both the nitrate of erythrol and that of mannitol had a vaso-dilating effect which began to show itself slowly and lasted for several hours. This effect was less than that produced by nitroglycerin, but was much more prolonged. Tracings were taken showing the effects of the drugs on animals and also on man. When, for example, nitroglycerin is given to the healthy adult man, the arterial dilatation shows itself a minute and a half after the drug is taken. Its effect continues for from three to five minutes, but at the end of ten minutes the pressure has returned to about normal. On the other hand, when erythrol tetranitrate is given, it is twenty minutes before the effect of the drug is manifest, and fifty minutes before it is decidedly shown, while the effect is not lost until after five hours. Very nearly the same result is produced by giving mannitol hexanitrate, it being nearly an hour before the full effect is shown and over five hours before it has worn off. The direct effect of the above compounds upon the heart is very slight. Indirectly, owing to the diminished work consequent on dilatation of the blood-vessels, there is increased rapidity and sometimes palpitation. The effect upon the urinary excretion is practically *nil*. The organic nitrates, as Dr. Bradbury calls them, so far as they have been investigated, are not diuretics, in this respect differing from glycerol trinitrate or nitroglycerin. Erythrol nitrate melts at 61° C. and the mannitol compound at 113° C. Both are slightly soluble in water, but quite soluble in alcohol and ether. When heated with alkalies, they give the nitrite reaction; that is, they liberate iodine from a slightly acidified solution of iodide of potassium. The dose of the solid organic nitrates of erythrol and mannitol is about one grain, though more may be given if it is thought necessary. They may be administered in the form of pills but better in alcoholic solution, and such solutions are stable and not irritating to the stomach.

Dr. Bradbury has, apparently, not used these drugs to any great extent in practice as yet, but he suggests that they will prove of value in headache, dyspnœa, Raynaud's disease, aneurism, Bright's disease, and angina pectoris.

PROFESSIONAL TACT.

WHEN so much is said concerning the requisites for success in practice, one of the main means to the end —that of using tact with the patient—is too frequently left out of consideration. The possession of this in the highest degree is an evidence of genius, although the talent can be very successfully cultivated to the great benefit of both parties concerned. It is so important an element of success that it often takes precedence of sound learning, ripe judgment, and otherwise large attainments. The impression made upon the patient is the main thing, upon which must rest the ultimate chances of a good and paying practice. The doctor, to be a good business man, must practise his profession in a business-like way. He too often forgets that the patient is naturally a very selfish person, and that he takes no more interest in the physician than that which centres on the possibility of being relieved from pain and in being ultimately cured. The doctor is expected to meet him on that basis of understanding, and nothing more. Hence the more directly the medical attendant can make his interest in that direction manifested, the better impression he will leave. Every sick person welcomes the cheerful adviser, but does not bargain for being bored with gossip, undue frivolity, or want of a real appreciation of the patient's actual needs. His own individuality is the only one which is paramount to everything else. The fact that the doctor has a new horse, a charming wife, or a sick child, does not concern the patient one way or the other, so long as the sick one knows that he is to get the right medicine at the right time. If he is not compelled to interrupt the doctor in some personal narrative for some more explicit direction as to dosage or the like, it is eminently well for both parties.

How often is it truthfully said by the patient: "Our doctor is a very nice man, but the only trouble is he tells such prosy stories about himself, his family, his operations, his writings, his hospital, and his horses, that it is difficult to get him to give more than a passing thought to the patient."

On the other hand, the practitioner who gives his whole time to the wants of the suffering one, confines himself to every detail of direction and to nothing more, manifests a dignified earnestness of purpose in all his dealings, and is apparently too much concerned about the patient to think of himself, is the man always in demand and always welcome. He never shows that he is in a hurry, no other patient is more important than the one in hand, no case more interesting to him, and the patient is always proud to believe that no one of all the clientèle is more ill or more important to the careful and painstaking doctor. More can be accomplished oftentimes in a five-minute visit by strict attention to business than in an hour of twaddle, under the mistaken impression that the doctor is expected to make more of a social than a professional visit. Aside from making the impression on the patient of being careful and methodical, the good doctor never runs the risk of having so much spare time on his hands that he has always, during what should be the busier moments of his day, time enough to tell or listen to an idle story. Sometimes the patient may wonder under such circumstances if some other one in waiting does not grudge the time the doctor is uselessly squandering in the vain effort to be entertaining. If his visits are always such lengthy ones, they must necessarily be comparatively few. In any event, the business at hand is very simple—prescribe and go. The polish of a barrel has not so much to do with the bull's eye as directness of aim.

ANOTHER WAY TO CHEAT THE DOCTOR.

A WOMAN living in this city, whose fortune is estimated at considerably over half a million dollars, recently became alarmed about her health and feared that she had Bright's disease. From the ordinary professional point of view, there was nothing to do but to be examined by her family physician, and then, if she had renal trouble, to put herself under his care. But this wasn't the woman's view, for a thorough physical examination, including examination of the urine, would be expensive. She didn't want to die for lack of treatment if she really was ill; and, on the other hand, if she did not need treatment, there was no use in wasting money on an examination. Examination at a dispensary would be free, of course, but then it might not be thorough enough. She might trust the dispensary doctor to treat her if she had Bright's disease, but she would not trust his diagnosis. So this resourceful lady of frugal mind bethought herself of another scheme. She made application for life insurance in large amount, so large, indeed, that the rules of the company called for an examination by two physicians before accepting her as a risk. The two examiners, both experienced and competent men, called at her house by appointment, and subjected her to a most painstaking examination. Not long after she received notice from the company that she had been accepted, and replied that she had changed her mind and would not be insured at present. This is not so bad as the dispensary dodge, for, although the family physician lost a fee, the insurance examiners did get one. There may even be some among our readers who will rejoice over a new use for an insurance company.

TOUT POUR LA FRANCE.

IN a recent lecture upon intubation at the Children's Clinic in Paris, Monsieur Sevestre is reported in *La Médecine Moderne* as having given the students the following history of the discovery of this useful procedure: "Tubage of the larynx is an invention due to Monsieur Bouchut, who did not succeed at the time in convincing his colleagues. Since then, our modern professors being better advised and having learned that our French procedure was giving marvellous results in foreign parts, took up again Bouchut's idea, perfected the instruments, and to-day this method should be employed by all practitioners."

This is not so hard upon O'Dwyer, whose name is left out, as it is upon the newer generation of French students, because no amount of such talk can detract from the honor due and given by the medical world outside of France to the real discoverer of intubation as it exists to-day. It is the student who will have to unlearn this false and foolish teaching. Bouchut has been accorded by Americans the credit which is due him—and that is saying much more than could ever be said of his own countrymen. Bouchut, like the prophet, "was not without honor save in his own country." It is not now for Bouchut that these claims are put forth—it is for France.

The Hebrew Sheltering Guardian Society Orphan Asylum.—This institution, which was recently quarantined by the health department and the management disciplined by the State board of charities after all of the medical officers had resigned, has just issued its annual report. Although a document intended for circulation among the laity, it contains an appendix in the form of a medical report by the resident physician, which consists of an unjust criticism of the former medical officers, the discussion of an alleged method of curing ringworm of the scalp, and a lengthy article on gonorrhœal vulvo-vaginitis unfit for general distribution. Such report being published by the managers without the knowledge or consent of the medical board, the members of the latter felt themselves called upon publicly to disclaim all responsibility for its appearance, as mentioned in our news column on the 2d inst. It is difficult to understand how reputable physicians, who presumably direct the medical affairs of such an institution, should unhesitatingly publish the fact that they have been ignored by the managers, and yet meekly submit to such insult by continuing in the service?

News of the Week.

The Yellow-Fever Germ.—The London *Times* prints a dispatch from Montevideo, supplementing the report noticed recently in the MEDICAL RECORD, to the effect that the micro-organism of yellow fever has been discovered. The dispatch states that the discoverer, a young Italian physician named Guiseppe Sanarelli, now director of the Uruguayan National Institute of Experimental Hygiene, was led to undertake his studies after having himself recovered from the disease at Rio de Janeiro. The announcement of the discovery, with a description of the micro-organism found, has been sent to the Royal Academy of Medicine of Rome.

Cholera in England.—The transport ship *Nubia* arrived at Plymouth, England, on January 9th, with several cases of cholera on board, among the British troops as well as the Lascar sailors. Three of the soldiers and two sailors died at sea, and another death occurred the day after the arrival of the vessel. The ship was disinfected and the sick were removed to the hospital ship. On the following day two more of the soldiers were stricken.

The Plague in Bombay.—Dr. Manser, senior physician of the principal hospital in Bombay, died on January 5th, of the bubonic plague. The Indian government at Calcutta has sent Dr. Cleghorn, the director-general of the medical service, to Bombay, to report upon the increase of the plague. The mill operatives and their families are quitting the city, thus adding a quarter of a million of unemployed to the country districts. It is now estimated that three hundred and twenty-five thousand persons have fled from the city as a result of the spread of the bubonic plague, scattering contagion in the villages up the country. The *Times of India* says that owing to the exodus on account of the plague the population of Bombay has been reduced by one-half. The weekly mortality is two hundred per thousand, and more shops are closed than open in the native quarter. Despite the panic, many victims of the plague refuse to accept medical treatment, regarding the disease as a visitation of God. The plague is also reported to be raging with great violence at Kurrachee, one of the chief seaports of India, at the extreme northern end of the west coast at a considerable distance from Bombay.

The Famine in India.—The area of famine covers a very large extent of country inhabited by over ninety million people. In two-thirds of this district the distress is very acute, and almost the entire population in some parts, cultivators and laborers, of high and low caste, are crowding to the relief works. In western China, also, a severe famine is reported, and the distress has now been aggravated by severe floods which have destroyed the rice and other growing crops from which relief was expected.

Obituary Notes.—DR. LORENZO RECCHIA, a well-known surgeon of Naples, died recently at his home in that city. He was fifty years of age. The cause of his death was progressive spinal paralysis.—DR. BENJAMIN F. KETCHUM, of Brattleboro, Vt., died suddenly on January 9th, of an affection of the heart. He was born in Troy, N. Y., on Christmas Day, 1837, and was graduated in medicine from the University of the City of New York in 1860. He served through the civil war as a surgeon, and at its termination settled in Brattleboro, where he practised up to the time of his death.

Pseudo-Hermaphroditism.—This was the term employed by Dr. Sherman, of 26 East Sixty-third Street, in sending out invitations to a limited number of professional men on Sunday last, to see at her house an unusual instance of mingled sex. The subject, about twenty-three years of age, presented many features of interest to those who had the privilege of examining it. A woman in feature, voice, action, instinct, and dress, was found with well-developed penis and testes. The rectal orifice, without external sphincter, presented somewhat the features of a vulva, and high up through an orifice suggestive of a cervix a probe could be passed for about two inches. Through this opening there was a discharge of blood, which had been going on for some days, and which the patient stated occurred regularly each month since the age of fifteen. Urine is passed, as Dr. Sherman has observed, through both channels, partly under control of the will: and, according to the patient's statement, menstrual blood escapes at times by way of the urethra. No distinct uterus or ovaries could be made out. After a more thorough investigation the case will be published in full in the MEDICAL RECORD.

Commitment of the Insane.—It is reported that Commissioner Croft of the department of charities has issued an order that hereafter no insane person is to be committed except upon order of a magistrate. Such a rule is in the main good, but there arise conditions which make it an inhumane and dangerous one, and provision should be made for exceptional instances. A magistrate cannot always be found. Prompt restraint and treatment are often of extreme importance, not only to friends and physicians, but to the patient for his own welfare. Then, too, it necessitates the unjust and often dangerous practice of incarcerating acutely insane persons who come into the hands of the authorities in the night time when no magistrate is available. The commissioners should consider these points, and amend their rule.

Society of Medical Jurisprudence.—At the meeting of January 11th the new law relating to the commitment of the insane was discussed. A committee was appointed to consider the matter, to confer with the Neurological and County Medical Societies, and to report at a subsequent special meeting. Dr. Spitzka contended that the commitment should rest wholly within the province of the legally qualified practitioner without legal service of notice upon patient and friends. A motion to appoint a committee to secure repeal of the new law met with opposition.

Investigating an Operation for Appendicitis.—Complaint was made recently to the coroner's office

that the death of a man at the Roosevelt Hospital a few days ago was the result of an error of the surgeons. The man was drunk when brought to the hospital, and it was claimed that his death was due to his being operated upon immediately, before he had recovered from the intoxication. The coroner who investigated the case, however, was satisfied that it was necessary that the operation should be performed at once, and he found also that it was done after consultation with the man's wife, who gave her consent. He therefore exonerated the hospital authorities from any blame.

The Mortality in Cuba.—Some idea of the terrible loss of life in Cuba may be gathered from an item in the *Heraldo*, of Madrid, which paper, speaking of the death rate and the sickness among the soldiers in Cuba, says that a column of four thousand men sent to the island at the beginning of November numbered only seven hundred at the end of that month. Many other columns show similar losses.

Dr. Edward Kershner, formerly medical inspector in the United States navy, has been appointed by the commissioners of charities as chief of the medical staff of the Randall's Island Hospital. Since severing his connection with the navy Dr. Kershner has been professor of hygiene in the Post-Graduate School of this city.

Statue of the Late Prof. Samuel D. Gross.—A statue of the late Dr. Samuel D. Gross, professor of surgery in Jefferson Medical College from 1856 to 1882, has recently been cast in Paris and is expected to arrive in this country toward the end of the present month. The costs of the statue have been defrayed by contributions from the American Surgical Association, of which Professor Gross was the founder and the first president, the Alumni Association of Jefferson Medical College, and a number of personal and professional friends. Congress has appropriated $1,500 for a pedestal, and the statue is to be placed in the grounds of the Smithsonian Institution near the Army Medical Museum in Washington, D. C. The unveiling will take place on the second day of the triennial congress of American physicians in May next.

Pennsylvania State Sanatorium for the Cure of Tuberculosis.—The board of directors of the Pennsylvania Society for the Prevention of Tuberculosis has secured for the proposed new State sanatorium for the cure of tuberculosis a suitable site near White Haven, in Luzerne County, in close proximity to Glen Summit, and covering an area of nearly six hundred acres. A committee, consisting of Dr. J. M. Anders, Dr. Samuel G. Dixon, Miss Redfield, James L. Stanton, and Dr. S. Solis-Cohen, has been appointed to raise the sum of $15,000 for the erection of the necessary buildings.

Schuylkill County (Pa.) Medical Society.—At the annual meeting of the Schuylkill County Medical Society on January 5th, at Pottsville, Pa., the following officers were elected for the ensuing year: *President*, Dr. A. F. Bronson, of Girardville; *Vice-President*, Dr. H. C. Bowman, of Mahanoy City; *Secretary*, Dr. J. W. Cable, of Tamaqua; *Treasurer*, Dr. David Taggart, of Frackville; *Censor*, Dr. G. H. Halberstadt, of Pottsville. The business meeting was followed by a banquet, at which numerous toasts were proposed and appropriately responded to.

An Autumn Singer.—Philadelphia has added another to the not very long list of medical poets. Under the caption of "An Autumn Singer," Dr. George M. Gould, well known as a forceful and eloquent writer and industrious lexicographer, and not less as a busy and successful practitioner of ophthalmic medicine, has recently published an attractive little volume of sonnets, songs, poems, and other verse, which bears the stamp of noble sentiment and fine poetic spirit. The medical profession may well feel proud to include in its ranks this new devotee of the muse.

Low Death Rate.—The lowest death rate for several years is shown by the State board of health report for November. The number of deaths reported is 7,888 or 14.75 per thousand. Deaths from diphtheria are fewer than during the corresponding period of 1895.

Vital Statistics of Philadelphia.—For the week ending January 2d there occurred in the city of Philadelphia 502 deaths—107 more than in the preceding week and 50 more than in the corresponding week of the previous year. The principal individual causes of death were as follows: Pneumonia, 94; pulmonary tuberculosis, 54; heart disease, 35; diphtheria, 24; convulsions, 21. There were reported to the board of health during the week 106 cases of diphtheria, 43 of typhoid fever, 36 of scarlet fever. According to the report of the health officer there occurred during the year 1896, 23,982 deaths, 12,270 of males and 11,712 of females—186 more than in 1895. The individual causes of the largest number of deaths were: Pneumonia, 2,696; pulmonary tuberculosis, 2,524; heart disease, 1,405; cholera infantum, 1,126.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending January 9, 1897. January 2d.—Passed Assistant Surgeon M. S. Guest detached from the *Massachusetts* January 9th and ordered to the *Vesuvius* January 12th. Passed Assistant Surgeon L. W. Atlee detached from the *Richmond* on relief and ordered to the naval hospital, Philadelphia. Passed Assistant Surgeon W. F. Arnold detached from the *Enterprise* and ordered to the *Richmond*. Passed Assistant Surgeon R. P. Crandall detached from the *St. Mary's* and ordered to the naval hospital, Norfolk. Assistant Surgeon Lewis Morris promoted to passed assistant surgeon from June 27, 1895, and ordered to the *Essex*. January 6th.—Medical Director H. M. Wells retired January 20th. January 8th.—Medical Inspector J. R. Tryon ordered to examination for promotion January 11th. Surgeon G. P. Bradley ordered to examination for promotion, Washington, D. C., January 18th.

Clinical Department.

THE ABORTIVE TREATMENT OF TYPHOID FEVER.

By JOHN ELIOT WOODBRIDGE, M.D.,

CLEVELAND, OHIO.

An article appeared in a recent issue of the Medical Record under the caption "The Woodbridge Treatment of Typhoid Fever," in which the author, after an experience limited to the treatment of four cases (taken without regard to the duration of illness or the condition of the patient) finds fault with the method because it did not cut the disease short.

It is more than probable that none of the patients were reported by physicians who had consulted or corresponded with me, or called me in consultation and followed the advice which I gave at the bedside.

There may be better methods of managing typhoid fever than that which I have (for want of a better name) designated "The Abortive Treatment," but I must protest against the use and criticism, under that definition, of any modification whatever. The absurdity of such a procedure must be apparent to the most casual observer, because, if the statistics prove anything, they show that the results that have been obtained by those observers who have taken pains to master the subject as I understand it and have followed implicitly the advice I have given are better than those that have been obtained by any other method; therefore the teaching should be followed in its most minute detail or not at all; at least the neglect of the slightest detail as given in my book should shield my name from criticism as completely as it would deprive it of any share in the honor should the modification of the treatment accomplish more than the original method.

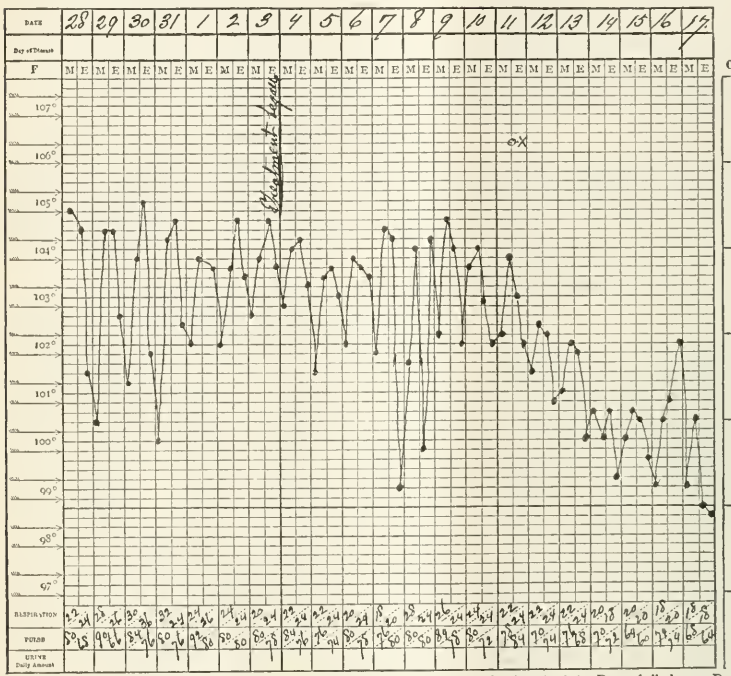

Chart 1.—Bellevue Hospital, Ward 17. Name, John C——. Date of admission, October 28, 1896. Date of discharge, December 7th. Reaction of serum on typhoid bacilli, positive. Diagnosis, typhoid fever. Result, cured in fourteen days. October 28th, alcohol bath if temperature reached 104° F. or over; medication, spirits of nitre. October 29th, alcohol bath if temperature reached 104° F. or over; dilute muriatic acid, twenty minims. Repeated on 30th and 31st. November 1st, alcohol bath if temperature reached 105° F. November 2d, sponge bath if temperature reached 105° F. The nightly record shows that the patient "slept well" throughout the treatment. November 25th, no medication; meat and crackers allowed. Last visit. No baths.

The writer says: "A study of the charts [of the cases] did not show that the usual course of typhoid fever was in any way modified by the treatment instituted. One case, which gave us great hope that a specific had been found, was shown by the serum-diagnosis test of Widal not to have been a case of typhoid fever."

The doctor might have added that a single glance at his patient by an experienced observer showed at once that the treatment had came under the doctor's care sufficiently early in the course of the illness to justify the expectation that the attack could be aborted. None of these patients died, and if the four patients whom I treated in the same division of Bellevue Hospital were fairly representative types of typhoid fever as seen there, the doctor has little occasion to be ashamed of his record, notwithstanding the important fact that he relied upon brief journal articles or excerpts therefrom for his guidance in the application of a most intricate method of treating an infection that has heretofore been regarded as incurable. Had these historical and argumentative papers been considered to be adequate guides for the management of this intractable ailment, my book "Typhoid Fever and its Abortive Treatment" would never have been written. True, before the book was published, more than four thousand cases of typhoid fever had been reported to me as having been treated by the method therein advised, with a death-rate of only 1.42 per cent., but most of these cases not been so applied as to produce the effects that have been so universally accredited to it by who all have used it successfully, viz., prompt alleviation of all of the grave symptoms (some of the doctor's patients were lying with cold coils over distended and tympanitic abdomens after weeks of treatment, and for this reason I advised him to discontinue it). Had these patients been properly treated, as I have directed, not only would the clinical charts have shown the modification of the temperature curve (in some of them at least), but in all of them all tympanites and all abdominal distention and tenderness would have promptly disappeared and the application of the cold coils would not have been necessary; and because these results were not obtained I expressed the opinion that the patient to whom the doctor alludes, in whom he believed he had aborted the disease, did not have typhoid fever.

Herewith are presented the clinical charts of the four cases of typhoid fever which immediately succeeded, in the same division of Bellevue Hospital, the

cases upon which the doctor based his criticism, and which, through the courtesy and under the watchful eye of the visiting physician, were treated by me.

Case I.—C——. This patient had been in the hospital for seven days before he came under my care. He seemed to have pneumonia and was aspirated before I saw him. Besides the ordinary medication, alcohol baths were ordered to reduce the hyperpyrexia.

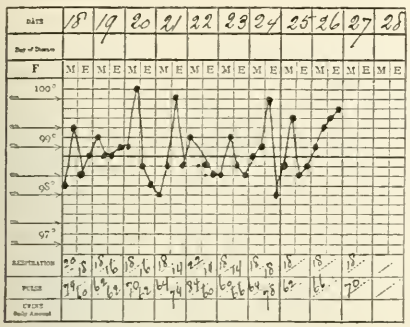

Chart 1.—*Continued.*

The duration of his illness could not be established. After he came under my care on November 3d, he was put upon the abortive treatment of typhoid fever and no other medication or baths were given. On November 25th all medicine was discontinued. He was allowed solid food and I did not think it necessary to see him again, although I visited the hospital daily until after his discharge therefrom, on December 7th.

Case II.—B——. This patient was admitted to the hospital on account of some supposed ailment of the lungs. On October 27th he was aspirated and eight ounces of bloody serum were removed, after which his temperature fell rapidly to normal and was at times subnormal. On November 5th, typhoid fever developed and he came under my care on the 10th of the month. On the 11th he had a slight intestinal hemorrhage. On the evening of the 20th day of the month, the sixteenth day of the disease and the tenth day of treatment, the temperature touched normal, and, although it went up to one hundred afterward, I did not see him after the 25th of the month, when all medication was discontinued and he was allowed solid food. He was discharged on December 3d.

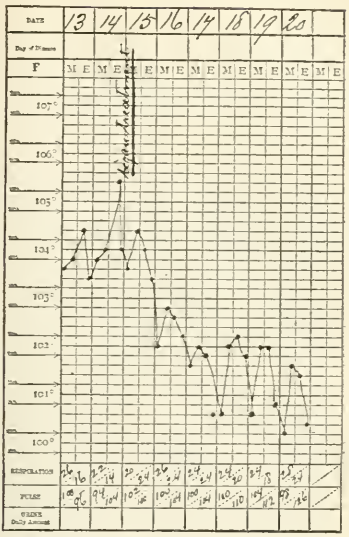

Chart 2.—Bellevue Hospital, Ward 17, 1896. Name, George W. P——. Age, 42. Date of admission, November 13, 1896. Died, November 22d. Reaction of serum on typhoid bacilli, positive. Diagnosis, typhoid fever. Result, died on eighth day.

Had syphilis ten years ago. Had rheumatism thirty years ago, and has been troubled with it ever since; one attack of it lasted six months. Had typhoid fever fifteen years ago. One toe on each foot became gangrenous and had to be amputated. Has been troubled with asthma for the last fifteen years. His feet and legs grow very cold and there seems to be little or no circulation.

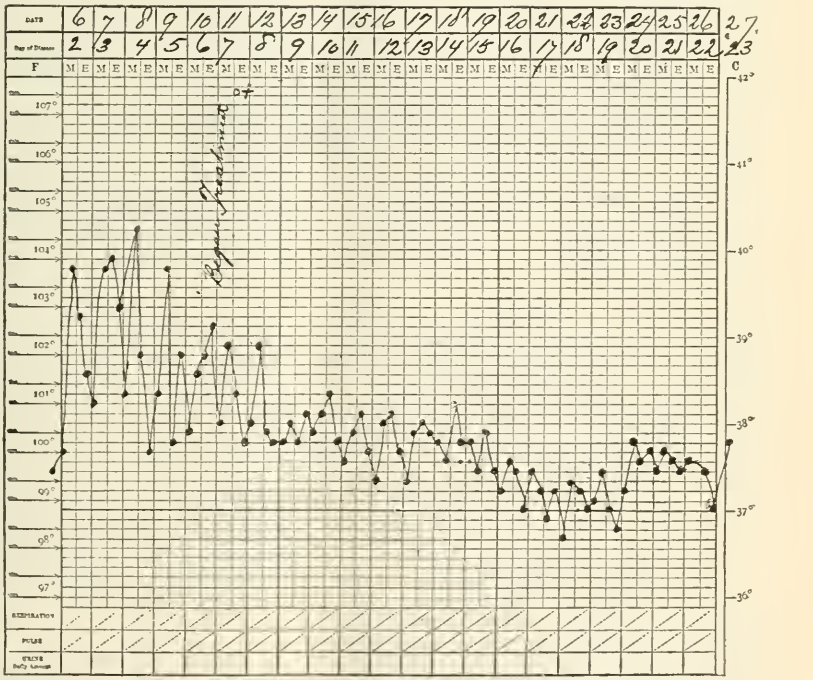

Chart 3.—Bellevue Hospital, Ward 17. Name, Samuel B——. Date of admission, October 27, 1896. Date of discharge, December 3, 1896. Reaction of serum on typhoid bacilli, positive. Diagnosis, typhoid fever. Result, cured in eleven days.

This patient was admitted on October 27th, when the temperature was 104° F. On the 28th it was 105° F. On the 29th he was aspirated and eight ounces of bloody serum were removed. This was no doubt due to some trouble of the lung. His temperature after the operation dropped promptly to normal and was occasionally subnormal. His attack of typhoid fever developed in the hospital on November 1st. Within three or four days after beginning treatment for typhoid fever, all tympanites and abdominal tenderness disappeared. The tongue became quite moist. The patient was free from delirium, and the condition changed rapidly for the better. November 25th, no medication; meat and crackers ordered; last visit. No baths.

Case III.—P——. This patient was admitted to the hospital on November 13th on an outside diagnosis of gastritis (?). He came under my care on the 14th. His history says that he had syphilis ten years ago. He had rheumatism thirty years ago and he has been troubled with it ever since (one attack lasting six months). He had typhoid fever fifteen years ago. He had one toe on each foot amputated, they having become gangrenous. He has been troubled with asthma for the past fifteen years. His feet and lower extremities grow very cold and there seems to be little or no circulation. Present illness: He was so thirsty about two weeks ago that he drank large quantities of cold water and milk, and he had some pain in the region of the stomach which was of a continuous aching character. He went to a physician for relief about a week previous to his admission to the hospital. He has not vomited, but the bowels have been very loose. Eating has no effect upon the pain. He has but little appetite and feels very weak and tired out. He has not been able to sleep much. He has been in bed one week. He came under my care on the 14th and died on November 22d.

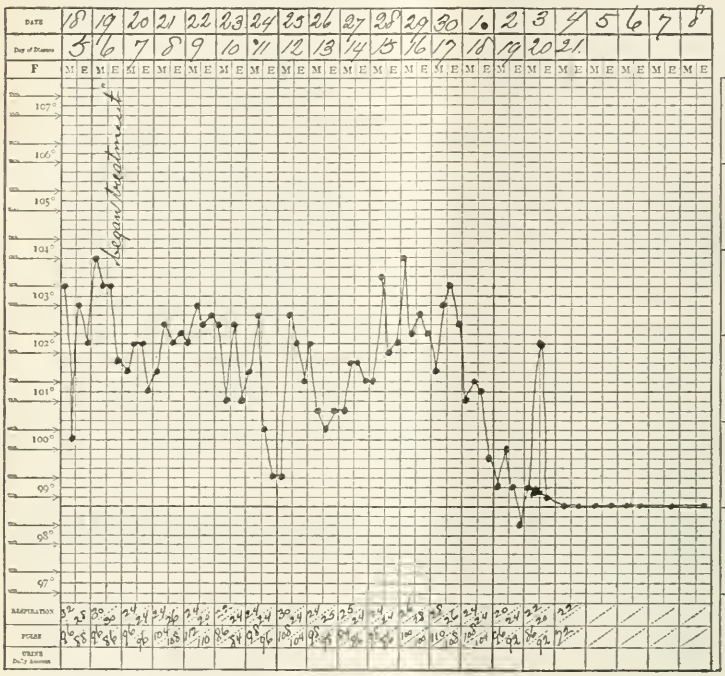

Chart 4.—Bellevue Hospital, Ward 28, November 18, 1896. Name, S——. Sex, female. Date of admission, November 18, 1896. Reaction of serum on typhoid bacilli, positive. Diagnosis, typhoid fever. Result, cured on thirteenth day. November 19th, 2:30 P.M., commenced tablets No. 1 (podophyllin resin, $\frac{1}{200}$ gr.; mercuric chloride, mild, $\frac{1}{16}$ gr.; guaiacol carbonate, $\frac{1}{6}$ gr.; menthol, $\frac{1}{16}$ gr.; eucalyptol, q.s.). November 24th, patient refused to take medicine except at 1 A.M. November 25th, refused medicine both day and night. All tympanites and abdominal tenderness disappeared after the third or fourth day of treatment. The tongue was moist throughout the attack and there was at no time any delirium. No baths. Solid food ordered on December 8th.

Case IV.—S——. This patient came under my care on November 19th. She refused to take the tablets on the 24th and 25th, and would not or could not take the capsules much of the time: hence her attack was unnecessarily prolonged. The evening temperature was subnormal on the thirteenth day of treatment and nineteenth of disease. She was allowed solid food on December 8th, after which I did not see her.

The histories of these cases of typhoid fever cannot be presented as conclusive evidence that the disease can be aborted, but they all presented well-marked clinical signs. The blood of all of them was examined by Dr. Alexander Lambert, bacteriologist of the board of health of New York City, and each gave a positive reaction on the Koch-Eberth bacilli. Each case showed the beneficial effects so often described by many observers, viz., the shortening of the ordinary duration of the disease, moist tongues, absence of delirium, rapid disappearance of all tympanites and abdominal tenderness, and of offensive odor from the stools. As these patients had no baths, and as the diagnosis cannot be questioned, they furnish strong presumptive evidence of the correctness of the diagnoses in the thousands of cases heretofore reported, in which the same treatment produced like effects, and which has led hundreds of observers to use and enthusiastically advocate the abortive treatment of typhoid fever.

Soldiers' Beds.—The soldier's bed varies notably in the different European armies. According to Dr. Viry, the following are the principal varieties, in which, perhaps, we may see the reflection of national characteristics. In England the bed is hard; the soldier lies on a thin mattress that rests on canvas stretched over a frame. In Spain the soldier has only a straw bed, but he is allowed besides this a pillow, two sheets, two blankets, and a covered quilt, sometimes even a cover for the feet. It is almost sybaritic. In Germany and Austria he has a simple straw bed with one or two covers, neither sheet nor mattress. In Russia, until recently, the soldier slept with his clothes on, on a camp bed: but now ordinary beds begin to be used—the result of contact with more civilized countries. After this, it cannot be doubted that the French soldier's bed is the best of all, with its wooden or iron bedstead, a straw bed, a wool mattress, sheets, a brown woollen coverlet, and an extra quilt for cold weather. Thus the bed of the French soldier is the softest of all soldiers' beds, as that of the French peasant is acknowledged also to be the best of all European countries.

Examine before Operation.—Paget says we ought to examine patients for operation with fully as much care as we do for life insurance. If this examination be so conducted, we shall often find that which will make us hesitate and prepare them, before subjecting them to enhanced risk of what may in other respects seem for their good.—Roswell Park.

Therapeutic Hints.

Tuberculosis of the Larynx.—Dr. Solomon Solis Cohen (*New York Medical Journal*, October 24, 1896) says: "Bromoform has been used by me with considerable satisfaction as a local analgesic in cases of painful ulceration of the larynx, especially in tuberculosis: and in several cases of early lesions the application of this agent, followed by the insufflation of iodoform, has been followed by healing. I make no further contention than this, as I have not considered it worth while to experiment with these drugs in cases of long-standing lesions. I desire, however, to call the attention of the fellows to the fact that formic compounds, as in the case of iodoform, chloroform, bromoform, and now formaldehyde, do seem to have, in greater or less degree, a specific antituberculous influence. Whether this be through action upon the bacilli or through restraining influence upon the histologic lesion, I am not prepared to affirm. My impression is that the latter guess is nearer to the truth."

Coryza.—Dr. Thonalla (*Hueckesnagen*) states that acute and chronic coryza, as well as iodinic rhinitis, may be rapidly checked by the introduction into the nasal cavities of suppositories of butter of cacao containing alumnol, oil of valerian, and menthol.

Resorcin for Infantile Diarrhœa.—Dr. Fenwick (*British Medical Journal*) uses resorcin for the following reasons: 1. It is extremely palatable to children. 2. It is devoid of toxic properties, differing in this respect from carbolic acid. (3) It is very inexpensive. 4. Dr. Fenwick finds it highly satisfactory in a large number of cases of intestinal dyspepsia in infants and young children. He gives convincing statistics of one hundred and twenty cases. In chronic cases in which follicular ulceration of the large intestine exists, the drug may be supplemented by such remedies as benzol-naphthol.

Intraperitoneal Rupture of Bladder.—Dr. Heaton (*Boston Medical and Surgical Journal*, September 17, 1896) states that the diagnosis is sometimes one of considerable difficulty, and gives four characteristic symptoms, any one of which may, however, be absent: (1) A history of some form of direct external violence to the hypogastric region when the bladder is distended or moderately full. (2) Sudden violent burning pain in the lower part of the abdomen accompanied by the signs of shock and collapse. (3) A constant or almost constant desire to pass water, with complete inability to do so, or with the passage of only a few drops of blood-stained urine. (4) And if no active treatment be adopted, gradually increasing abdominal distention, with the evidences of free fluid in the peritoneal cavity.

The Calomel Treatment of Typhoid.—Keep the patient in bed until for an entire week the temperature has been normal. Keep him on a sterilized liquid diet as long as he remains in bed. At the beginning of the disease, give ten grains of calomel on alternate days. Give one grain of carbolic acid and three drops of tincture of iodine, every four hours, during the entire illness.—Augustus Elliott.

Washing the Blood.—The mode of procedure may be briefly outlined. Any one of the transfusion apparatuses may be used. My preference is for a blunt-pointed transfusion cannula, connected by three feet of rubber tubing to a large glass funnel. I generally anæsthetize the skin over the vein with chloride-of-ethyl spray, and make an incision about three-quarters an inch long over the vein. This once exposed is incised, the cannula introduced, and a thin silk or gut ligature tied around the vein over the cannula. The water is allowed to run before the cannula is introduced, so as to prevent the entrance of air. I believe that it is best to introduce the saline solution slowly, so, as soon as the fluid begins to enter freely, I lower the funnel as much as is compatible with a pressure barely sufficient to allow the solution to run in. In case these procedures are, for any reason, impossible to be carrried out, the fluid may be introduced within the rectum or under the skin with a large hypodermic syringe. The intravenous method is, however, the most efficient one. The intra-arterial method recommended by Dawbarn may also be tried, but, I believe, has not yet attained any very great degree of popularity. This measure ought to become a routine in all infectious maladies and conditions wherein the blood is charged with toxins which retard elimination, and directly affect the action of the heart and great nerve centres.—Van Schaick, *New York Therapeutic Review*, September.

Furuncle.—During formative period:

℞ Sulphur subl ..... gr. iss.
Pulv. camphor ..... gr. i½.
M. S. Three such capsules or tablets to be given daily.

After evacuation and expulsion of the core the opening is filled with a paste composed of:

℞ Sulphur subl ..... ʒ iiss.
Pulv. camphor ..... ʒ iiss.
Glycerin ..... q.s.
M.

—A. Robin, *El Siglo Med.*

Melancholia.—Ten minims of ether injected deeply into the buttock relieved melancholic attacks upon six different occasions.—Shepherd, *Lancet*, October 21st.

A Tasteless Cup.—A medicine glass has been invented with a partition in the middle, by means of which disagreeable-tasting medicine is separated from some flavored liquid or wine which bathes the lips and mouth before the dose is swallowed.

Dentifrice for Blackened Teeth.—

℞ Pulv. potass. chlorat ..... 14 gm.
Pulv. boracis,
Magnes. calc.,
Calc. carb ..... āā 28 gm.
Essen. menth. pip ..... gtt. x.
M.

—*La Méd. Mod.*

Somatose, of which the formula calls for 88.37 of albumose, 7.46 of salts, and 0.24 of peptone has been experimented with by Dr. Wolf, assistant to Professor Monti, of Vienna. By adding it to cow's milk the latter is rendered more digestible, and it is found to exercise a beneficial influence in the slighter dyspeptic derangements of infants, being well borne by delicate children. It is of equal worth in functional digestive disorders of the second childhood.—*La Méd. Mod.*, October 28, 1896.

Bronchitis in Old Age.—

℞ Ac. benzoic ..... gr. iv.
Ac. tannic ..... gr. ij.
Ft. caps. No. i Four or five times daily.

—*Le Prog. Méd.*

Constipation in Infants.—Give no laxative before the third month and no purgative during the first year. To correct give cow's milk, four parts, and sweetened water, one hundred: rectal lavage by means of the urethral catheter, employing two tablespoonsful of glycerin to one litre of water or two tablespoonfuls of oil with the yolk of an egg mixed with four drachms of water; massage; electricity.—Marfan.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 7, 1897.

DANIEL LEWIS, M.D., VICE-PRESIDENT, IN THE CHAIR.

Officers.—The election of officers resulted as follows: For *President*, Dr. E. G. Janeway; *Vice-President*, Dr. Everett Herrick; *Trustees*, Drs. J. D. Bryant and Clement Cleveland; *Member of Committee on Library*, Dr. Charles H. Knight; *Member of Committee on Admissions*, Dr. Thomas E. Satterthwaite.

Annual Reports.—The report of the council stated that all matters connected with the academy were in a favorable condition. The committee on library fund had reported progress, and had expressed the hope that before the next annual meeting the sum of $100,000 would have been raised. This year would signalize the fiftieth anniversary, and arrangements had been made for an appropriate celebration (January 29th). With the report were a number of sub-reports, including those of Dr. Douglas, treasurer of the academy, and of Dr. Cushman, treasurer of the trustees. The library committee reported an increase in the number of books of 2,500; total number of volumes in the library exclusive of duplicates, 35,640. The journals for the year were 680, in various languages. Readers, 6,020, besides many who had not registered, as it was desired all should do. An improved catalogue would be finished the present year. The expenditures had been $5,207, leaving a deficit of $117. The committee asked for an appropriation of $4,500 for the ensuing year, and it was granted. Mr. Browne, librarian, and also his assistant, Miss Smith, received commendation for their able services. The reports of the corresponding secretary, Dr. Starr, of the statistical secretary, Dr. Judson, and of the executive committee of the nurses' bureau were also read. The latter showed that two hundred and sixty nurses had registered or re-registered during the year.

Prevention of the Spread of Contagious Diseases.—DR. H. D. CHAPIN read the paper. The effort at prevention of contagious disease could now be made with greater chances of success since bacteriology had thrown so much light on the causation of disease. After defining the word contagion and mentioning the degrees of contagion, the author spoke of disinfection. Methyl violet was one of the most powerful disinfectants and was not irritating. He had used a spray in the throat of a patient who had recovered from diphtheria, but the germs persisted. He was disposed to attribute their early disappearance after using the spray to the methyl violet employed.

It might be considered a rule that the length of incubation and the duration of infection were in inverse ratio to each other. If the incubation was long, the infection developed early and ceased early. When the incubation was short, the disease as such did not exhibit its infective power so soon, but it remained long.

The prevention of contagion was considered under two heads—what could be attempted by the physician and what could be done by the State. In a private house the patient could be isolated on the top floor. The virus should then be destroyed at its sources according to the nature of the disease, and its dissemination by means of clothing, etc., avoided. Movable objects should be taken from the room. A sheet at the doorway, kept damp, served at least as a danger signal. The nurse should not mingle with the family and should change her clothing before leaving the room. The room should be kept warm enough to allow of ventilation by opening a window a little at the top. This would diminish the risk of reinfection of the patient and infection of attendants. The greatest risk of spreading the contagium existed in tenement houses. The patient should occcupy a cot which, owing to its inexpensiveness, could subsequently be destroyed. Discharges should be collected on clean old cloths, which, after serving the purpose of handkerchiefs, could be burned. The solution of sulphate of zinc and common salt, recommended by the board of health, might be kept standing in the room for disinfection of clothing, cups, spoons, etc., by soaking them in the solution. All cloth taken from the room should be boiled. Pillows and other articles should be taken to the roof and exposed for hours to the air and sunshine. For washing the floor and walls, and also for use in the watercloset, a solution of carbolic acid, 1–20, or of corrosive sublimate, 1–1,000. The walls could be rubbed down with stale bread crumbs, which bacteriologists stated would collect any germs which might be present. It had always seemed to him well to employ sulphur fumigation. The thorough airing which followed its use might account for some of the benefit. The ideal method for disinfection of carpets, etc., was steaming, for which there were private plants in cities.

The healthy children should be removed, if possible, until all danger was over. The author approved of the resolution once adopted by the County Medical Society, calling for the establishing of places of refuge for this purpose. Probably the most powerful factor for the spread of contagion was in the public and parochial schools. The amount of air space per scholar was insufficient, and far below that required by law for tenements. In his opinion a most powerful factor in the schools was the arrangement of the wardrobes. He was glad to see important changes in this and other matters being demanded by the board of health. The use of slates and pencils was discontinued. Lead pencils and penholders were not to be transferred without being disinfected. School articles of children attacked by a contagious disease were to be disinfected or destroyed. Books taken home were to be covered once a month with brown paper. A place for drinking was discontinued, and a pitcher of fresh water placed in each schoolroom, renewed at least twice a day, without interchange of cups. Banisters, etc., should be regularly washed with soda solution. Wardrobes should have plenty of air space and not ventilate into the schoolroom.

Dr. Chapin thought much might be accomplished toward prevention of contagious diseases by the method of medical school inspection about to be introduced through the efforts of Dr. Fowler in his official relation to the board of health. Each medical inspector was to be held responsible for the health of the school which he was to visit. The teacher reported to him at his daily visit cases of children apparently not well, of absentees, etc. He was to examine suspected cases, and visit the house of the sick or absentees when necessary. In short, he was to be held responsible for the existence or extension of contagious diseases in his respective school. He was to report daily to the chief inspector.

DR. GEORGE B. FOWLER, health commissioner, opened the discussion. He explained further the work of the health department in the control of contagious diseases, more especially the reasons for having medical inspectors of schools appointed. It was hoped to get control of those cases of contagious disease now not reported as demanded by the law. It was believed that by this system the mortality from contagious diseases could yet be reduced five per cent., although during the past several years a considerable

reduction had already been effected. In evidence of the reduction he exhibited tables showing the percentages of deaths from contagious diseases in New York each year since 1889; also the percentage of cases of these diseases, and finally the actual number of deaths caused by them. Attention was called to the marked decrease in the actual number of deaths from diphtheria and typhoid fever the last year or two, as well as the decrease in the mortality rate for the number of cases reported.

An Age of Education.—Dr. C. S. Benedict, connected with the health department, said this was an age of education. It certainly had been such to the health department, and it had found it so with the people. The health department was different from what it was five years ago, and the people in tenements were far more willing to receive advice from the sanitary inspectors. So far as concerned the establishing of places of refuge for the healthy, it would be far more practical and efficient to establish more hospitals for those sick with contagious diseases, and take them there. In Boston they did this better than in New York, for they transferred five times as many cases of contagious diseases to hospitals in that city as was done in New York. Places of refuge for the healthy would mean provision for three to six well persons to one sick at home, and it would require a house in each district for each of three contagious diseases at least—measles, scarlet fever, and diphtheria. An accurate knowledge of the work of the board of health was not in possession of a large part of the profession in the city. Its purpose was not to usurp the authority of the physician, but to assist him in protecting the public health.

Dr. Joseph E. Winters thought the movement taken by the health board to prevent the spread of contagious diseases in connection with the public schools a most praiseworthy one. Regarding the statistics presented by one speaker, he reminded his hearers of the fact that contagious diseases and the mortality from them ran in cycles, as it were.

Dr. E. G. Janeway thought it was wise to take the greatest amount of precaution necessary to control contagious diseases rather than the least amount which might possibly suffice. It was best in diphtheria, for instance, to err on the safe side. Quarantine in tenements was one of the most difficult things, yet, if we were ever to hold the disease in check, there must be pretty strict quarantine. Disinfection was also necessary. It was well to ask ourselves whether we took proper precautions against carrying the contagium to families that we visited.

Dr. Rupp thought there was too much tendency in discussing the economic side of these questions to approach it only from the point of view of the rich man, whereas those who were most affected belonged to the very poor. As to the position which the board of health assumed toward the general practitioner, it sometimes did a thing and then notified the attending physician or it did not. When a doctor reported a case of contagious disease he signed his name as well as that of the patient, yet the inspector had been known to demand austerely on calling at the house of the patient, "Who is your doctor?" Inspectors were not always polite to poor people. A good deal of human nature was encountered in the work of educating the public and inspectors. The attending physician was in some way held responsible by the parents for the rudeness of health officers.

Regarding inspection of public schools, he would not minimize the importance of this work, but there was work back of that to be done, which was to improve the homes. The poverty and want of education of the poor were not an affliction to themselves alone. An upholsterer went from the bedside of his children sick with scarlet fever to do some work in the parlor of a mansion. His coat was thrown down upon the floor or a chair, and scarlet fever developed in children, this time not exposed at public schools.

An ordinary school medical inspector was to receive a salary of $30 a month. There was a good deal of difference between a salary of $3,000 for a chief inspector and $300 for the others.

Dr. Fowler said the board of apportionment would not grant a larger sum. Besides, school inspectors gave only an hour or an hour and a half a day, while those receiving a larger salary might be called upon to give their whole time. There was no lack of applicants.

By unanimous consent Dr. Janeway introduced a motion, which was adopted, permitting him to refrain from assuming office until after the anniversary exercises. This was an act of courtesy to Dr. Bryant.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, December 21, 1896.

Joseph E. Janvrin, M.D., President, in the Chair.

Some Anomalies in Anatomy.—Dr. R. Harcourt Anderson read a paper with this title. A few anomalies which had come under his observation in the dissecting-room, more especially of the muscles of the extremities, were mentioned in the last part of the paper. The remainder dealt with the subject in a more general and more or less theoretical way. Medical students were apt to regard anomalous anatomical conditions coming under their observation in the dissecting-room as curiosities, and any time spent in their study as wasted. In reality their frequency was so common and their importance so great that one should never undertake even a minor surgical operation without bearing in mind the possibility of their presence.

Previous to Charles Darwin most naturalists had believed that species were distinctly created, but several authors were quoted who believed that species became modified. To-day physiological and biological evidence went far to prove that almost all organs of the body were in a state of change, some more than others, and man on the whole was undergoing evolution. A little space was given to the influence of habit or occupation upon the long bones, as the tibia and femur, and upon the muscles. The parts most frequently absent by anomaly were those least needed. The muscles of the hand varied considerably, and anomalies of the limbs were more common than of the trunk. In some instances we saw revival of former types, in others suggestions as to future evolution, and in others fortuitous variations which could not be classified. It had been repeatedly said that mutilations could not be inherited, but he thought Lockwood's experiments with mice conclusively disproved this. Lockwood, by cutting off the tails of mice for many successive generations, finally succeeded in producing a breed without tails. The author thought some of the cardiac murmurs which existed throughout life, and seemed to have little influence upon the health of the individual, might be due to an anomaly rather than to disease. The importance of anomalies of the arteries was mentioned, but its full consideration would require more time than had been allotted him.

Dr. Joseph D. Bryant, on opening the discussion, spoke of the practical aspect of the question, limiting himself to some personal experience. He once ligated,

as he supposed, the brachial artery to arrest hemorrhage in the forearm. It did not succeed so well as was expected and the reason was found to be that bifurcation existed at a point higher than usual. Seven years ago he opened the abdomen to ligate the right common iliac artery for aneurism. Following the usual anatomical guides, he placed a ligature around the artery, but took the precaution which one should always take, to lift up the ligature and test whether the circulation was controlled. To his amazement he found that the circulation was cut off from the left instead of the right common iliac. The ligature was changed to the other artery. The patient died of his disease, and at autopsy the explanation of the fact just mentioned was found to be that the aorta, which as a rule bifurcated at the left of the vertebral column, had bifurcated on the right, and the left common iliac ran across the field where one would expect to find the right. Dr. Bryant had that day operated between attacks in a case of recurrent appendicitis, but careful search proved that this was one of the rare cases in which the appendix was absent. There was a small dimple to indicate where the appendix should have been. There were no evidences of recent inflammatory action. There was an enlarged gland which probably was what had been mistaken for an appendical tumor. Some years ago a patient in Bellevue came under his observation who had before been operated upon by Dr. J. Williston Wright, who had either ligated or removed a part of the facial artery with a portion of a malignant growth of the inferior maxilla. It occurred to the visiting staff of the hospital that it might be well to ligate both external carotids, for at least temporary control of the disease, which had extended. Dr. Bryant performed the operation, and he was congratulating himself on having done the patient some good by relief of pain, etc., when he received word that he had died of secondary hemorrhage. It might be supposed that this was from the external carotid, but it was from the facial, and autopsy showed that in this patient the facial arose from the common carotid—before the bifurcation instead of after.

Dr. W. C. Lusk quoted some experiments which had led the authors to the conclusion that certain infectious diseases in the human race might cause anomalies in the offspring. A glance through the "Index Medicus" showed comparative frequency in the reports of anomalies of monsters, hermaphroditism, and transposition of viscera.

Dr. Gallant said that during four years he spent some time in attending hospital operations for appendicitis, and in only one of many cases did he observe an atrophied or small but otherwise normal appendix. The organ might be found in a great many different positions.

Dr. Manley remarked upon the frequency of variations in position of the abdominal viscera.

Dr. Proben impressed the importance of becoming familiar with palpation of the appendix before operation, which Dr. Edebohls had some time ago proven to be entirely feasible. The position of the appendix post mortem proved little regarding its usual position in life, for it might become accidentally pushed in almost any direction in handling the loose viscera.

Dr. Anderson, in the course of some closing remarks, said enlargement of the thyroid vessels in goitre was not unusual, and he thought much might be accomplished by ligating the larger ones instead of resorting to excision. The position of the appendix depended much upon the weight and size of the viscera, and other conditions. The number of the dead upon whom autopsies were made was too small and limited too closely to the civilized nations to form a basis for positive conclusions regarding some questions of evolution, type, and anomalies. From the practical standpoint, every physician should dissect at least one body a year. In the study of anatomy, textbooks should be referred to only as guides, not as teachers.

Paralysis of the Musculo-Spiral Relieved by Operation.—Dr. John Erdman presented a man who had sustained fracture of the humerus early in September, followed by complete or nearly complete paralysis of the musculo-spiral nerve supplying the forearm. He cut down and relieved the nerve where it was found bound down in fibrous tissue. After ten days response became manifest to faradism and galvanism, and the patient began to use the fingers.

Bag for Sterilized Instruments.—Dr. R. Harcourt Anderson showed a bag, or towel, with slips for holding instruments while being sterilized and during transportation to the patient's house. Rolled up like a towel, it was placed in a clean oiled-silk bag.

Nominations.—For *President*, Drs. Janvrin and Ruggles; *Vice-President*, Drs. F. C. Valentine, J. Blake White: *Recording Secretary*, Drs. McGauran and Porter: *Corresponding and Statistical Secretary*, Drs. N. G. Bozeman and Douglas H. Stewart; *Treasurer*, Drs. J. H. Hinton, S. E. Milliken; *Member of the Executive Committee*, Drs. J. J. Noll, Von Breverhout Thompson, N. J. Hepburn.

Surgical Suggestions.

Notes on the Management of Incurable Cases of Cancer.—Dr. Daniel Lewis (*Medical News*, November 7, 1896) says that the fear of cancer is so depressing that it has been many years since he has used the term in the presence of a patient. When the question is asked, "Is this a cancer?" a truthful description can be given of the nature of the disease without the use of this dreaded designation. We are often led to prescribe tonics in such cases, but hope is the very best one, and will effectually ensure a tranquil nervous system, with all which that condition implies, and it is well, according to Dr. Lewis, never unnecessarily to deprive the patient of its influence. Dr. Lewis says that methylene blue, administered in pills (two to five grains), in combination with arsenic (one-sixtieth grain), has been recommended for cancer of the internal organs, and improvement sometimes follows its use, especially when the disease is in some portion of the alimentary tract. This remedy causes no gastric disturbance, and may be given every six hours for an indefinite period. Dr. Lewis has tested its efficacy in a single case, in which the disease proved to be in the pancreas. For a time there was a mitigation of symptoms. In cancer of the stomach, its action is probably more pronounced, owing to the local effect of the drug. In cancer of the uterus, Dr. Lewis recommends a deodorizing lotion as of the first importance, and one containing eucalyptus is preferable to a plain antiseptic solution. The vagina may also be loosely packed with cotton tampons, saturated with a solution (five per cent.) of aristol in albolene or benzoinol, a dressing which the nurse can readily renew. A vulvar pad of finely prepared oakum is both absorbent, a good deodorizer, and cheaper than cotton, and is equally useful in advanced cases of cancer of the rectum.

Anæsthetics in Adenoid Operations.—Dr. T. Helville Hardie (*Annals of Ophthalmology and Otology*), in the course of an interesting article on adenoid vegetation, gives the following reasons for using anæsthetics: 1. The fact that the operation is usually a painful one. 2. A thorough operation, which is by

most men considered necessary, cannot, as a rule, be performed without general anæsthesia, except in adults. 3. A burned child dreads the fire, and a child that has a curette or forceps used once will ever afterward retain a decided objection to a second introduction of the instrument. Children, like elephants, have long memories of injuries. In the absence of disease of the heart or lungs, when the growth is not limited to one central mass merely, and when the child is old enough to know that it is being hurt and to remember it, anæsthesia should be introduced. Dr. Hardie concludes as follows: 1. Adenoid vegetations should be removed under general anæsthesia in the great majority of young children. 2. The cold snare and cocaine anæsthesia are satisfactory in older children and adults, but cocaine should not be used in young children. 3. Nitrous-oxide anæsthesia is frequently of too brief duration for the proper performance of this operation. 4. Ethyl bromide, apart from the question of its safeness, which is still undecided, is a desirable anæsthetic in many cases. 5. Ethyl bromide is not well taken, as a rule, by very nervous or frightened children. 6. Ether should be substituted for bromide of ethyl when the operation is likely to be a lengthy one. 7. The Gottstein curette is, all things considered, the most satisfactory single instrument, and particularly in bromide-of-ethyl operations.

Peritonitis of Typhoid.—The question of surgical intervention has been studied by Hervieux (*Bul. de l'Acad. de Méd.*, October 27th), and the following conclusions are thought justifiable: 1. In case of typhoid appendicitis and appendicular typhoid peritonitis, the operation is done under the best conditions; it gives the best results, provided the intervention is timely. 2. In case of typhoid peritonitis by perforation, the operation gives some chance of recovery to the patient. The difficulty is to seize upon the opportune moment for intervention. 3. In spite of intestinal ulcerations, suture of the intestine results in cicatrization of the perforation, and the surgical interference has, therefore, good ground.

Pseudo-Actinomycoses are more frequent than generally thought. Dr. Poncet has observed and operated upon such abscess tumors containing yellow grains, and finds twelve instances in literature.—*La France Méd.*, October 30th.

Fractured Clavicle.—When the displacement is great, a splint can be applied direct to the fractured clavicle, in persons who are lean and the bone very prominent, as follows: Take a piece of Hood and Reynolds' dental modelling composition, soften in hot water, flatten it out to a proper thickness, and cut into a strip the length and breadth required, soften again in hot water and dry with a towel; then press or mould it firmly over the clavicle while holding the parts in apposition, exhausting all the air. It acts like a cupping glass; it will stay and not irritate the skin. Apply the sleeve bandage. In children there will be complete union in from twelve to eighteen days; in adults, in from thirty to forty.—Edward Borck.

Vulvo-Vaginitis with hemorrhages in young girls is quickly cured by washing with permanganate solution (1 to 1,000) and cauterizing with silver solution (1 to 50).—Comby.

The Relief of Visceral Tension.—Reginald Harrison's observations would seem to point to the fact that albuminuria is at times due to vascular tension and amenable to surgical measures. The operation of cutting down on the kidney has of late years been rendered comparatively safe, so that in presence of symptoms sufficiently severe to justify the slight risk entailed, no surgeon need hesitate to ascertain for himself whether the condition of the kidney is such as to warrant puncture or limited incision with this object in view. The cases related by Mr. Harrison do not enable us as yet to state with any degree of certainty in what class of cases surgical measures are likely to be attended by benefit to the patient. They merely prove that there are cases in which surgical intervention, undertaken on quite other grounds, has paved the way to immediate and usually permanent recovery. It can obviously only be in cases of nephritis tending to a rapidly fatal issue, or in cases in which the condition of the patient steadily becomes worse, that such radical measures can be justifiable. We do not open the abdomen and scrape the peritoneum because in a few cases laparotomy done for concomitant conditions has determined the retrogression of peritoneal tuberculosis, and physicians may rest assured that cases of nephritis which they have hitherto regarded as peculiarly their own are not yet on the eve of falling wholly into the domain of surgery.—*Medical Press*, October 21st.

Surgical Operations put off until too late are of very frequent occurrence. Operations performed too early are so rare that one never hears of them. The lesson is a very plain one—operate in time if you wish to do all in your power to save your patient. In peritonsillar abscess an aspirating syringe with a long needle will usually find the pus with very little pain, and will often prevent the repeated blind stabbing so annoying to the surgeon and so demoralizing to the patient. Never perform an operation without examining the urine for sugar, no matter what its specific gravity may be. If glycosuria exists, antiseptic precautions should be redoubled, but the condition does not contraindicate necessary surgical interference. Never examine for crepitus in supposed fracture of the skull. Depression or other unevenness of surface, together with symptoms referable to cerebral injury, will enable one usually to make a diagnosis, and will not jeopardize the life of the patient. When fæcal vomiting is one of the indications for surgical measures, a washing out of the stomach should precede the operation. The danger of aspiration of filthy vomited material during or after the anæsthesia is most grave. This accident has cost many a man his life.—*Canada Lancet*, November.

Foreign Body in the Nose, Urethra, etc.—A simple arrangement with which to remove foreign bodies from small passages: A hole is bored in the end of a probe and a thread fastened in it. This is then introduced into the passage and carefully pushed past the foreign body. The string being then held in one hand and the probe in the other, the little whip thus forms a loop, with which the foreign body is easily withdrawn. —Beugnies, *Gaz. Méd. de Liège*, September 10th.

Lembert's Suture is intended to bring into apposition two peritoneal surfaces. It is applied in the following manner to join the two ends of the intestine after excision of a portion of the bowel: A needle carrying a stitch of fine silk is inserted in the long axis of the intestine about one-fourth of an inch from the cut edge and brought out about one-eighth of an inch from the same edge, and then it is passed through the other portion of bowel in the corresponding situation. The stitch should traverse only the peritoneal and muscular coats, and should not involve the mucous membrane. Similar stitches are placed at intervals of about one-sixth of an inch all round the circumference of the bowel. The stitches are then tied and the ends cut short. Thus the cut edges of the intestine are turned inward toward the lumen, and the peritoneal coats are in apposition for about one-eighth of an inch all round the bowel, whereby a rapid union of the peritoneal surfaces is assured.—*Lancet.*

Carcinoma.—Absolute alcohol injected into the tumor at four or five points, and repeated every two or three days for about three months. If an open surface exists, apply as a dressing tannic acid (fifteen to twenty-five per cent.) in alcohol.—H. C. Howard.

Fish Bones can be removed from the throat by giving from four to six ounces of milk, and forty minutes later an emetic dose of sulphate of zinc. The coagulated milk carries the bone out with it.—*General Practitioner.*

Penetrating Wounds of the Abdomen.—It must, however, be admitted that in the absence of serious visceral lesions, penetrating wounds of the abdomen are injuries from which the patients are very likely to recover without operative treatment, and that when such patients are submitted to laparotomy, death may occur solely in consequence of the operation. The general symptoms in cases of penetrating punctured wounds of the abdomen, with the exception of those due to profuse hemorrhage, furnish absolutely no reliable information in the differentiation between simple penetrating wounds and penetrating wounds complicated by visceral injuries. With the exception of the last-mentioned symptom (the escape of the contents of the stomach or intestines through the external wound), and the indication pointing to the necessity of arresting internal hemorrhage, there is nothing about the local or general symptoms in cases of penetrating wounds of the abdomen that enables the surgeon to decide with any degree of positiveness whether visceral injuries exist or not, and consequently whether laparotomy should or should not be performed. Severe shock may attend even a non-penetrating wound, and it may be absent, or at least not well marked, in cases of multiple perforation of the intestines. Vomiting takes place as frequently in wounds of the abdominal parietes and in simple penetrating wounds as when the viscera have been perforated. The pulse is slow and compressible in all cases, and nothing characteristic in its qualities is observed, even if the stomach or intestines have been injured. Pallor is present in all penetrating wounds of the abdomen soon after the receipt of the injury, and it is only more pronounced when produced, at least in part, by sudden and severe internal hemorrhage. Pain is a very unreliable and often misleading symptom, as it may be moderate or almost completely absent soon after the injury has been inflicted, even when multiple perforations are present.—*American Text-Book of Surgery*, p. 677.

The Utility of Omental Flaps in Intestinal Surgery.—Dr. Theodore F. McGraw (*The Physician and Surgeon*, October, 1896) objects to Dr. Senn's advice to use a flap cut from the omentum, or, when that is impracticable, to use completely detached grafts. Dr. McGraw thinks that in order best to accomplish its purpose the omentum should be applied with as little disturbance as possible of its vascular relations. The omentum is normally well supplied with blood-vessels, and probably no small part of its power of resistance to the irritation produced by contact with faeces or pus is due to its great vascular supply. When it is cut into a flap, these conditions are of necessity altered. Some blood-vessels would have to be tied and cut. If, instead of using a flap, we use omental grafts, we have to rely entirely upon their capacity of quick adhesion for their vitality. It is not probable that such grafts, however quickly they might become attached to a raw surface, would long resist the pressure of faeces, if a suture should give away and permit their escape. The detachment of a flap from the omentum and its suture to the bowel would result in a cord-like band, under which the intestine might easily be caught and strangulated. For these reasons, it seems better surgery to apply the uncut omentum wherever possible. It should be drawn over the bowel like a sheet, and its extremity wrapped around the wounded intestine, covering the suture closely and widely. Dr. McGraw is convinced that this gives the best support to the gut, covering the whole abdomen as a sheet, and does not cause danger of intestinal entanglement. When from atrophy or disease the omentum cannot be drawn down to the wounded surface without too much tension, the surgeon may then properly resort to omental flaps or grafts, or use neighboring coils of intestine as splints to the one that is wounded.

Internal Hemorrhoids.—Dr. Dundore (*Mathews' Quarterly*) presents the following conclusions: 1. Ligaturing is the safest method, as there is less likelihood of its being followed by hemorrhage, strictures, or ulcers. 2. The clamp causes less pain and a shorter convalescence, but hemorrhage and stricture of the rectum may very often follow its improper application. 3. Whitehead's method should be limited to those cases in which the entire circumference of the anus is involved. In ordinary cases of one or more hemorrhoids, it should never be used. 4. Simple dilatation of the sphincter, injection of carbolic acid, and Manley's method are simply palliative.

Pyogenic Microbes.—Dr. Bauzet (*Thèse de Paris*) says that microbes are not indispensable to suppuration, which may be caused by filtered or sterilized cultures. Koch's bacillus is pyogenic, and may cause cold or acute abscess, but a cold abscess is not necessarily tuberculosis. The streptococcus is the most common agent in acute septicæmia and pyæmia, and tends to produce most serious acute, diffuse processes for phlegmonous and serous suppurations. It is in most cases the cause of those secondary infections which give peculiar gravity to certain primary general intoxications, as, for instance, scarlet fever. It varies much in vitality and virulence. By the presence of other bacteria it is often made more venomous. The staphylococcus is much more stable. It gives rise to septicæmia or pyæmia of moderate severity, to circumscribed processes in sebaceous glands and cellular or bony tissues. Secondary infection by it is seldom very serious. The pneumococcus may be the cause of suppurations—sometimes very serious—of serous membranes, the pleuræ or meninges, joints or middle ear. Eberth's bacillus is of secondary importance in this relation, but may cause subacute periostitis without superficial lesions. The bacillus coli ranks with the streptococci and staphylococci, and may cause acute general or various forms of local suppuration, urinary, biliary, peri-intestinal suppuration, or salpingitis. But its suppurations are of less acute character, and are less prone to extension or to affect the general system, than those caused by pyogenic micrococci. The gonococcus is not proved to have pyogenetic properties, except as regards the mucosa of the urethra, the conjunctiva, and the female generative organs.

Acute Pelvic Inflammations.—In discussing the question how best to prevent suppuration, Dr. William R. Pryor says, in the *Canada Lancet* for November: "I cannot too strongly urge you to apply to the acutely inflamed pelvis of a woman those general surgical principles which are embodied in the two procedures of (*a*) cutting off the primary source of an infection and (*b*) draining away its results. This is the truest conservatism, for it seeks the conservation of tissue diseased, and, at the same time, protects the general economy against the results of diseased processes. Above all, it leaves the woman her menstrual function. These women are symptomatically and physiologically cured, for they bear babies afterward."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

CHRISTMAS RECESS—ASSURANCE AGAINST ACCIDENTS FOR DOCTORS—PROFESSIONAL SECRECY—DANGER OF BETRAYING SERVANT TO EMPLOYER—APPENDICITIS IN THE LAW COURTS, IN THE NEWSPAPERS, AND IN THE MEDICAL SOCIETY.

LONDON, December 26, 1896.

CHRISTMAS week scatters students and teachers for the short recess, and most of us spend the holiday in the family circle. In a few days work will begin again. In the mean time, those whose duties require their presence in the hospitals have been as busy as usual, organizing and carrying out plans to make the season as enjoyable as possible to the patients.

The subject of professional secrecy has been kept before the profession ever since the important trial in which it became a universal topic of conversation. A curious case has just been decided in the Scottish court of session. A doctor sued the Northern Accident Assurance Company for compensation for disablement through accidental infection by a wound on his finger in the discharge of his duty. The company declined to pay unless the doctor revealed the name of the patient from whom he contracted the infection. The doctor refused, as that would be to betray a professional secret. He therefore lost his case, as the company would not budge and the judge held that he had not proved his case, although he was to be commended for acting in an honorable manner to his own pecuniary loss.

I fancy the company will not eventually gain by its hardness. Doctors insuring against accidents will need to scrutinize closely the terms of their policies, and select those companies which provide for the contingencies they desire to cover.

Another case that has occurred is an illustration more likely to be repeated. A doctor was sent for and was asked to see and prescribe for a servant and report to the employer the state of her health. The girl was dismissed, and began an action for slander, which was compromised on the advice of the Medical Protection Society, as the doctor's statement was made in the presence of another member of the family. The solicitors suggested that it might be permissible to divulge the matter to the employer, but such a course would be very risky. In the present state of public opinion, a jury would be likely to refuse any excuse for betraying professional confidence. The patient is the party without whose consent the doctor should decline to report on or discuss the case—and that consent ought to be in writing, to prevent all danger of blackmailing.

Appendicitis is in the air. The public has got hold of the word, and people who feel what they used to call "gripes" are anxiously asking their doctors if they are in danger of the new disease. This is the effect of the late trial, which I mentioned in my last letter, during which the word was bandied about in the law courts, and which furnished a glut of copy to the newspapers for more than a week. Some of them discuss the malady with their usual assumption of complete knowledge, though they betray their ignorance in many ways. Most of them suggest that the gain of £75 damages will never compensate the plaintiff for his annoyance and the possible damage to his reputation, for even though he vindicated himself, there are many who will only remember that he was concerned in the case and will not consider who was in the right. It was evidently a case for arbitration, as no jury could be expected, with any amount of evidence, to decide questions of diagnosis or of the progress of a disease; but I hear that notice has been given that a new trial will be applied for.

The scientific aspect of the affection came before the Medical Society at the last meeting, when Mr. Mayo Robson read a paper, detailing six cases associated with general peritonitis in which he had operated during the year; five patients recovered after free lavage and drainage. His operations for appendicitis during the year totalled twenty; nineteen of his patients recovered. He is content to divide them into acute and subacute, instead of adopting the complicated classifications some have proposed. He supported the American surgeons who operate early, as he held that the plan of waiting, too often adopted here, would give fewer successes—it having been proved in all countries that there is little or no risk in removing an appendix before suppuration, perforation, or gangrene has occurred. The operation can be done through a small incision, and by separating rather than dividing the muscular fibres, so as to prevent the subsequent occurrence of hernia. He regards acute onset with rapid pulse and tenderness over the appendix without a tumor as indicating immediate operation. In any stage, a rigor with rise of pulse and temperature indicates septic absorption and calls for operation. With few exceptions it is best to remove the appendix, to prevent it from exciting further attacks. With general peritonitis, he would give the patient a chance in the most extreme case. In such cases he advocated free irrigation with boiled water or weak boric-acid lotion, and free drainage with several large rubber tubes.

One or two surgeons made remarks on the paper, mostly of a congratulatory kind. Indeed, there was no room for criticism. Some preferred sponging to flushing, and the difficulty of obtaining consent to early operation, as well as some other points, was mentioned. As to flushing, Mr. Robson replied that he used it only after sponging the abscess cavity as clean as possible. Then he found flushing more speedy than general sponging.

A MATTER OF INTEREST TO MEDICAL TAXPAYERS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: At the close of the year and on the threshold of another one, it may perhaps be not without interest to members of the medical profession, both as professional men and as taxpayers, to look at the subject of taxation in relation to the public and private medical charities of this city.

The hearing on the final estimates was held on the 28th of this month, and the writer went down to enter his ineffectual protest against the lavish and almost wicked manner in which the public funds are diverted from their proper uses; and this does not reflect upon the board of estimate and apportionment in any way, for unfortunately many of the grants which are made to private charitable institutions were obtained from the legislature and are mandatory. Some few, however, were within the discretion of the board, and it is to these that I shall ask the attention of the doctors of New York City. The amount which, up to that date (December 28th), had been assigned for public charities for 1897, was $1,240,498 (*City Record*, November 20 and 21, 1896), and for private and State charitable institutions the sum of $1,487,055.32 (*City Record*, November 17, 1896). It will be seen, therefore, that the grant to the private and State institutions exceeds that allowed to the municipal charities by $246,557, pretty close on to a quarter of a million dollars. The list of these private corporations is a long one and includes some which are rather teaching bodies than charitable institutions; as, for example, the New York

Medical College and Hospital for Women, the New York Post-Graduate Medical School and Hospital, the New York Homœopathic Medical College and Hospital, and the New York Polyclinic Medical School and Hospital. In this category also might be included the Sloan Maternity Hospital, as this is under the auspices, and practically under the control, of the College of Physicians and Surgeons. It was represented by the opposition that these are medical institutions with hospital attachments and are not primarily either benevolent or charitable institutions, and but for the medical school there probably never would have been a hospital in existence. This rule holds good with regard to all of them, and notably the New York Post-Graduate Medical School and Hospital, the history of which is familiar to every medical man of this city. This institution asked for $30,000, but was willing to accept almost anything, and a motion was made that the sum of $15,000 be given it for the coming year. In the debate which followed, the school evidently had a friend in the comptroller, who deprecated the dead set that was made against the institution and moved that $25,000 be granted it. At the dinner of the Society of Medical Jurisprudence which was held on December 19th, the mayor, at a speech made at that dinner, spoke brave words in protest against this public looting of the treasury for private purposes, and suggested that it was a proper object for the medical men of the society to take hold of, and certainly there was a feeling of encouragement and hope that, at any rate, the mayor of the city would be found upon the side of opposition against the grant. There was a feeble show of resistance, but, like the famous coon of Davy Crockett, when he found that there was some opposition, he made haste to come down from his tree and voted to grant them the sum of $25,000, within $5,000 of as much as they asked. Had he stood by the corporation counsel and the president of taxes and assessments, $10,000 would have been saved to the city, and it was with a feeling of keen astonishment and disappointment that the opposition was forced to the conclusion that the brave words of the head of the city really meant nothing—that it was after all but a species of post-prandial flatus. Then followed the Homœopathic Medical College and Hospital for $7,500; the Flower Surgical Hospital, so-called, getting $7,500, and the Polyclinic, not being that day represented, got $100, which was increased the next day, however, to $7,500.

Taking it by far and large, it would appear, then, that the grants, certainly to the medical charitable institutions, exceed those of the previous year, for last year the Post-Graduate Medical School got $15,000, now it gets $25,000;[1] the Homœopathic Medical College and Hospital got $6,500, now it gets $7,500; the New York Polyclinic Medical School and Hospital got $100, now it gets $7,500. Members of the medical profession, merely as taxpayers, are interested with all of us in this question, for it would appear that this year, instead of being reduced, the taxes will be materially increased, with apparently no prospect of a reduction if this indiscriminate and abominable manner of giving away the public moneys is indulged in in the future as it has been in the past. We are already face to face with the fact that for this coming year the moneys given away by the trustees of the city exceed the amount which is allowed for the sick poor under the guardianship of the city, and are given to persons who are not really responsible directly to the city, although they may be under some sort of supervision by the State board of charities; but we as medical men know, some of us, alas! by pretty bitter experience, that these same institutions which have their arms elbow deep in the treasury of New York City do, by this indiscriminate system of charity, more harm than good, fostering among their patients a spirit of dependence upon others instead of upon themselves, encouraging a spirit of pauperism, and expecting the doctors to give their time and professional skill gratuitously, which alas! too many of them are fools enough to do for nothing but the empty honor of being connected with this or that medical concern.

There is one other aspect which perhaps it would be well to look at, and it is that this greatest loot of all has occurred under a reform administration from which we certainly had hoped better things. I will frankly admit that in some of these cases the board had no power to act, for the legislation was mandatory, but when it was in their discretion there seemed to be no particular desire to check this extravagant waste. On the contrary, if I may judge from my own observations, with two notable exceptions, the rest of the board were willing to fling the money almost as quickly as it was asked for; indeed, while the question was open as to the Post-Graduate School, these well-dressed and highly bred mendicants kept urging, when the board had finally got up to $20,000: "Oh, make it twenty-five, make it twenty-five!" and when they finally got their plunder there was a buzz of approval and delight, and in one instance a very subdued clapping of the hands. And so it goes on, a disgraceful scramble of greed, plunder, and grab; but where, in God's name, dear brother doctors, does the reform come in?

F. R. Sturgis, M.D.

[1] This does not include $8,000 for its Babies' Hospital.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 9, 1897:

	Cases.	Deaths.
Tuberculosis	149	112
Typhoid fever	11	7
Scarlet fever	176	11
Cerebro-spinal meningitis	2	2
Measles	163	8
Diphtheria	287	31
Laryngeal diphtheria (croup)	15	6
Chicken-pox	22	0

Pertussis.—Comby finds the effects of antipyrin absolutely *nil* in this affection, though useful in other spasmodic diseases of infancy.

Cocaine Snuff.—The New York *Sun* (December 30, 1896) prints an editorial under the heading "The Latest New Intoxicant." This new intoxicant consists of cocaine, sugar of milk, magnesia, and menthol or peppermint extract, and is applied to the nostrils as a snuff. Compounded first by a physician as a remedy for catarrh, the patients soon noticed its exhilarating properties, and so its use spread among all classes. In a Connecticut town one poor workman is said to spend as much as $5 a week upon the snuff; even children of tender years and hundreds of factory people have become addicted to its use. An appeal to the legislature is talked of to pass a law to prevent the spread of this evil.

More News from the East.—In addition to the small-pox epidemic at Japanese ports, cholera has revived at Hong-Kong, and though there are not yet many deaths, the plague is increasing and serious results are expected. A severe famine is reported from western China. The inhabitants are dying by scores from starvation.

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Original Articles.

THE TREATMENT BY SUPERHEATED DRY AIR OF STIFF AND PAINFUL JOINTS, INCLUDING THE RHEUMATIC AND TUBERCULOUS, AT THE HOSPITAL FOR THE RUPTURED AND CRIPPLED.[1]

BY V. P. GIBNEY, M.D.,

NEW YORK.

I HAVE the pleasure this evening of presenting notes of cases selected at the hospital for treatment by means of an apparatus which enables one to employ dry air, heated to a very high temperature, for a period from thirty minutes to one and one-half hours. The value of dry heat in painful joints, whether gouty or rheumatic, whether traumatic or tuberculous, has always been recognized; but it had been difficult to determine just how much heat the skin would stand and how to keep the heat dry enough to make a high degree tolerable.

I have recently had my attention called to this method of treatment, and have used it for the past week or ten days. It has been my aim to treat stiff joints that occurred as a result of tuberculous ostitis of the hip, knee, and ankle, or, in fact, any joints about which tuberculous disease has existed for a sufficiently long time to make one feel sure that no active disease is present.

CASE I.—Firm Fibrous Ankylosis after Tuberculous Ostitis of the Knee.—A boy, ten years of age, was admitted to the hospital in August, 1890, with a knee extensively suppurating, and one that required a partial arthrectomy as an immediate measure of relief. He was discharged in July, 1893, with two sinuses discharging and a range of 15° of motion. His angle of greatest extension was 175°, lacking 5° of being perfectly straight.

He was readmitted in June, 1896, with his knee locked at an angle of 140°—that is, nearly midway between a right angle and a straight line. The sinuses had closed. Under traction, his deformity was overcome by repeated stretchings, frequently with an anæsthetic. For two or three months he has worn no brace, except a perineal crutch.

On November 27th his knee could be extended to 180° and could be flexed to 176°. He was placed in the bath—pulse, 92; temperature, 98.2° F. He remained in the bath forty minutes. The highest temperature reached was 255° F. At this time his pulse was 116; temperature, 99.6° F. On removing his limb from the cylinder, it could be easily flexed to 168°, which was a gain of 4°.

Second bath, November 29th. Temperature, 98.2° F. Time in bath, fifty minutes. Highest temperature, 250° F. A gain in motion of 4°.

November 30th, highest temperature, 260° F. In the bath fifty minutes. Gain of 3° in motion.

December 1st, highest temperature, 262° F. Forty minutes in bath. Gain of 3°.

December 2d, body temperature, 98.8° F. before the bath; immediately after the bath, 100.4° F.; the bath was 260° F. Knee flexed to 158° before, 155° after. Duration, fifty minutes.

December 3d there was a gain of nearly 2° F. in body temperature. The bath itself was 260° F., forty minutes in duration. A gain of 7°.

His seventh bath occurred to-day. Gain of 1° body temperature. Highest temperature in bath, 280° F.

He has worn no apparatus since the treatment was begun, has used the limb, and, while his range of motion has not increased over 20°, the motion is much more easy. He has been free from pain, and there has been no reaction whatever from the use of the limb. His would seem to be an excellent case for very slight motion under an anæsthetic, followed immediately by the use of the bath.

CASE II.—Fibrous Ankylosis in a Tuberculous Knee—No Suppuration.—A boy, seven years of age, admitted June 12, 1896. His disease dates from August, 1895. He has worn a protection apparatus since June. There was, at the time he came under treatment, no sign of abscess. On July 29th it was noted that his leg was perfectly straight, with a small range of motion, say 15°; no signs of active disease. His case was selected as one for experiment, although it was very doubtful whether the active disease was fully arrested. I was desirous of learning the effect upon a knee of this kind. At the date of his first treatment, November 27th, his knee could be moved over a very small arc, 5°. The bath lasted fifty minutes; temperature, 250° F. Without any force there was a gain of about 3° in flexion. His bodily temperature was raised 1.5° F. at the fourth bath, 1° F. at the fifth, and a little less than a degree at the sixth. The highest temperature of any one bath was on this date, and it reached 280° F. There has been a gain of about 12°. No force has been employed, no apparatus used, and, while the knee presents a little fulness, he has had no pain. I am satisfied the joint needs more protection, and the apparatus will be readjusted during the week.

CASE III.—Ankylosis of Deformed Knee, Result of Tuberculous Disease.—Girl, fourteen years of age, was admitted to the hospital in October of the present year, with a history of tuberculous disease extending over a period of six years. She has had two years of bed treatment. At the time of her admission it was impossible to extend the leg beyond 130°. There was no motion allowed at the knee, and any efforts to move the joint elicited great pain. We made an attempt to correct by means of splints, and succeeded in gaining a few degrees, but the treatment was very painful, on one or two occasions requiring an anæsthetic. After two or three baths were given last week in the cylinder, we found that no gain was made in the correction of the deformity and that she was just as sensitive if any attempt at motion was made.

On December 3d, under nitrous oxide, I moved the knee over an arc, say, of 15° or 20°, bringing it into a better position, and at the same time breaking up a number of adhesions. Coming out of the gas, she

[1] Read before and demonstration given to Practitioners' Society, December 4, 1896. I am indebted to Mr. Lewis A. Tallerman, of London, for the opportunity of using the apparatus in the cases here reported.—V. P. G.

complained bitterly of pain, and the knee was at once put into the cylinder; the highest point reached was 280° F. It was fully ten minutes before she got relief. The temperature of the bath on entering was about 180° F. It required 100° F. more to give her the necessary relief. A simple posterior splint was applied on removing the limb. She did not require an anodyne during the night, and her night report was very good. The limb was subjected to another bath this morning, and she is present for your inspection. It may be safely said that the excruciating pain which follows an operation of this kind was lessened by the use of the apparatus. It would have been better to put the limb in at the temperature of 280° F., and then raise the heat to 300° F.

These three cases of tuberculous bone disease in children may be taken as fair samples of the good effects which one may expect from superheated dry air.

The case which I am about to report now, I think illustrates its advantage in convalescent cases of hip disease.

Case IV.—Convalescence in Tuberculous Ostitis of the Hip in an Adult; Joint Free from Deformity, but Quite Stiff and Painful on Use.—A gentleman, twenty-two years of age, was placed under my care by Dr. Robert F. Weir, on November 25, 1887. He was hearty and robust-looking, was an athlete in college, and four years prior to this date he had sprained his hip while playing ball. There was a little stiffness at first, but this soon passed off, and it was a year later before any signs of discomfort appeared. A year later he found it difficult to participate in his exercises, and rest was enjoined. At the time I saw him, he was just recovering from an attempt at correction of deformity and removal of adhesions. A diagnosis of ostitis of the hip was readily made, and he was placed under protection treatment. This has continued to the present time. Abscess has formed, been opened, and finally closed; a second one appeared, and then disappeared. In the last two years I have endeavored to have him go without his apparatus, but whenever he made the attempt pain would be excited, he would rest poorly nights, and he has been quite loath to do away with the traction. He has had the benefit of the best climate, and no pains have been spared to keep his health in excellent condition.

December 3d, he expresses himself after the third bath, now, as very much encouraged. Slept better last night than he has for a long time. The limb can be held much more freely than I have ever seen it. He has not been using his brace since the 30th ultimo. He is bearing his weight on the limb and walking about the floor without any discomfort.

December 4th, at the meeting this evening, he states that he has less dread and apprehension of using his limb. He finds more security when he steps upon it; can lie in bed and swing the left limb around, with leg extended, in a pretty good range without fatigue or pain. The range of motion is increased a little. During the treatment his temperature went up from 98.4° to 101.8° F. His pulse, which was 70 at the beginning, was 96 at the close.

Case V.—Chronic Rheumatic Arthritis Already Improving under Massage and Traction.—A lady, forty-five years of age, came under my care, May 18, 1896. It was in 1890 that her disease began, and the knees were stiff and painful almost from the beginning. She had patronized several of the baths in the United States, with a slight amount of relief, during the earlier years of her disease. It is only fair to state that from July 1, 1896, to November 27th, a vast deal had been accomplished in the way of correcting her deformity at the knees, and in getting some use of her right elbow and of both hands. In addition to massage and traction, she had taken large doses of potassium iodide. From July 29th to October 28th she was in solid plaster-of-Paris bandages, with knees extended to about 155°. When we began treating her with the superheated air, her range of motion was from 130° in flexion to 170° in extension. She has been able for one or two months to use her hands in feeding herself, after a fashion, and even in adjusting her hair; but the thumbs and fingers were so distorted that she was unable to use the third, fourth, and fifth fingers at all, but with the index finger and the thumb she managed to grasp objects. Heretofore, whenever any attempt had been made to move the hands or fingers, rather violent reaction had set in, and it had been necessary to discontinue. She was subjected to this treatment on the 27th. Her temperature was raised 0.2°, her pulse only 5 beats. After this bath we had gained very little, if any, in motion. At present writing she has had four baths, of a temperature ranging from 240° to 260° F. The bodily temperature has been raised less than a degree. She has expressed herself as being very comfortable. Profuse diaphoresis occurs, and for the last two mornings I have employed passive motion of the thumb and fingers, without producing any reaction and very little pain. She winces when I break up little adhesions, but she tells me that the pain soon passes off, and not only her knees are becoming more flexible but her hands as well. There has been very little, if any, gain in the extensibility of the legs. She will probably need breaking up of adhesions under an anæsthetic.

Case VI.—Subacute Arthritis of Knee, Traumatic, with a Small Range of Motion and Pain on Use.—A medical gentleman, twenty-seven years of age, in January, 1893, while skating, fell with knee sharply flexed. From that time up to this present report he has been under the care of Dr. Lewis A. Sayre, who has made use of various appliances; and, in addition to Dr. Sayre's care, the patient has subjected himself to various methods of treatment at the hands of different physicians without obtaining a cure. From time to time he has been nearly well, and would then get a fall or an injury of some kind, which would bring on relapse. At the time he came under this present method of treatment, December 1st, he had a range of motion from 10° to 15°; but beyond this limit the knee pained him a good deal. There were no infiltration, very little tenderness on handling, and no bony enlargement. He was on crutches, wearing a splint, anterior and posterior. He has had four treatments by the hot-air bath, and at the expiration of every treatment he feels much better, is able to use his limb with more ease, and the range of motion is just a little increased. He expresses himself as very much encouraged, because he can use the limb more freely about his room, can bear his weight on it with less pain and distress than heretofore, and it would seem that an excellent result can be obtained.

Case VII.—Chronic Sciatica, with Recurring Acute Attacks, Very Obstinate.—The patient is a man, fifty years of age, who was referred by Dr. John J. Reid for this treatment. He had an attack fourteen years ago, lasting three months. The present attack has lasted four months. The pain is referred down the course of the limb, and he is tender on pressure. He walks as if the limb were deformed, but the range of motion is quite free. He complains a great deal if he stands with the limb or walks with it. He is subjected to the bath this evening, during the meeting of the society, and at the expiration of fifty minutes, temperature 260° F., he expresses himself as feeling much better and able to use the limb more freely. The immediate effect, therefore, is good.

Case VIII.—Traumatic Arthritis without Rheumatism or Gout.—This is a patient seventy years

of age, kindly referred by Dr. Robert F. Weir from his service at the New York Hospital. The history obtained this evening is that he was thrown from a car about a year ago, his left knee being the joint injured. The pain has increased from the time of the injury. The stiffness also has increased. He claims that the treatment by fixation, cautery, and such other applications, that have been made from time to time, have been ineffectual in arresting the progress of the disease. At all events, this evening he is unable to walk, except by assistance. The range of motion is less than 10°. There is considerable tenderness on handling the limb. He is subjected to the bath, at a temperature of a little over 200° F., for fifty minutes; and on removing him from the cylinder, the house surgeon, Dr. Kenerson, moves the limb, and is satisfied that an increase of 15° in motion has been gained.[1]

THE CLINICAL SIGNIFICANCE OF RENAL CASTS.

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The discovery of casts in the urine is a note of warning, the clinical significance of which depends very largely on other conditions existing. The frequency with which these bodies are now met with has changed to a marked degree the medical opinon held some years ago, that a fatal termination could almost invariably be expected whenever this condition was found. The advent of the centrifuge has probably done more to change the earlier view than any other one thing, and has positively demonstrated how much more frequently we are enabled to find casts in the urine by the aid of the powers of concentration of this instrument. I expect to show in my paper:

First, the frequency with which casts and albumin are found in the urine of persons apparently healthy in every respect.

Second, the frequency with which casts and albumin are found in the urine of persons who consult a physician, but who present none of the characteristic symptoms of renal mischief, apart from the presence of albumin and casts.

Third, a few cases with renal insufficiency and all the characteristic symptoms of Bright's disease, under rather unusual conditions.

Fourth, the value of the centrifuge as an aid to diagnosis.

It is not within the province of my paper to enter into or discuss either the anatomy, physiology, histology, or pathology of the renal structure, but rather to attempt to show, from a clinical standpoint, the different groups and classes of cases in which casts are found in the urine, as a result of sedimentation and microscopical examination. It has been my practice, during the past three years, as a matter of routine work, to examine the urine of all patients, independently of what their symptoms might be. The examination of this class of my own cases and the cases of other physicians sent to me, cover in the aggregate several hundred persons who presented none of the objective symptoms of renal disease. As a result of my work and observation in this direction, I have had the belief for some time that casts and albumin are not unusual (in varying proportion) in most diseased conditions of whatever cause; and further, I believed that on investigation it would be found that albumin and casts are present to a less degree in individuals who are apparently in perfect health. I have failed to find any literature bearing on the subject which tells of albumin and casts being found or even looked for in the apparently healthy people who are not very apt to consult the physician.

The difficulty presented itself as to how I might investigate and demonstrate the presence or absence of these bodies in the class supposedly healthy. Through the kindly co-operation and aid of Dr. D. K. Shute, I am enabled to give the results of my examinations of fifty specimens of urine, from the same number of persons of different ages. All of these persons, who are in apparently perfect health, are at present confined in the United States jail.

The results of my examination for albumin and casts are in the aggregate, for these persons who are apparently normal, as follows: In forty per cent. traces of albumin were found, and in twenty-six per cent. casts of the hyaline and granular varieties (and in one case a few of the epithelial variety).

Number of Cases.	Ages.	Casts.	Albumin.
10	15 to 25	5.50 per cent.	5.50 per cent.
10	25 to 35	2.20 "	5.50 "
10	35 to 45	3.30 "	4.40 "
10	45 to 55	1.10 "	3.30 "
10	55 to 65	2.20 "	2.20 "

Hyaline casts, large and small varieties, were found in thirteen cases. Granular casts, small variety, were found in six cases. Epithelial casts were found in one case. Fatty casts were found in no case. Waxy casts were found in no case.

The chemic examination was omitted, for lack of time, for everything but albumin; and as there were absolutely no symptoms of any kind present, it was presumed that the normal excretion of the products of nitrogenous and hydrocarbonaceous waste was going on. It can hardly be considered possible that this number of cases having albumin and casts, but presenting no departure from the normal, is about to develop renal symptoms. That some of them, through neglect or exposure, may become subjects for the hospitals, and a small percentage develop a Bright's disease, with all its characteristic symptoms, is of course possible; but my opinion is that in a majority of the cases, after a time, the casts and albumin will disappear and perhaps reappear, and thus continue to come and go without giving any trouble. I think there is no good reason to doubt that most of us at times pass both albumin and casts in our urine, without it giving rise to any symptoms. When it occurs frequently, it is problematical whether or not the kidneys of such persons are able to withstand shock or strain to any great degree.

My table and results, taken as they are from one institution, and all the subjects occupants of one building, perhaps give some coloring to Fiessenger's[1] theory that Bright's disease is an infectious one. The objection which may be raised—that this class of cases is no criterion on which to base judgment, the vicious lives these individuals lead, their habits of immorality, drinking, exposure, and irregularities of a debauched life favoring this very condition—may be true; still, on the other hand, I think it will be conceded that those in the higher walks and vocations of life become almost as much exposed to this condition, although in an altogether different way. In conducting these examinations, Dr. Shute succeeded in verifying my results. The examinations were made from urine subjected to centrifugal sedimentation, only one microscopical examination being made of each specimen. We frequently hear of cases in which insurance canvassers have persuaded apparently splendid risks into applying for life insurance, when, on urinary examination being made, albumin and casts have been found, much to the

[1] December 7th. Both Dr. Weir and the house surgeon report that the patient is improved, that he is walking about the wards now, that he feels that the treatment has been of benefit and desires its continuance.

consternation of the applicant (who has not complained of any symptoms whatever) and surprise of his family physician, who has never had reason to suspect any trouble. In the next group are considered those persons who consult the physician for some abnormal condition, but who exhibit none of the symptoms of renal mischief, apart from the presence of albumin and casts in the urine. My earlier work in this line with this class of cases averaged twenty per cent. in which albumin was found, varying from a bare trace to one per cent. by weight, in by far the greater number the former condition prevailing. The number in which casts were found averaged eight per cent. These examinations were made of urine taken from persons of either sex and of all ages. The casts found were mostly hyaline in character, large and small, some granular, and in a very few cases a small number of epithelial and fatty. A majority of these cases I have been unable to follow up; in some, however, I have been fortunate enough to secure several specimens at different periods for re-examination, and in these cases have found that the casts disappear and reappear at intervals, the patients in the mean time apparently not suffering in any respect thereby—dietetic, hygienic, and other preventive measures having been advised when the condition was first discovered. Since I have used centrifugal force for the sedimentation of urine, my percentage in the number of specimens in which renal casts are found has greatly increased. By this method of settling, I have been able to find these bodies in about fifteen per cent. of all specimens examined, in persons of all ages, for this class of cases.

Professor Shattuck[2] reports the examination of two hundred and ninety-seven specimens of the urine of as many patients who sought his advice, and who presented no symptoms of renal disease apart from the presence in the urine of albumin and casts. In his table are excluded all cases of fever, and all in which the well-known irritants, bile and sugar, were present, and all cases in which examination rendered it probable that the mechanical effect of crystalline formation in the kidneys was responsible for albumin and casts; also all cases of unquestioned Bright's disease. The following table gives his results:

Number of Cases.	Age.	Per Cent. Albumin and Casts
25	20 to 30	32 per cent.
39	30 to 40	23 "
47	40 to 50	55 "
99	50 to 60	65 "
57	60 to 70	74 "
16	70 to 80	100 "
14	80 to 90	79 "
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In a majority of these cases a single microscopical examination only was made. The casts were chiefly hyaline and of the finely granular variety.

I regret being unable to give my results by ages for this class of cases. I will state that my cases embrace subjects from six months old to those who have reached their eightieth year. I have failed to find casts in the urine of some persons of the latter age, but have found albumin in a majority of instances. In infants I have found both.

Dr. Landon Carter Gray[3] reports cases of persistent albuminuria and glycosuria, with frequent hyaline casts, in functional nervous diseases. In none of his cases was there an apparent nephritis present, apart from the presence in the urine of albumin and casts. He also shows from careful examination that these subjects excrete the normal amounts of the terminal products of nitrogenized and hydrocarbonaceous metabolism. He considers the condition simply an attendant symptom of cases of functional nervous disease. He has never seen a case of albuminuria in functional nervous disease pass into well-marked nephritis. In examinations covering thirty-one cases of neurasthenia, heavy traces of albumin were found in thirteen and faint in fourteen; casts were present in almost half of these cases. In five cases of melancholia, albumin was found in all and casts were present in four. In three cases of insomnia, albumin was found in all and casts were present in two. In cases of neuralgia, neuritis, nymphomania, torticollis, tic douloureux, syphilis, alcoholic meningitis, general paresis, and subacute mania, one or more cases of which were examined, albumin and casts were found in a majority of instances.

Brewer,[4] on the other hand, says "that from a single indisposition and malaise, from a slight soreness of the skin to the most torturing neuralgias, from an insignificant and unheeded feeling of depression to the most aggravated cases of melancholia or mania, all these shades and different intensities of mental and nervous disorders may arise from persons with vulnerable kidneys, the demonstrable evidence of disease of these organs being casts alone." He believes that an individual passing urine containing casts, even without albumin, has a damaged constitution. While I believe most of us will readily concur in the opinion that the exhibition of casts in the urine is not a normal condition, it does not seem to me we are justified in making the unqualified statement that such an individual has "a damaged constitution." In those cases in which the functions of the organs are normal, as is ascertained by estimating the amounts of nitrogenous and hydrocarbonaceous waste eliminated, it is hard to see how the kidneys can be damaged to any great extent. It is worthy of notice that in most cases in which the functions of the kidneys are normal, even with the presence of casts in the urine, the epithelial variety is absent, and that in all cases of serious parenchymatous nephritis epithelial casts are abundant.

It seems apparent that in a number of the neuroses (at least as quoted above), in which all the functions of the kidneys are maintained, the presence of albumin and casts in the urine is not of necessity to be looked upon with grave apprehension, although their presence in the urine should excite our suspicion. They are "a note of warning" which it behooves us to heed by adopting the necessary measures for giving the kidneys the rest they require.

There is another class of cases in which all the characteristic symptoms of Bright's disease are present. This type of cases is too familiar to need mention, other than to say that in the cirrhotic form the albumin is usually very slight and at times absent, and the casts are few in number and usually only of the narrow hyaline variety. The output of the end products of nitrogenous waste is always lessened in all forms of recognized Bright's disease, and well-known objective symptoms are usually present.*

Among cases belonging to this last group of recognized Bright's disease, I recall examining a specimen of urine recently of a patient who, twelve years ago, was considered to be in a very bad way. I am informed by physicians who examined his urine at that time and for quite a period afterward, that epithelial and granular and other casts were abundant, the urine was thoroughly impregnated with albumin, and all the pronounced symptoms of a chronic Bright's disease were present. The patient is alive to-day and recently was accepted for life insurance. Ever since the diag-

* I have followed the plan which seems to be generally used, of distinguishing between cases in which albumin and casts are present in the urine without symptoms and cases with the well-known symptoms, objective and subjective, of a characteristic nephritis, applying to the latter form the term Bright's disease. Foster's dictionary gives sixty-two definitions of the term.

nosis was first made, he has lived on a milk diet. The specimen examined by me contained a heavy trace of albumin and abundant hyaline casts: the output of the solids was subnormal.

Another case was that of an elderly gentleman holding an important position in the United States treasury department. He consulted his physician for dyspepsia. An examination I made of the urine revealed a condition that looked serious; the albumin was about two per cent. by weight, and the microscope showed abundance of casts. He died about a month later of uræmia or urinæmia.

In an infant, eight months old, who presented renal symptoms, the urine on examination I found to contain albumin, about one-half per cent. by weight—blood and epithelial and granular casts all persisting for a month and then disappearing. Several examinations have since been made, with negative results.

In a child, twenty-two months old, albumin and casts persisted for three months. Shortly after the disappearance of the albumin and casts the child had an attack of pneumonia, without any recurrence of the kidney lesion.

I have made repeated examinations of the urine of a lady, weighing about one hundred and forty-five pounds, and whose age is thirty-six years. I have been unable to find casts in any of the specimens examined microscopically. The chemic examination sometimes gives a trace of albumin, always slight, the nitrogenous element being always below normal, the daily excretion of urea averaging between two hundred and thirty and two hundred and sixty grains, the quantity of urine passed being always increased. The circulatory and other symptoms of a cirrhotic kidney in its earlier stages are present.

It is this class of cases, of which the last mentioned is a type, that show that examinations made to detect the presence or absence of albumin and casts alone cannot be relied on absolutely. A person may have no casts presnet in the urine and still have the worst form of kidney disease, so that consideration must also be taken of the elimination of the end products of nitrogenous waste and the constitutional symptoms present in renal disease. Since the application of centrifugal force to clinical medicine, the old methods of allowing urine to settle preparatory to microscopical examination is rapidly becoming a thing of the past. By the aid of the centrifuge we can get a concentrated sediment of the urine in from two to three minutes unattainable by the old plan in from twenty-four to forty-eight hours. A specimen of freshly voided urine can be examined microscopically a few minutes after it is passed—the advantages of which cannot be overestimated. It is claimed that all casts are thrown to the bottom of the tube by centrifugal force.

Litten,[5] at the congress of internal medicine held in 1891, read a paper on the clinical use of the centrifuge. He demonstrated the ease with which casts and micro-organisms were sedimented by this instrument in urines which, without its use, gave but feeble or negative results. Its value as an aid to diagnosis and the obtaining of clinical information when the old methods utterly fail is now generally accepted. As Purdy[6] very well puts it: "The centrifuge is destined rapidly to supersede the old method of gravity for all purposes of urinary sedimentation."

What seems to me the most important feature gained by the use of this instrument is that we are able to find out positively any deviation from the normal in the kidney structure, of whatever cause, at a much earlier date than is possible by any other method, and the opportunity it probably gives for aborting some cases that might eventuate into a Bright's disease. In the light of our knowledge at the present day and with the means at our command for discovering any deviation from the normal in the kidney structure, it seems a little surprising that examination of urine of patients is not more general, even though positive symptoms of renal trouble are lacking.

While my table of the first group of cases shows quite a large percentage of persons, apparently healthy, exhibiting both albumin and casts in their urine, I do not think it can safely be regarded as a truly physiological condition; that in most of them the casts will disappear I have no doubt. I do not believe it means more in these cases than a mild bronchitis, with the chances toward a serious result in one condition about equal to those in the other.

In the second group of cases, Shattuck's[2] collection of almost three hundred is very interesting, on account of the very large percentage of the number showing albumin and casts. He has been able to follow a good number of his patients up for several years, and he reports them as being apparently well. The statistics of Dr. Landon Carter Gray[3] also show the seeming frequency and persistency with which they are associated in functional nervous diseases. In my own limited experience with cases belonging to the second group, the percentage in which albumin and casts were found seemed to me quite large: but, from the statistics quoted of Shattuck[2] and Gray,[3] I am compelled to believe more careful examinations might have given even larger results.

That recoveries occur from undoubted Bright's disease is well established, even after it has assumed the chronic form, with perhaps some impairment of the renal functions. Flint[7] considers that we may hope for recovery in not an insignificant number of cases of chronic Bright's disease, and in many cases arrest of further progress. Both Senator[8] and Johnson[9] claim to have seen all symptoms of parenchymatous nephritis disappear after having continued two or three years. We shall have fewer deaths in proportion from Bright's disease in the future, not so much from any therapeutic aid we may expect to get, as from the routine practice that will ultimately be adopted, of examining the urine of all patients, regardless of symptoms. The valuable aid our modern methods of sedimentation give us for microscopical examination, enabling a diagnosis to be made early, is another factor in probably aborting what may become a serious condition. Another means of preventing diseased conditions of the kidneys, I believe, will ultimately be adopted, and that will be the periodical examination of the urine of all persons.

Northeast Corner of Fourteenth and Corcoran Streets, N. W.

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Iodide of Starch in Surgery.—Majewski (*Wiener med. Presse*, No. 19, 1896) advises the use of iodide of starch in suppurating and in neglected wounds, phlegmons, and venereal sores. The mixture of one part of tincture of iodine and two parts of starch is better than iodoform in its action as an antiseptic. It is very hygroscopic, almost odorless, and very agreeable.

THE DIATHETIC ORIGIN OF TISSUE OVERGROWTH IN THE PHARYNX OF THE CHILD.

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I.—That my position may be clearly understood, let me, in the beginning, outline the purpose of this paper, and also explain its title. By "tissue overgrowth" is meant the condition known commonly as adenoid vegetations; and, further, it is meant, this condition occurring in the child of tender age in whom may be found undeniable signs of inherited diathesis.

It is not the purpose to discuss other causes here. The phase of etiology as suggested by our title alone claims our attention. We understand how syphilis and tuberculosis may give origin to this condition, the part they play in causation being so obvious that it may be granted without debate. But while ready, in the absence of other proven cause, to attribute this origin in our cases, it must have occurred to many observers that these causes are not explanation for every case. This condition is frequently seen in children without other blemish, who are otherwise the picture of health—children without vicious inheritance, whose parents had neither syphilis nor tuberculosis; children the first glance at whom revealed nothing beyond an obstruction to nasal respiration. It is this class of cases which we are to consider; and in discussing their etiology we shall have to mention all possible causes, in order to exclude those not bearing upon our thesis. But, as has been said, this paper is not for the discussion of all causes, our present concern being with this question: Can adenoid vegetations have origin in a diathesis?

I shall reply in the affirmative; and I shall present for consideration an argument, illustrated by proper cases, which supports my answer. The argument carries these propositions: First, that adenoid vegetations do, in certain cases, exist because of a diathesis; second, that this tissue overgrowth is no more than an overgrowth, *i.e.*, normal tissue overgrown its natural limit.

II.—To decide that this tissue is an overgrowth of normal tissue, we must compare its microscopic structure with that of the lining membrane of the pharyngeal vault.

The vault of the pharynx is a part of the body's mucous tract. Its mucous membrane is a protective respiratory one, carrying these distinguishing points: ciliated columnar epithelium; mucous glands and lymphoid tissue in about equal amount, with the lymphoid tissue in certain locations thrown up into tonsil form. If it be true that tonsil tissue has the function of destroying foreign matters carried by the inspired[1] air, this arrangement is most happy. The tonsils are developed where most needed, that is, about the pharyngeal openings leading to the external world and about the openings from the pharynx to other delicate and important organs. This gland arrangement is found about the posterior nares, in the membranes of the vault, and in the membranes covering the posterior surface of the soft palate.[2] The direction of the air current inspired through the nose is inward and downward. It must come in contact, then, after leaving the nose with, first, the tissues of the vault, and later with the tissues lower down. Any harmful micro-organisms coming with the air are caught by the mucous membrane and quickly destroyed by the secretion from these tonsils. About the Eustachian openings in the pharynx the tonsil tissue is well developed. It answers two purposes here: It not only helps to clear the incoming air, but it protects the middle ear from invasion by micro-organisms. This function of protection has been supposed to be held only by the ciliated epithelium;[1] but we must admit that it does not seem quite reasonable to suppose that the ciliary movement is active enough to overcome all micro-organisms. There must be something to destroy, to remove rapidly and without trace, these germs, which are at times of extreme virulence.

In a section of the membrane from a normal pharyngeal vault, prepared for the microscope, we note this arrangement: A first layer of ciliated epithelium; then a layer containing the mucous and lymphoid structures; underneath this the submucosa, a layer made up of connective tissue and elastic-tissue fibres, and carrying the main trunks of the blood and nerve supply of the mucosa.

In a section of adenoid-vegetation tissue, we find precisely the same arrangement, with this difference—the layer carrying the mucous glands and lymphoid tissue is very greatly increased and the blood-vessels in this are in greater number and larger. The minute glands are themselves no larger; they are simply in greater number—a hyperplasia has occurred. The blood-vessels and connective tissue carrying them have increased, for the reason that the tissue supplied by them has increased, and therefore there is greater demand for blood.

We shall say, then, that the adenoid-vegetation growth seems to be an hyperplasia of the constituents of the normal pharyngeal membrane—that it is a simple overgrowth of the normal tissue. It has no function for good, existing as it does in large amount and obstructing passages of great importance to the child. Its presence is doubly a menace; for, besides the obstructive and irritative harm it does, it presents a good field for the growth of micro-organisms. This tissue, closely crowded into a cavity without ventilation, soon becomes the victim of its own secretion. The secretion thickens and becomes foul and irritating. The function of the glands is suppressed and the tissue resistance is lowered. Consequently there may be introduced into the organism, at this point, any disease which depends for its activity upon a germ.

III.—It is now in order to discuss our main proposition: That adenoid vegetations exist in certain cases because of a diathesis.

I believe that this may be true, for I have seen, during the past year or so, a number of cases in which there seemed to be a direct relation between the condition of the vault and a diathesis present in the child. Let me repeat, here, the histories of two of these cases. They are very interesting, and will set forth my meaning clearly. One case is given in complete detail, for it covers the points I wish to make and it is very instructive:

Case I.—Boy, aged four years, referred for examination and opinion in December, 1895.

History given at that time by mother: During several years he has had attacks of respiratory distress of peculiar nature, getting worse lately. He has been seen by a number or physicians, who have called these attacks, variously, asthma and pneumonia. After exposure to cold the boy chokes up—nose occludes and throat seems to contract. Breathing is difficult, with marked wheezing. He becomes feverish, urine is lessened and cloudy, there is constipation. These attacks occur as often as once monthly, especially during cold weather. Between attacks he is seemingly all right, except for nasal occlusion. Because of the

[1] Gulland.

[2] Lennox Browne.

[1] Lister.

fear of the cold he is kept within doors and gets little exercise; he eats much and often, especially of meat; takes little water. There is marked constipation.

Examination: Somewhat undersized, but sturdy. Skin dry, especially of hands, which is cracked and rough. Peculiar worn appearance of face; mouth breather. Posterior rhinoscopy reveals a mass of adenoid vegetation filling the vault. The nose and rest of the tract are in fair condition; there is some secretion throughout.

Desiring to see the boy during an attack, I asked the mother to send word when he had another. This she did a few days later, but waited until the attack was nearly over.

December 20th, I saw the boy on second day of attack; he had then been in bed for nearly two days, with high fever and difficult breathing. When he was seen, respirations were through the mouth and frequent; the pulse was rapid and quick; temperature, 101° F. Auscultation revealed over the lungs nothing but wheezing respiration; over the heart a marked cardiac friction. Urine was small in amount, dark and heavy; micturition frequent. Urinary examination made next day: Hyperacid; specific gravity, 1.030; cloudy, loaded with urates; urea, 0.03 per cubic centimetre; uric acid and calcium oxalate largely in excess. I advised as follows: For the present, treatment to clear up acute attack. Later, when urine becomes normal, the removal of tissue in the pharynx, giving an opinion at this time that attacks would cease shortly after the vault was cleared and that the urine would clear.

December 26th, after short course of treatment, boy in good condition for operation. Large amount of adenoid tissue removed under chloroform. Tissue removed with forceps and vault scraped. Slight bleeding. Recovery prompt. Cardiac friction sound heard faintly before operating.

January 1st, doing well; friction sound has vanished. Urine clear.

January 15th, the boy seemed to be doing very well, when he had another attack. Not severe this time; no nasal obstruction. Urine scanty and thick, as before. He appeared brighter; skin not so harsh. Family physician reported that just after this attack the cardiac friction sound was heard again, disappearing after a few days. Examination: Pharyngeal vault clear; no secretion. Urine same as at first examination. At this time general treatment was advised, to meet the indications as shown by the urine.

March 1st, the mother reported that the child's general improvement had been marked. Skin softer, especially that of the hands; eyes clearer; still some constipation. One slight attack in February, severity lessening. Urine is free and clear.

August 1st, the boy passed from observation during the summer. Desiring to know his condition at this time, I sent for him. The mother reported as follows: Attacks have never quite ceased, lately getting more severe. He is constipated and urine is scanty. During marked constipation urine is in bad condition, and then an attack occurs. Eats well—much fruit, not so much meat as before. Plays out of doors. Examination: Pharyngeal growth in vault recurring; amount small, but covers whole surface of vault. Urinary: pale; specific gravity, 1.012; neutral; solids deficient.

At first sight, I thought that in this case the condition within the pharynx was the cause of the attacks and of the boy's general condition. After studying the history of the case since the operation, I have changed my opinion, and I now think that the general condition is the cause of the attacks and of the pharyngeal overgrowth. With this idea in mind, I made careful inquiry of the mother in these particulars—in regard to her care of the boy during the summer, in regard to his history since birth, and in regard to the family history.

In regard to care, he had received none of the general treatment previously prescribed during four months. Some attention had been given to diet and exercise, and he had had castor oil occasionally.

History from birth: When a baby he had slight wheezing respiration; severe cough from six months to teething-time. At about the same time he had constant diarrhœa; later, diarrhœa alternated with constipation. From three months to eighteen months, he suffered severely from an extensive eczema of face and head.

Family history: Both parents large, well-built persons. Father very hearty, and frank in regard to himself; admits having had gonorrhœa, but denies syphilis. No signs of immediate or inherited syphilis to be found. Always well; no rheumatism or constipation. Mother gives history of rheumatism. When a girl she had frequent sore throats (probably tonsillitis) and was always constipated. While carrying this child she suffered greatly from constipation, and was always ailing. Since then she has had muscular rheumatism.

The other case is given briefly. It is not necessary to quote a large number of cases, for all are much alike; and it is necessary to repeat only these two to show the points of most importance.

Case II.—Girl of eight years, with history of adenoid disturbance for years.

Family history: Mother gives nothing bearing upon case; father has very marked diathesis. He has had stone, and suffers from uric-acid and calcium-oxalate explosions; when a child he had croup. There are a number of children in the family, part of whom resemble the mother completely. Two resemble the father in every respect; both have croup; both are subject to uric-acid and calcium-oxalate disturbances.

History of child: Has croup each winter; whooping-cough some years ago; has constantly recurring periods of throat cough. Some time ago she was operated upon under chloroform for adenoid vegetations. She was at that time very delicate, with constant cough. She was better after operation until the fall, when cough recurred, and no treatment seemed to control it. She coughed more or less all winter.

Urinary examinations made at times when cough was most severe revealed urine loaded with uric acid and calcium oxalate, and was at same time of very marked acid reaction. Posterior rhinoscopy made last spring showed the following: Posterior pharyngeal wall covered with thick secretion, coming from the vault; adenoid tissue recurring in small amount in the vault; other tissues anæmic and relaxed. The child was pale and nervous. After trying everything, her cough was finally controlled at this time by giving her alkalies and complete rest in bed. There has been relief from the cough since then, and urinalysis shows a normal urine.

The condition known as adenoid vegetation involves a question: Is it merely a freak of growth, by which the normal limit of form is overshot, or is it due to some clearly defined cause? The condition is widely prevalent, it having been found in many races.[1]

Are we to infer, then, that this tissue is only remnant tissue—that it is tissue undergoing retrograde metamorphosis in the process of evolution? This is not yet proven; we are not warranted, therefore, in believing it can be so. I do not believe it for another reason. After operation, in cases in which there seems to be a direct cause for the growth, the removal does not suffice for cure. The growth recurs if there be no after-treatment. On the contrary, if the supposed cause is removed the growth does not recur.

[1] Wilhelm Meyer.

Having observed this close connection between cause and effect in many cases, and having observed the behavior of the growths under treatment, I believe that in every case there may be found a well-marked cause. It is well known that children of syphilitic or tuberculous parents have this growth. In these the cause is, without doubt, in the circulation. It is held by some that, syphilis having been present in a remote generation, its attenuation may be responsible for this condition in obscure cases. I do not believe this, for I do not believe that a syphilis diluted through many generations can hold its potency. I fail to understand, if it does, why its action is so manifest in this one direction, while in other directions it gives absolutely no sign. I believe, rather, that in these cases another circulatory cause is at work, that cause being an inherited diathesis. Why may not this be true? In growths due to syphilis or tuberculosis, is it not a specific poison within the circulation, or a vitiated blood, that is the cause? Why, then, may not some other circulatory irritant, or a vitiated blood from another cause, have a similar effect? That the diathesis is inherited is obvious. It is manifestly impossible that a diathesis can arise spontaneously in very young children. It must be inherited if it exists at this age, though I believe that a diathesis may be created in an older child without hereditary fault.

In an older, tougher organism, a diathesis is cause for much harm; in the young child the opportunity for harm is vastly greater. The child's tissues are more sensitive, the cell is more impressionable and responds more quickly to irritation. This is shown, especially, by the cells of the pharyngeal mucous membrane. They react acutely to the slightest cause; in fact, some pharyngeal irritation may be found in nearly all of their sicknesses. And this must be expected in a membrane so situated and so fashioned. Its structure is of extreme fineness, it is in intimate relation with all internal organs through the circulation and nerves, and it lies in almost direct relation to the external world It is wrought, therefore, by contending forces, and easily succumbs to irritation. It can be said, in truth, that the child's throat is a mirror, in which may be seen the reflection of his general condition.

In the cases quoted, the presence of an inherited diathesis is easily seen. Each reproduces almost exactly a condition found in one parent. In the first case, the mother has chronic constipation, with a history of rheumatism; and in the child the same tendency toward constipation exists, and we have also a variety of demonstrations of the presence of irritating matters in the circulation. During the attacks the urine was dark and heavy with solids; between attacks it was light in color and of low specific gravity. It can be surmised from this that in his ordinary condition his organs were not eliminating properly; that the substances usually removed by the liver and kidneys were being retained in the circulation; that at a certain stage of accumulation the organism rebelled and a violent paroxysm of elimination occurred. That this condition is a cause for the pharyngeal overgrowth is almost proven by this case, for do we not find the growth recurring after the vault was thoroughly scraped? And, furthermore, the urine remains as it was before the operation, showing that the circulation remains overcrowded with waste material. His condition was improved for a time following operation, which improvement was due to the operation and to the course of general treatment given him; but gradually he gets worse again, and upon inquiry we find that his mother has neglected his general treatment. For a period of four or five months he has had little of the proper attention. During that period the irritant has been left to circulate freely, with the result seen.

In the second case, the father and the child present the same conditions. During the diathetic explosions the same substances are found in the water of each, under the same conditions. In this case, also, the child was better after the operation; but after some months further demonstrations occurred within the pharynx. There was much secretion from the vault, with almost constant cough, and later new adenoid tissue is found in the old location.

IV.—While the cases given (especially the first) have been my inspiration in this idea, I do not hold that the two alone are proof beyond dispute; nor do I base my assertions upon these only. I have observed many similar cases, of which the two are types given for illustration. It is only by close observation of many cases that an etiology may be established. I would desire, therefore, other opinion upon the proposition of this paper. In my opinion, adenoid vegetations present a grave condition and one worthy of serious thought. I think that, with a proper understanding of the condition and its cause in the young, it may be prevented. I have worked with this thought in mind, and, while this paper may be incomplete and unsatisfactory, I hope at some future time to contribute something on this subject more worthy of consideration.

The urinalyses in these cases were made by Dr. A. E. Woehnert. Each was carefully made and complete.

466 Franklin Street.

THE MUNICIPAL CONTROL OF THE CONSUMPTIVE.[1]

By THOMAS C. CRAIG, M.D.,

passed assistant surgeon, united states navy.

Mr. President and Gentlemen of the National Sanitary Association: All sanitarians are naturally interested in the preservation of health by the prevention of disease; and I have no doubt that your association will do much, at this annual gathering, which will go far toward educating our people as to the rules and means to put into practice, whereby the spread of many of our infectious diseases may be limited.

One of the most prevalent and widespread diseases with which we have to deal is consumption, and it is to the municipal control of this disease that I wish to invite your attention for a short time.

Much has been written and proposed on this subject, but as yet nothing definite has been done. The municipal control of the consumptive is such a radical and far-reaching safeguard for the public welfare that the great wonder is that it has not long ago been put into practice. In and around the city of Brooklyn the annual mortality from tuberculosis is about fourteen per cent. of the total number of deaths. This large percentage is not alone confined to this area, but prevails with equal degree in many other places. The geographical distribution of this disease is greater than that of any other. Wherever you find civilization you will find cases of consumption; in the homes of the rich and in the homes of the poor, from the Arctic to the Antarctic, from the east to the west, everywhere this dread and persistent disease is present. No cure has yet been found for it; merely alleviation for those who have to endure the suffering, and then die.

This disease has been allowed to flourish in our midst unchecked and to claim its victims by the thousands annually, without there seeming to be anything done to limit its ravages or to call a halt in its

[1] Read before the National Sanitary Association, Brooklyn, N. Y., October 14, 1896.

relentless advance. Sanitarians, doctors, lawmakers, citizens, and officials everywhere sit idly by, and make no effort to enact laws and regulations for the control of this infectious disease. Consumption is commonly regarded as one of the diseases that we must live with, and if by chance one contracts it then it must be endured by him, while others run their own risks of becoming infected. Whole families have thus been carried off by one of their number having contracted this disease and in turn infecting all the remaining ones.

Municipal control very quickly asserts itself, should a case of leprosy happen to be discovered in any of our cities; yet when it is known that leprosy is far less infectious than tuberculosis, and that leprosy is not nearly so quickly fatal, the great wonder is that we have neglected for so long the more infectious of these two very similar diseases. Recently the view has been advanced by an able English writer that tuberculosis and leprosy are more nearly akin to one another than any other two diseases; indeed the theory has been advocated that they are twin sister diseases, several writers even going to the extreme of saying that they are identical, merely differing in their local manifestations by the different tissues invaded.

Attention is called to their resemblance: 1st, in their specific causation and in their morphology; 2d, in their pathology; 3d, in their distribution; 4th, in their general history and the conditions favorable or otherwise to their existence; and 5th, in their infectiousness.[1] This writer goes on to show that the same sanitary surroundings which tend to the promotion of one of these diseases will, in like manner, aid in the causation of the other one; that the same sanitary and climatic conditions go hand-in-hand to the production of effects which will aid these diseases to assert themselves. It is not my purpose to prove that these two diseases are similar or dissimilar, but to draw the parallel of comparison as to how eager we are to take control of the leprous subject, when at the same time the tuberculous patient is allowed to roam at will. If municipal control of the leprous subject is for the safeguarding of the health of the community, why then do we not make the health of the public yet more secure and safe from infection by taking under control the cases of tuberculosis? In answer to this I may say that it is because the breaking of family ties, the removal or restraining of those we love, and the taking away of friends would lead to sorrow and grief. Yet these things are disregarded in the case of the leprous patient.

I am not yet prepared to advocate the forcible removal and control of all persons affected with consumption by the municipal authorities, and the placing of them in suitable sanatoria, so that the dangers of infection would be lessened, but this would be the plan by which the remainder of the community would be rendered safest from infection. To all this the public will have to be gradually educated and enlightened, and until that result is attained other kinds of municipal control might be used. That the proper control by the municipal health officer would decrease the number of cases of tuberculosis there can be no doubt. That our people can be gradually taught these things there can also be no doubt, but until this can be accomplished, the common ordinary rules of sanitation and control which are now exercised in many of our cases of infectious diseases can be brought to bear on this class of patients.

That tuberculosis is a highly infectious disease, and that it annually causes more deaths than any one other disease, no one will dare to deny. The infectious nature of this disease had been known for a long time, but it was not until 1882 that it was definitely ascertained to be due to a specific organism.

[1] London Lancet, July 11, 1896.

Experimentation has since shown how very easy it is to induce this disease in some of the lower animals. If a small particle of tuberculous sputum be inserted beneath the skin of the guinea-pig, the tuberculous process can with certainty be established in about three weeks. Of course this particular animal is very susceptible to this particular disease, being much more so than human beings; and this now brings up the question as to who are susceptible and who are non-susceptible to tuberculosis. Why are some persons immune while others are non-immune?

When it is remembered that most all known diseases depend for their development on the weakened resistive power of our body cells, or in other words on the power of our body cells to battle against the attacking power of the bacteria which cause disease, it is easy to arrive at the comparative fact that whatever lowers our resistive power will aid our enemy, the bacteria. It is the food we eat, the air we breathe, and the clothing we wear which enable our body cells to maintain their tone or strength. When these things are in improper proportion or are of poor quality, then our body cells suffer; they become weak, are unable to resist the attacking power of the disease-producing bacteria, and as a result we are liable to contract some one of the diseases.

It goes without saying that the more widespread any certain disease-producing bacteria are, the more cases of that disease there will be, provided, of course, there are plenty of non-immune subjects present and they are exposed to these infecting bacteria.

In this one disease, viz., tuberculosis, over which it is urged there should be municipal control, I am certain that the number of cases could be greatly lessened annually. The number of areas of infection could be reduced, good food could be supplied, proper ventilation could be instituted, and, to the poor, clothing furnished. Municipal control of the consumptive need not mean the same control as is exercised over a prisoner. At first it might be merely a control over his place of residence; as, for example, where there might be a consumptive patient who was compelled by personal or by financial reasons to eat, live, and sleep in the same room with healthy persons; or where it might be impossible for him to give up his employment and necessary for him to go to and from his place of business in public conveyances, or necessary for him to meet many persons daily in the conduct of his business. It is in these places and at these times that the consumptive cannot, by force of circumstances, or is not, by force of habit, overparticular as to whom he may or does infect with the disease he himself suffers from. The expectoration of a consumptive person contains millions of the tubercle bacilli, and in his going to and coming from his place of business this sputum is deposited on the street or on the matting and upholstery in cars and carriages, on table napkins and towels, both at home and in public eating-houses, there to be dried and then blown about as dust and inhaled by others. Ladies with their long trailing dresses unconsciously sweep up this tuberculous sputum on our streets, and it is carried home into their houses, there to dry into dust and possibly infect some member of the household. It is largely to ignorance of these facts that we owe many of the cases of consumption. Probably no more dangerous sources of infection exist in our towns and cities than the street cars with their mats and matting. These things form excellent and handy places for the consumptive to deposit his expectoration. It sinks into them, dries into dust, and in a short time is ready to be inhaled by some one who possibly has had his resistive power lowered by sickness, or by exposure, or by want of food, or by overwork; and the result is, in many cases, infection.

No child was ever born with consumption, but yet it is true that annually many children die of this disease. How, then, do they contract it? I answer, that they are infected by tuberculous mothers, or by tuberculous nurses, or by coming in contact with tuberculous persons, or by inhaling germ-laden dust.

The question as to whether a tuberculous mother should be allowed to nurse a healthy child may in the future come up for the municipal health authorities to decide, as may also the advisability of allowing consumptive persons to use public conveyances.

The question of the sanitary regulation of the cleanliness and the healthfulness of our public conveyances may yet be placed under the control of the proper municipal officer, and we will not be confronted with notices such as "Gentlemen are requested not to spit in this car;" but we will see in its place the following: "Any one who spits in this car will be arrested and prosecuted." By the municipal control of the consumptive many of these dangers could be avoided. The municipal health officer would then demand that all cases of consumption be reported to him. He would then send an experienced assistant to the place where the case existed. This assistant would satisfy himself as to the condition and sanitary surroundings of the consumptive subject, and also as to the general understanding the patient had concerning the danger of infecting others; he would also take note of the number of persons living in the house, the general sanitary conditions, and of the health of these persons, and then report these facts to his chief. Measures could then be taken to confine the disease within the smallest possible area so as to run the least possible chance of infecting others. The houses or rooms which were occupied by consumptive persons could be reoccupied or allowed to be rented for occupancy only after having been thoroughly disinfected, and this disinfection, too, could be carried out under the supervision of a competent and conscientious person. All furniture, bedding, clothing, carpets, rugs, etc., which were used by a consumptive person could be properly disinfected.

The control of the sanitary condition and the compulsory disinfection of our street cars and public conveyances should be brought under the authority of the municipal health officer, by the enactment of proper laws for the preservation of the public health. Very few persons have any idea what a large factor in the causation of consumption by infection the dirty, dusty street cars and public conveyances are. Within the past couple of years inoculation experiments made, both in this country and in Europe, with the dust and sweepings from these vehicles showed the presence of the tubercle bacillus in a large proportion of the cases.

Have you ever thought about what travelling areas of infection our richly upholstered sleeping-cars which run to and from our health resorts for consumptives are? Imagine a consumptive person riding for a day or two in one of these cars, staining the floor, carpets, and the upholstered seats with his tubercle-laden sputum, and then unknowingly this same compartment soon occupied by a weakened delicate person, who unconsciously might inhale some of these tubercle bacilli and thus become infected by the disease.

Cases like this could be multiplied, as for example, in the berths on steamers, the bedrooms in hotels, etc. It is just in these kind of places of infection that the authority of the municipal health officer should come in for the control of the sanitary condition of these means of travel.

The guarding of the public health is what we charge the municipal health officer with, yet we fail to enact the necessary legislation by which he can accomplish this end. The cities of New York and Brooklyn have within the past few years made an attempt to locate their cases of consumption and also to point out, by very excellent circulars, the dangers of infection by the consumptive, and how to guard against them. But necessarily they leave it optional with the physician to report these cases or not to report them.

These circulars are requestive. The health boards of these cities also offer to disinfect all furniture, carpets, rugs, clothing, rooms, etc., free of cost, if the persons will only come forward and agree to it. But all this is futile for good as yet. The reporting of a tuberculous case should be mandatory, and for the neglect to do this a heavy fine should be imposed.

No excuse should be taken that the physician is unable to diagnose with certainty a case of tuberculosis. The microscope furnishes a ready and positive means of ascertaining whether or not a sputum contains tubercle bacilli.

When the municipal control of the consumptive patient is given to the health officer, then it will be that the number of cases of that disease will begin to decrease. The municipal health officer can then make the proper regulations for governing the going and coming of the consumptive; the friends and relatives will readily consent to any humane and wisely directed rules when they know that these same rules are merely intended for the safety of themselves and others. Living-apartments, furniture, and clothing will then be rendered free from infection; street-car companies, owners of public conveyances, and railroad corporations will then have to disinfect their cars and vehicles thoroughly as often as it may be necessary.

I am convinced that this municipal control of tuberculosis should also extend to the milk and meat supply. Tuberculous cows, and cattle intended for meat, should be rigidly excluded from our markets.

Systematic and regular inspections of all of our dairy farms and of our meat supply should be carried out by our municipal health officers, and all means should be taken to exclude these sources of infection.

The general public may at some future time be educated up to the necessity for all these things, and the result will be fewer cases of consumption, less danger of infection to the public, less suffering, longer life, and in the end more prosperity.

Every one will then agree that the prevention of disease is better than the cure.

109 West Street, New York

Operations for Facial Neuralgia.—Dr. Louis McLane Tiffany says, in the *Annals of Surgery* for November, 1896, that with our present knowledge it is not always possible to say what case will require a central operation, but the following suggestions will assist the surgeon in deciding: 1. Intracranial operation is to be thought of—(*a*) if more than one branch is affected; (*b*) if the painful area receives filaments from the branches near their exit from the head, *e.g.*, tongue, temporal region; (*c*) if the pain is not the expression of a constitutional disease; (*d*) if a cause central to the ganglion does not exist; (*e*) if other measures have failed to relieve. 2. The intracranial operation for the cure of facial neuralgia which should be done is removal of the lower two-thirds of the ganglion of Gasser, together with the second and third branches as far as their foramina of exit from the skull, all in one piece, so as to be certain of the amount of tissue taken away. 3. The upper third of the ganglion and first branch may, for the present at least, not be excised for neuralgia. 4. It may confidently be expected that the present large mortality will be greatly diminished by the adoption of an improved technique joined to increased experience.

Clinical Department.

MICROSCOPICAL POWER OF THE NATURAL NORMAL EYE.

By F. L. O. ROEHRIG, M.D.,

PASADENA, CAL.

Some time ago, while attending to my morning toilet, I happened by mere accident to look in an almost perpendicular direction and at a distance of an inch or two, more or less, down on to my beard—the mustache as well as the whiskers surrounding my chin. How great was my astonishment at the strange and unexpected appearance of what I then saw! Every hair greatly magnified, just as seen through a microscope. Each hair stood out plain and distinct and as though forming a tube which, according to all appearance, was transparent, rather colorless, hollow and empty, bounded, as it were, on both sides, by a generally well-marked bright white line or border. The size of the magnified hair-tubes varied from that of an ordinary darning-needle to the volume of a small lead-pencil; it increased gradually in proportion as I moved those tubes slowly upward from the chin: and it seemed to reach its maximum when seen nearly high enough to be somewhat on a level with the eye, or right opposite to it.

I likewise examined the very thin and short hair on my hand and fingers, and the result was just the same. Then I plucked out a hair and held it between the fingers, with invariably the same result.

The experiment succeeded as well in daylight as in artificial light. Monocular or binocular vision seemed to make no essential difference. Dark as well as light hair, red and gray or white hair, served the purpose equally well.

I could, moreover, render this magnified appearance perceptible to other persons, with the same clearness with which I saw it myself.

Finally, I took a thick hairlock from a child's head and held it up to my sight, when a very large mass of strongly magnified intertwined tubes, like a network of strings or cords, was at once seen. It increased in size considerably, in proportion as I moved it slowly upward; it reached its maximum when it had come high enough to be in front of my eyes and was held there at a distance of an inch or two, more or less. At last I tried the experiment in a darkened closet, where, through a longitudinal slit, I let in a stream of very bright sunlight. Every one of the hairs of my whiskers appeared considerably more enlarged than ever before, and the inside of nearly all those magnified hairtubes seemed in their whole length, as it were, lined with numerous fine longitudinal parallel strokes, somewhat similar to the shading of a pencil drawing. One or two of those tubes appeared in beautiful rainbow-like colors.

I also tried these experiments with the additional aid of a reflector, when I obtained the same magnified appearance of the hair tubes.

Then I extended my observations to various small objects, such as horsehair, blades of grass, needles, minute insects, etc. The result was invariably the same. The best view, however, was presented by longitudinal objects, such as needles, strings, etc. At last I resorted to magnifying glasses in order to find out whether and in what manner or degree the appearance of the objects examined would differ from that observed by the microscopical power of the naked natural eye. This served to confirm the entire results.

The eyes of all those whom I made to see just what I saw, as well as my own, are perfectly normal in every respect. Persons whose sight is not defective can, without any effort or sense of strain, at once perceive those magnified appearances. Almost every one will find, at first, some slight difficulty in so doing. Those, however, whose visual powers are, even in the least degree, vitiated by anything anomalous or abnormal, such as myopia, presbyopia, hypermetropia, astigmatismus, staphyloma posticum, etc.—in short, by anything that in the domain of ophthalmology would come under the head of morbid states or pathological conditions of the eye—cannot reasonably be expected to possess or acquire the necessary aptitude for these microscopic perceptions.

He must also distinguish between this constant, continuous, and permanent microscopic power and those merely accidental and transitory states of morbid exaltation of the sight that are known as oxyopia and megalopsy, in certain diseased conditions of the eye. Moreover, imagination, as it may probably be urged, fancy, or self-deception are altogether out of the question in this case; since the phenomena under consideration can be reproduced at will and may be verified at any time by any one. The fact for the present is simply stated, without hypothesis or explanation. It may be experimentally demonstrated as an objective reality. In all probability there exists some law resting on physiological optics, and, as it were, on the very constitution and mathematics of the eye, which will explain all.

Like many other things in nature, the fact here presented could have been very easily overlooked in the past, and escaped general notice: it has, perhaps, never come, heretofore, under observation. Still, we should not indifferently let it pass altogether unnoticed; for all this may be merely a first step in a whole continuous series of connected subsequent facts and may thus gradually lead to perhaps many, as yet, wholly unexpected important scientific truths and variously valuable new discoveries.

402 South Oakland Avenue.

RECURRENT TUMOR OF SLOW GROWTH.

By D. D. CHASE, M.D.,

MONTICELLO, N. Y.

About sixteen years ago, Mr. L. E. C——, aged thirty-six, merchant, of good health and habits, noticed an insignificant crusted excrescence upon the left side of the nose, near the inner angle of the eye, removal of which caused oozing of slightly bloody serum and was rapidly followed by another scab or crust. In the course of a few years it began to excavate the parts, involving the skin only until surgical interference was begun. About one square inch of skin was taken from that part of the nose, together with about one-fourth of the inner portion of the lower eyelid. Transplantation with a flap from the forehead stayed the process for about four years. At the expiration of this time the disease began again on the normal skin, but not in the flap. After suffering much pain for a year or more, the patient tried Koch's lymph, at first with apparent good results; but increasing doses failed to heal the ulceration completely, and this method was abandoned.

Early in 1895 there appeared a soft tumor, about three-fourths of an inch from the nose and the same distance from the margin of the under eyelid. By July it had reached the size of an English walnut, closing the eye by its pressure and thickening of the adjacent skin. At this time another plastic operation was done, in a New York hospital. There was an opening into the antrum, the floor of which was roughened. The wound healed by first intention, and in a few weeks the patient returned to his home. In October there appeared upon the malar prominence small erosions, as also upon some parts of the transplanted

integument. Another operation was done by the same surgeon, about October 10th. In March, 1896, the growth again appeared, but by the advice of competent surgeons it was thought best not again to resort to surgery; therefore, from that day the tumor is a series of nodular masses, making a general elevation of about four inches above the plane of the cheek, covered with brown crusts. It closes the orifice of the ear, extends one inch below the submaxillary bone, and crowds the nose over to the right of the median line. Bleeding, which is sometimes very profuse, is stopped by the free application of Monsel's powder. The surface has been dressed daily for the last six months with linen saturated with Pinus Canadensis for cleanliness. Though suffering great pain, the patient keeps up good spirits and appetite, and the mind is clear.

A CASE OF SECONDARY CANCER INVADING THE LIVER, STERNUM, AND VERTEBRÆ, WITH A GROWTH IN THE SPINAL CANAL CAUSING PARALYSIS FROM PRESSURE.[1]

By B. C. LOVELAND,

CLIFTON SPRINGS, N. Y.

Mrs. C. S——, fifty years of age, was brought to me on May 12, 1896. Her condition at that time was as follows: Great emaciation, a marked antero-posterior curve in the spine, extreme distention of abdomen with gas, so that it was impossible to ascertain the condition of any of the internal organs, a condition caused largely by a paralysis extending from the middle of the dorsal region downward. There was paralysis of both bowels and bladder, and complete anæsthesia of the lower extremities extended upward as far as the distribution of the sixth dorsal nerve. There was a good plantar reflex, and jerking of the extremity could be elicited by tickling the dorsal surface of the foot or by pricking the leg. There were frequent painful contractions of both lower extremities, which seemed to arise from the irritation caused by flatulence. Respiration was labored, and often as frequent as 40 per minute; pulse ranged from 95 to 120 per minute and temperature from normal in the morning to 100° or 101° F. in the evening. A large scar marked the site of an operation for the removal of the right breast and axillary glands, and there was a small nodule of the size of a walnut in the axilla in the line of the incision. Patient complained of much pain in her limbs and in her back between the shoulders. She gave a history of tuberculous ancestry and had had a chronic cough for years, but no tubercle bacilli were found in her sputum. The first disease that might be connected with her condition at the time was a cancer of the right breast, which was removed in 1889, and a second operation for a growth in the cicatrix was performed by the same surgeon in 1891. Since that time she had enjoyed good health until two and one-half years ago, when she began to suffer with what were called rheumatic pains in her right leg, and the leg soon became practically helpless or paralyzed. Her general health remained good, however, until April last, when an increase in the lameness occurred, and the pain and paralysis attacked the other leg, progressing rapidly until the condition was reached which I have above described. The cause of the trouble in her lower extremities was attributed to a rheumatic neuritis by the physicians who had examined her before I saw her, and it was some days before her intestines were sufficiently free from gas to permit of a satisfactory examination. By careful diet and frequent flushing of the bowels with the long tube, the flatulence was sufficiently reduced to allow of a more careful examination. The liver was then found to extend to a line three and one-half or four inches below the ribs, and to be dotted all over the surface with hard nodules. This, of course, meant secondary cancer, and gave probability to my idea that her paralysis was caused by a neoplasm in the spinal canal. At that time Dr. Lichty examined her with me, and we concluded that the paralysis was from pressure; but, with her history, it seemed uncertain whether the pressure was from tuberculous or cancerous disease. Her temperature also pointed to a possible tuberculous complication. About this time, examination of her urine showed albumin and casts, both hyaline and granular. The patient lingered along with little change in her condition, except a gradual weakening and occasional delirium, temperature and pulse remaining about the same, until August 28th, when she died. Report of the autopsy is as follows: Body emaciated, abdomen slightly distended, legs œdematous, sternum bent so as to look like a dislocation of both segments, the upper segment being drawn forward and upward, pulling the lower one with it. Great increase in dorsal curve of the spine. Spinal cord compressed at point of third dorsal vertebra by a solid growth projecting into the spinal canal from its anterior wall. Vertebræ softened. Sternum softened, with cancerous infiltration. Left lung broken down at apex. Right lung filled with hard material. Heart normal. Liver filled with cancerous nodes, many of them an inch or more in diameter. Intestines normal. Left kidney: capsule somewhat adherent, red, granular, contracted. Right kidney: capsule free, red, granular, contracted. Both suprarenals softened and degenerated. Stomach not thickened, but contracted to about the size of the small intestine for four or five inches nearest its pyloric end. On microscopic examination the growth in the spinal canal was found to be cancerous. This case presents two or three peculiar features, viz., the long time that followed the final operation on the breast before the secondary development in the viscera occurred; the broad distribution of the disease, even invading the spinal canal: and the length of time between the first operation and the final triumph of the disease.

[1] Read before the Ontario County Medical Society, October 12, 1896.

ROENTGEN RAY TRAUMATISM, WITH REPORT OF A CASE.

By W. B. BANISTER,

CAPTAIN AND ASSISTANT SURGEON, U. S. A., FORT COOK, NEB.

On April 15, 1895, Capt. John McA. W——, U. S. A., was accidentally shot, the ball entering the back in the lumbar region, to the right of the spinal column, grooving the crest of the ilium two inches from the spinous process of the lumbar vertebra, and passing upward and inward, but not emerging from the body. Immediate paralysis from the waist downward resulted. There was slight sensation in the left foot within an hour or two after the injury, and the patient was able to lift the left foot within two or three weeks. In three weeks he began to have acute pain in the right leg, but could not move it, and was confined to bed for eleven weeks. After that time he could use a crutch, and there has been steady improvement ever since. When he left this post, about August 10, 1896, the use of the left leg was not impaired, but there were paresis of the flexors of the right thigh supplied by the anterior crural nerve and some atrophy; but with the aid of a cane he could walk fairly well, and had difficulty only in ascending steps. The bullet evidently ploughed its way through the dense lumbar fascia and muscles, until arrested in its course by the spinal col-

umn. The patient had been improving steadily for a year. There was, therefore, no good surgical reason for attempting its removal, even if its location was known, as the manifestation of nerve injury had resulted directly from the traumatism and had been progressively improving.

When *en route* to this post, he stopped in Chicago to consult a surgeon about the paresis of the flexors of the right thigh, and was advised to have the bullet skiagraphed at a certain Roentgen-ray laboratory in Chicago, with a view to operative procedures for the relief of the paresis, on the supposition that the bullet was pressing upon the anterior crural nerve.

On August 11th and 12th he had three exposures of one and one-half hours each, making four and one-half hours in all that the tissues of the skin were subjected to the action of the rays. As far as locating the bullet was concerned, the result was negative. Some redness of the skin resulted, but not sufficient injury to the integument to cause any inconvenience. We may conclude, therefore, that the integument can stand an exposure of four hours, divided between two successive days, without material damage.

Again, on September 9th, 10th, 11th, and 12th, in eight sittings, the patient underwent a total exposure of nearly twelve hours. There were no results as far as locating the bullet was concerned, but there were other results that left the patient a sadder and a wiser man. On the first day the skin began to show signs of inflammation, which extended each day during the trial.

I examined the patient a day or two after his return to the post on September 13th. The Crookes tube during the exposure was held a little below and to the right of the umbilicus. In that situation the epidermis had been destroyed for a space of about one-half the size of a man's hand, leaving the red, inflamed, and hyperæsthetic cutis vera exposed, and the outpouring of serum was very profuse. A red blush extended from this centre in every direction, but principally to the right of the median line and from below upward. The death of the epidermis rapidly extended, and large blisters, such as occur in scalds, formed beneath it, and in a few days the denuded rectangular surface measured eight by fifteen inches, the longest diameter being from above downward.

The superficial layer of the cutis vera is now being thrown off, leaving a raw, bleeding surface, and the quantity of serum (with some pus) that exudes is astonishing. The lesion extends upon the thorax to the level of the right nipple. The patient has been confined to bed for a month, and the denuded surface is so hyperæsthetic that he cannot stand the application of gauze and absorbent-cotton dressings, and it has been necessary to cover the surface with perforated gutta-percha tissue. Drying and astringent powders seem to have no effect in checking the outpour of serum, which is quite an annoyance to the patient. The patient's beard is naturally of a dark-brown color, but since the prolonged exposure to the rays no beard at all has grown on the chin, where formerly a goatee flourished, and the rest of the beard on the right side, which was in the line of the rays, has turned white or light yellow. The integument of the chin was reddened, but the epidermis was not destroyed. During the exposure the patient sat with the right hand grasping the rounded end of the arm of a chair. It can be readily seen by trial that if one grasps with the right hand the arm of a chair in a natural pose, the dorsal surface of the fingers turn outward and forward, while the dorsal surface of the last phalanx of the thumb turns forward and inward, and in that position would be impinged upon by the *x*-rays at a right angle; at least, that is the only explanation of the fact that the integument over the dorsal aspect of the last phalanx of the thumb was reddened, and it seems quite likely that the nail will be lost. It would seem that the rays impinging upon the tegumentary surface at very acute angles produces no irritating effects, for the curved lateral aspect of the abdomen—which must have been impinged upon by the rays, inasmuch as the thumb, which was still farther removed from the focus of irritation, was affected—showed no signs of irritation. The intensity of the irritation seemed to be in proportion to the approximation to a right angle at which the rays impinged upon the tegumentary surface. In that respect they seem to resemble heat rays. Since the *x*-rays pass through the body, is it not strange that no irritating effect is produced upon the peritoneum, a much more delicate membrane than the skin? This fact would lead me to believe that the inflammation of the skin resulting from the *x*-ray is due to its action on the terminal nerve filaments in the skin, probably the vasomotor nerves, as the structure that receives the full intensity of the rays is the only one affected. It is, therefore, a change in the nutrition of the tissues. Over six weeks after reception of the lesion, the pain is agonizing, burning in character, and necessitating the use of morphine. Oxide-of-zinc ointment, etc., do not control it.

The patient wore a light-weight cotton undershirt during the exposures, and felt no heat nor pain during the passage of the rays through the skin. This absence of apparent effect might in itself be a source of danger in using the *x*-rays about the face, as it can readily be seen that it might so seriously inflame the delicate conjunctiva as even to imperil the integrity of the cornea. Again, it might cause the permanent loss of eyebrows and eyelashes, and so disfigure the patient. Should not this injury to the integument necessitate the very cautious use of the *x*-rays on a part suffering from a severe traumatism, especially as the additional injury to the integument might have a very unfavorable effect on the result of subsequent operative procedures? On the other hand, the *x*-ray might with great advantage be used to remove hairy growths for a cosmetic effect, and with a good prospect of the hair not returning; at least, the goatee referred to shows no sign of a return to its former habitat, and it would appear an easy matter to remove the hirsute appearance of the upper lips of some young ladies, which is so often a source of mortification. It would be advisable when they are used for that purpose to employ a screen impenetrable to the rays to prevent injury to other tissues. It is claimed that the haloid salts obstruct the *x*-rays. Captain W—— has been confined to his bed for a month now, and will probably be so another month. The prolonged use of the *x*-rays in cases in which no good can result, as in this case, is much to be deprecated, as it would become a very serious question in economics to a man to be bedridden for two months unnecessarily when his livelihood depended upon his ability to work. There is a great temptation to remove foreign bodies, even when doing no harm, when found by the agency of the *x*-rays, as it impresses the patient and his friends with its brilliancy, and for its advertising advantages the temptation will most likely be often yielded to. Several claims have been made as to the potency of the *x*-rays in destroying bacterial life, but the most recent experiments demonstrate that its effect is negative in that direction.

Locomotor Ataxia.—The value of the discovery of Motschukowsky in the treatment of locomotor ataxia will not be appreciated to its full extent by the profession at large until permanent suspension by means of the extension corset has replaced temporary suspension.

Surgical Suggestions.

Hemorrhoids.—Calomel dusted upon external piles causes them to disappear. Internal hemorrhoids are treated with ten-per-cent. calomel ointment. The itching is relieved at the same time. Opium or belladonna may be added.—Nægeli-Ackerelom.

Erosion of Cervix.—Boroglyceride tampon.

Inflamed Breasts.—

℞ Boric acid..... ʒ i.
Glycerin..... ʒ i.
Water..... O i.

Aortic Aneurism.—Bodily overstrain is the principal etiological factor in its production. Platinum may be inserted in the sac to bring about coagulation.—Lutten *and* Leyde.

Drainage is not always necessary after abdominal sections, unless there is much oozing. Irrigate with a normal salt solution (one drachm of salt to one quart of water at temperature of 105° to 110° F.), if there is much oozing, use it at 115° F. If a drainage tube is used, it should be removed and emptied every half-hour or so, under strict antiseptic precautions.—*Jefferson Clinics.*

Sacculated Kidney.—Conservative operative treatment is advised. In order to save a cystonephrotic kidney, many operations, extending over a long period of time, are necessary. Nephrotomy in given cases would mean death. Patience and energy may save the patient from the social misery accompanying urinary fistula. In unilocular hydronephrosis the operation for bisection of the sacculated kidney is, of course, not required, and only nephrotomy, the operation for valve formation in the ureter, and that for closure of the kidney, are needed.—Fenger.

Indications for Nephrectomy.—1. Tumors of the kidney. 2. Tuberculosis of the kidney. Experience has shown that renal tuberculosis occurs very often primarily and unilaterally; it affects the genitals and the lower urinary passages more frequently than some other parts of the body. Severe persistent catarrh of the urinary bladder is one of the first symptoms which tuberculosis of the kidney presents; in cases of this kind nephrectomy gives excellent results and complete recovery ensues. 3. Suppurating kidney caused by metastatic processes and foreign bodies, especially calculi. 4. Renal hæmophilia. 5. Movable kidney. 6. Injury to the kidney. 7. Calculous diseases of the kidney. 8. Uretero-abdominal fistula.—Dr. Kuster, *British Medical Journal.*

Hemorrhoids.—Dr. Cole (*Atlantic Medical Weekly*, November 9, 1896) thinks that for the removal of piles which are between the sphincters, or the external venous tumor, the split operation is the best. This operation consists in removing a narrow strip of membrane from the top of the tumor, and either rolling out the clot in the acute external one or cutting out the internal redundant areolar and mucous tissue, which may be softened or more or less disintegrated. This split operation requires an anæsthetic and complete dilatation of the sphincters. French surgeons have recommended sewing up the split after removing the pile tissue, and this gives good results when there is not much tissue to be removed. Piles of the acute external variety, which are hard, hot, and painful, and always contain a blood clot, may be quickly split open and the clot rolled out. Cocaine may be used as an anæsthetic.

Turpentine, it is said, will remove the odor of iodoform from hands and instruments.

The Commercial Value of a limb nowadays deserves the serious consideration of every surgeon.—Lane.

Vegetations about the Vulva.—Equal parts of powdered savine, iodoform, and salicylic acid make a powerful application.—Lutand.

Mineral Astringents.—Never use a mineral astringent when a woman wears a pessary, as it is liable to deposit on the pessary and set up an irritation of the parts.—Rosenberger.

The Extension Corset acts like a plaster corset, and is constructed according to Sayre's method, except that steel bars and French *coutille* are used instead of plaster. It fits as snug to the body as a plaster corset, and its parts form an outer skeleton, to the inner side of which the muscles of the trunk adhere closely.—A. C. Wiener.

Burns.—A saturated solution of nitrate of potassium is recommended by Poggi for burns of all degrees, for its refrigerant and antiphlogistic properties. The quality of the bath is maintained by the addition from time to time of a few teaspoonfuls of the nitrate. After two or three hours the pain generally disappears, after which compresses wet in the same solution may be applied.—*Thèse de Paris.*

Transfusion, Infusion, and Auto-Transfusion.—Dr. Schachner (*American Practitioner and News*, October 31, 1896) gives the following as his conclusions: 1. In enormous hemorrhages the resulting dangers are more frequently due to the reduced intravascular pressure than to the actual loss of blood. 2. In view of this the indications point more decidedly toward infusion than transfusion. 3. That transfusion has not received the attention which its merits justify. 4. In transfusion we possess a measure which in the severest hemorrhages is the only agent capable of restoring the vital functions. 5. The indications for transfusion include any condition which reduces the total quantity of blood to a fatal degree, or which alters the character of the blood to such an extent as to render it incapable of carrying on life. 6. When the transfusion is performed for the relief of a poisoned condition of the blood, it should be preceded by venesection. 7. Centripetal is to be preferred to centrifugal transfusion. 8. In centripetal transfusion the injection should be made with a slow, steady stream, carefully exercising no undue force. 9. In withdrawing the blood from the donor the veins afford an easier, safer, and better source than the arteries. 10. Indirect transfusion with defibrinated blood is safer than direct transfusion with non-defibrinated blood. 11. In alarming hemorrhages infusion should be performed before transfusion; should, however, the improvement be transient in its nature, the infusion must be supplemented with transfusion. 12. In addition to hemorrhage, the indications for infusion include any pathological state attended by a feeble pulse which is dependent upon a relaxed condition and a diminished intravascular blood pressure, namely, shock. 13. Restoring the tone of the circulation by infusion is not wholly dependent upon the increase of the intravascular pressure, but is in part due to the stimulating influence which salt solution has upon the heart. 14. In performing transfusion or infusion after an enormous hemorrhage, the use of an anæsthetic is not only unnecessary but absolutely dangerous. 15. In the autotransfusion we have a valuable measure for combating shock and preventing accidents in anæmic subjects during chloroform narcosis.

Opening the Pericardium.—Incision of the pericardium may be practised for tuberculous pericarditis. Rosenstein's incision may be followed. The skin, fascia, muscles, and endothoracic fascia are successively divided until the pericardium is reached. The latter is then seized and drawn out of the wound and fixed to the edges of the latter with two sutures (Gussenbauer). The pericardium is then opened with a narrow knife or pointed scissors, the incision being subsequently enlarged, if necessary, by the probe-pointed bistoury. The opening in the pericardium need not be larger than the drainage tube which it is proposed to employ.—George R. Fowler.

Outstanding Ears.—Dr. Joseph, of Berlin, has recently operated upon deformed ears in a patient eleven years of age, removing a portion of the upper part of the ear and stitching the margins of the wound. He then removed a flap from the posterior portion of the ear, and fastened the organ to the side of the head. This is spoken of as an entirely new operation, whereas it has been practised for deformity of the ear in this country for a number of years. Dr. C. W. Allen presented a child some three years ago at one of the societies, in whom a pronounced deformity had been successfully corrected by such an operation, and other cases have been recorded.

Resection of Lung.—Resection of lung or pneumectomy would appear at first glance to be a rational method of procedure in tuberculosis of the pulmonary structure. Surgeons who are accustomed to practise resections of the articular extremities in tuberculous osteoarthritis, and extirpation of the synovia in tuberculous synovitis—and who have witnessed the gratifying results following these operations—are at once impressed with a desire to institute radical operative methods in a disease which counts its victims by thousands yearly. The pulmonary structure, however, differs from all other structures in the body in its susceptibility to infection by means of the bacillus tuberculosis, and its anatomical peculiarities are such as to favor extension of infection and reinfection of parts whose vital resistance has been lowered by disturbances of nutrition from any cause.—G. R. Fowler, *Annals of Surgery*, November, 1896.

Extirpation of the Rectum.—Among the advantages of the vaginal method might be mentioned the following: 1. The vagina can be made to take the place of the extirpated portion of the rectum. 2. The excision can be done as high up as by the sacral method and with less traumatism, and in case the peritoneal cavity is opened with less danger. 3. An intraperitoneal exploration of the tissues about the rectum can be made before disturbing the rectum. 4. If the operation has to be abandoned after the incisions are made, the wound is less formidable and in a better place. 5. The patient is more comfortable after the operation than after the sacral methods. Price's abdominal method possesses nearly all of these advantages, but is more dangerous, necessitates a removal of the uterus, and cannot be adapted to cases extending low down in the rectum. McArthur's method is more dangerous in cases high enough up to involve an opening into the peritoneal cavity, and in all cases involves more traumatism.—Henry T. Byford.

Nitrous-Oxide Gas with Oxygen in removal of adenoids has the advantages that: 1. It is not attended with danger to life. 2. No preparations are required. 3. Hemorrhage is not affected by it. 4. Jactitation and cyanosis produced by pure nitrous oxide are absent. 5. Any position may be safely assumed. 6. Anæsthesia is longer than by the nitrous oxide alone. 7. Unpleasant after-effects are very rare.—Gardner.

Hydrarthrosis.—In this age of asepticism, to sentence an unfortunate bread winner to a term of two, four, or six months on splints or on his back, for "water on the knee," is, to my mind, an unjustifiable and unsurgical procedure.—John O'Connor.

Encephalic Abscess.—The treatment can be but surgical, every patient bearing such a lesion being condemned to death after a more or less brief delay.—Luc, *La Méd. Mod.*, November 7, 1896.

Endometritis.—I think that impregnation is more likely to follow when curettage and tamponade have been employed for the cure of endometritis than after treatment by other methods.—Basham.

Chloride-of-Ethyl Spray directed into the alveolar cavity stopped severe hemorrhage after tooth extraction. The cavity was then filled with cotton wet with tincture of hamamelis.—*Gaz. Méd. de Liége.*

Lupus.—Dr. Stieda reports two cases of lupus and one of tuberculosis treated by excision of the diseased areas in several sittings, and the application of a Thiersch graft after each operation. If possible, the whole area should be excised at a single sitting. Upon the face a small amount of panniculus adiposus should be left. Warm sterile water without antiseptics is used at Tübingen. Grafts must be as large and as thin as possible, and the dressing is to be changed on the third day.—*Beiträge z. klin. Chir.*, B. xv., H. 1.

Kelly's Catheter and Kelly's Cystoscope are claimed by Pawlik, formerly of Vienna and now of Prague, as wholly his own devices, and he also claims that Kelly learned the method of catheterizing the female ureter while on a visit to Europe in 1888, never giving the slightest credit to the originator. This statement and claim would seem to call for explanation.

Dacryocystitis.—In a paper in the *Post-Graduate* for November, Dr. A. E. Davis gives the following conclusions: 1. In acute cases, irrigation of the sac with antiseptic solutions along with injections of mild astringents should first be tried. 2. Slit the canaliculus and pass probes. In chronic cases: 1. If the canaliculus has not already been operated on, this should be done at once. 2. Gradual dilatation of the stricture in the nasal duct by Bowman's probes should follow. The larger the probe that can be passed without traumatism to the duct wall, the better. Irrigations and injections may be used in conjunction with probes. 3. If probing fails, the permanent styles are to be tried. 4. As a last resort, destruction of the lachrymal sac. 5. Strict attention should be given to the nose as to examination and treatment in all cases.

Appendectomy.—In the McBurney operation the skin incision is made an inch inside the spine of the ilium in an oblique direction, passing through skin and connective tissue only. The next incision passes through the aponeurosis of the external oblique in such a way as merely to split the fibres and not divide any of them across. The aponeurosis is split a distance of about four inches. The edges of the wound in the aponeuorsis are pulled apart with retractors so as to uncover the surface of the internal oblique, the fibres of which lie at nearly a right angle with the incision made in the external oblique. Then the direction of the incision is changed from nearly vertical to nearly transverse, and the fibres of the internal oblique and transversalis are separated without cutting. When the appendix has been removed, the opening tends to close of itself, as the muscular fibres fall into their natural place.—Elliot, *Boston Medical and Surgical Journal*, No. 18, 1896.

Septicæmia.—Injection of a quart of normal salt solution into the subcutaneous cellular tissue is a treatment which has given excellent results.—LANPHEAR.

Operation in Diabetics.—With our perfected methods we can be more daring, and the writings of Reynier and Léon Legendre demonstrate that diabetics can be as safely operated on as any other class of patients. One point, however, is to be borne in mind—in these cases the risk of "intoxications" is especially great; therefore, it is better not to make use of any antiseptics whatever, but to rely upon rigorous and thorough asepsis.—MARIE.

Œdema of the Kidney.—Boutz gives, in *Vratch*, No. 25, the following indications for treatment: 1. When the œdema increases progressively, extirpation is indicated if the other kidney remains healthy. 2. Preference should be given to the peritoneal procedure. 3. In instances presenting extensive adhesions with neighboring tissues, when the condition of the fellow kidney is suspected and when a large part of the affected organ still performs its function, we must content ourselves with a nephrotomy. 4. This last-named operation should be performed through the lumbar region. 5. In doubtful cases it is permissible to do a protecting nephrotomy. 6. The drainage of the extraperitoneal cavity will be best carried out with the aid of gauze bands. The incision of the anterior abdominal wall is to be completely sutured, and the attempt should be made to suture also the posterior fold of the peritoneum.

Progress of Medical Science.

Need of Uniformity in the Meaning of the Term Still-Born.—Dr. Jesus E. Monjaras, at a meeting of the American Public Health Association at Buffalo, September 15, 1896, suggests the following as an aid to uniformity: 1. That there shall be included under the term "still-born" all children of more than six months of intra-uterine life that are born dead. 2. That there be added to the nomenclature of the causes of death the term that shall represent all children that die within seventy-two hours after birth without known cause, and that they be designated by the term "died at birth without known cause." 3. That the committee on nomenclature of diseases and forms of statistics be authorized to recommend this modification of the existing nomenclature in all the countries of the American continent. 4. That these modifications once adopted in said continent, the same would doubtless be accepted in Europe and elsewhere.

Infantile Scurvy.—Dr. Leidy (*Boston Medical and Surgical Journal*, October 29, 1896) says that infantile scurvy may be defined as a disease characterized by malnutrition, developing insidiously, attended with general debility, anæmia, ecchymoses in various parts of the body (principally the lower extremities and mucous membranes of the mouth), sponginess of the gums (going on to ulceration in severe cases), general muscular weakness amounting to immobility in the lower extremities (going on to pseudo-paralysis), attended with swelling about the joints and excessive tenderness along the lines of the long bones, rarely terminating fatally when early placed under proper treatment. The symptoms vary according to the severity of the attack, etiologically holding an important relation to the deprivation of fresh foods, and almost immediately ameliorated by the administration of a proper diet. This, the so-called therapeutic test becomes of great value in diagnosis.

Should Antiseptic Douches be Given After Labor?—In reply to this question, Dr. Willis writes the following answer in the *Philadelphia Polyclinic:* After a perfectly normal labor conducted under antiseptic precautions in a clean room, the hands of physician and nurse having been perfectly prepared and the patient a healthy woman, one free vaginal douche containing some mild antiseptic agent, such as creolin, lysol, or boric acid, is sufficient, provided the vulva be kept covered with an occlusion dressing. Both the liquor amnii and lochia are in such cases sterile fluids, and infection is not likely to occur except from without, this being prevented by the occlusion dressing. When, however, the labor has been long, forceps have been used, or the physician's hand has been inserted within the uterus for version or removal of the placenta, or considerable laceration of the parts has occurred, an antiseptic douche may be used once a day for five or six days with good effect.

Relation of Alcoholic Indulgence to Insanity.—Drs. H. M. Bannister and Alder Blumer (*American Journal of Insanity*) agree on the following points: 1. Alcoholic excesses produce insanity. 2. They are directly the cause of at least ten or twelve per cent., and probably of a somewhat larger percentage. Indirectly they are among the causal factors of a very large proportion of cases that cannot be directly attributed to alcohol. 3. Moderate drinking is a very indefinite term, and this fact alone makes it impossible to utilize satisfactorily any statistics as to its effect in producing mental disease. There is, however, no reason to believe that moderate indulgence in alcohol is specially conducive to mental health in the average individual; and there is, on the other hand, a certain amount of physiological *a priori* presumption to the contrary. For the victim of hereditary taint or the neurotic, it is undoubtedly often disastrous in its effects in this direction.

A New Sign of Pleural Effusion.—Baccelli (*Il Policlinico*) calls attention to an aid in the diagnosis of fluids in the pleural cavity. The patient utters the word "trentatre" in a whisper. If the fluid is very thin, every letter of the word will be heard; but in proportion as the fluid is thicker the letters are gradually lost, up to final disappearance of all sound conduction. The first letter to disappear is *r*, then *t*, then *n*, and finally the vowel sounds are lost. Direct auscultation in the antero-lateral and inferior regions of the thorax without the stethoscope is required.

Sugar in the Urine.—Dr. N. R. Elliot has devised a new test (*Scientific American Supplement*, October 10, 1896) which he claims is most accurate. It is as follows:

℞ Cupric sulphate ..... gr. xxvij.
Glycerin (pure) ..... ʒ iij.
Distilled water ..... ʒ iiss.
Liquor potassæ ..... ad ʒ iv.

Dissolve the cupric sulphate in glycerin, and heat. When cold, add the liquor potassæ. The second solution is a saturated solution of chemically pure tartaric acid. These solutions are stable and will keep indefinitely. Pour a drachm of the cupric-acid solution into a test tube, and boil gently over a spirit lamp; add two or three drops of the tartaric-acid solution and boil again. Now add the urine slowly, drop by drop, until eight drops are added. If no reaction takes place there is no sugar: but if there is a reaction, yielding a yellowish, or reddish, or greenish-gray deposit of suboxide, and which is marked and unmistakable, sugar is present. The reaction deepens in a few minutes.

MEDICAL RECORD:

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THE SURGICAL TREATMENT OF ADDISON'S DISEASE.

IT is pretty generally agreed that the group of symptoms included in the designation Addison's disease are dependent in some way upon perversion or inhibition of the as yet undiscovered functions of the suprarenal glands. It is highly probable that these organs elaborate an internal secretion, abnormal modification or total cessation of which gives rise to the well-known symptoms of the disease under consideration.

The most common lesion found in fatal cases of Addison's disease is tuberculosis of the suprarenal capsules, although the same lesion may be present in the absence of characteristic symptoms. Other changes in and about these glands have been found less frequently, and occasionally it may be impossible to demonstrate any morbid alteration in them whatever. In this connection it must be borne in mind that alteration in function does not necessarily imply alteration in structure, and it is probable that the view which associates the symptoms of Addison's disease with abnormal or deficient function of the suprarenal glands is the correct one.

The disease is usually fatal, although sometimes deceptive remissions in the symptoms take place, and the duration may be protracted. The treatment has in the past been mainly symptomatic and supportive. Of late, extracts of suprarenal glands have been employed, with reported success in some cases and failure in others. Surgery has hitherto played no part in the treatment of Addison's disease, and it is difficult, from *a-priori* reasoning, to understand what good it is capable of effecting, as in the not unanalogous instance of exophthalmic goitre; but theoretic objections must yield in the face of objective demonstration.

The list of cases of exophthalmic goitre—which may be looked upon as in some respects similar in nature to Addison's disease—in which relief has followed extirpation of the enlarged thyroid gland, is a not inconsiderable one. Additional interest is given this subject by the recent report by Oestreich [1] of a case of Addison's disease, in which the symptoms present disappeared after the removal of a tuberculous suprarenal gland. The case occurred in a woman, fifty-five years old, who was sent to Hadra, of Berlin, to be operated on for carcinoma of the stomach. It appeared that at the age of thirty-three years the patient had been treated for some disease, the diagnosis of which was involved in doubt, although the woman believed it to have been pulmonary tuberculosis complicated by glycosuria. She was subject from time to time to attacks of catarrhal disturbance. For a year there had been progressive muscular weakness, with general debility and great languor, palpitation of the heart, dyspnœa, and swelling of the feet, and there had been loss of weight from ninety-eight to seventy pounds.

The appearance of the emaciated patient was cachectic. On examination, a neoplasm was palpable in the epigastrium, but no other evidence of pronounced gastric disease was present. An old focus of infiltration was found at the apex of the left lung, but no tubercle bacilli could be demonstrated in the sputum. A diagnosis of malignant retroperitoneal glandular tumor was made, and cœliotomy undertaken. On raising the left lobe of the liver and depressing the stomach, a tumor of the size of a small apple was brought into view. This was encapsulated, in color partly white and partly yellowish-brown, and seated upon and to the left of the aorta, with which it pulsated. Assuring himself that the growth was not in immediate anatomic relation with the aorta, Hadra removed the mass and packed the wound with gauze. He was unable to determine the precise relations of the tumor with the abdominal viscera.

The patient recovered happily, with a disappearance of all her previous symptoms, and gained seventeen pounds in weight. Histologic examination of the extirpated structures showed them to consist of a tuberculous suprarenal gland. It would not be fair to doubt the diagnosis in this case, and the relation between the operation and the subsequent result may be reasonably conceded. At all events, the report raises a number of interesting questions, the most important of which is, perhaps, of a therapeutic nature. It may be possible that we have, in extirpation of tuberculous suprarenal glands, a remedial measure in the treatment of some cases of Addison's disease, a conservative measure under any circumstances, and a radical though justifiable one in isolated tuberculosis of those glands.

[1] Zeitschrift für klinische Medicin, B. xxxi., H. 1, 2, p. 123.

THE NEW YORK ACADEMY OF MEDICINE, 1847–1897.

THE Academy of Medicine, organized in 1847, is about to celebrate with becoming ceremonies its semi-centennial anniversary. Several of its original members will be present, and addresses will be delivered commemorative of the event. It will be an anniversary of no ordinary significance, both to the citizens of New York and to the medical profession of the city and country. The occasion will also be rendered memorable by the recognition which its importance will receive from the President of the United States, who will honor it not only with his presence but with an address. And the Academy is altogether worthy of the consideration about to be given to its anniversary and the distinction the proposed ceremonies will con-

fer. It came into existence as a conservative force in the profession of this city at a time when the alluring theories of the day were exciting popular interest and seducing some of the younger members from the path of rectitude. At that time the medical profession of this city had no common bond of union, nor was there any method by which the members could be united in an effort to elevate the standard of professional respectability. The call for the first meeting, which was held December 12, 1847, was made by the representatives of the two colleges and the County Medical Society. They stated that "the object is to ask the cooperation of their medical brethren in an undertaking to elevate the character of our profession; to advance its interests and to increase its usefulness by furnishing facilities for social intercourse, promoting harmony among its members, and the means of mutual improvement." One of the older members remarked at this meeting "that the time had come when something must be done to change the character of the profession; that, owing to accidental circumstances, but mainly to the rampancy of quackery, the public had but little confidence in our profession; and that if those members of the profession could be brought together, this confidence might be restored." Another member said, advocating the formation of an academy: "It offered the adequate and only remedy to professional degradation. If a line could be drawn between science and roguery, and recognized among ourselves, the public would soon learn who was upon one side and who upon the other; if this distinction could be made, everything would be done to redeem the profession from the injuries recently inflicted upon it."

No institution of this city has a more honorable record than the Academy. For fifty years it has stood in this community as the exponent of scientific medicine. Its history has been marred by no schisms or lapses from the true faith. With a broad and catholic spirit it has discussed every question which has risen during the last half of the century, affecting the ethical, the public, and the scientific interests of the profession. While tolerant of the diversified views of sincere searchers after truth, it has never been lenient to those who have been enticed into the flowery paths of illegitimate medicine. With unswerving fidelity to the principles delivered to it by its founders, the academy has maintained the honor of the profession at its highest level in the midst of a "wicked and gainsaying generation." In these later days it has become a centre of education, to which the student of medicine, the general practitioner, the specialist, and the author alike resort in the pursuit of knowledge. Its halls are seldom unoccupied by societies devoted to the discussion of the latest discoveries of the science and art of medicine. Nor has the Academy confined its labors to the elevation of its own standard of respectability and to the advancement of its own interests, but with lavish hand it has bestowed the benefits of its labors upon the community in which it has grown to maturity. The health department of New York had its origin in the Academy. The public charities of the city have been constantly moulded into better and higher forms by influences having their power from the same source. In innumerable ways has the Academy exerted a most salutary restraint upon vice and crime, by improving the physical condition of the poor and dependent classes. All honor to the Academy!

THE HEALTH BOARD AND COMPULSORY REPORTS.

The profession of this city will be surprised to learn that the Health Board has finally declared that all cases of pulmonary tuberculosis, public or private, shall be reported to its sanitary bureau, on the plausible ground that the disease in question is pronouncedly dangerous to public health. With every desire to interpret the motives of the Board in the most liberal spirit, the conviction forces itself upon us that the compulsory step taken is a mistaken, untimely, irrational, and unwise one. The medical profession is not yet prepared to endorse the radical measures proposed. While admitting that pulmonary tuberculosis in a very limited degree may be contagious, that the public should be properly educated in regard to the demonstrated causes of infection, that the spitting nuisance should be abolished, and every reasonable means should be used to the end of preventing the spread of the disease, it appears evident that the advisers of the Board have assumed, in the present instance, a position so far in advance of the general opinion of the profession as to the real necessity of the measure that a serious question of authority may be brought to the surface of general discussion. This latter will be a matter to be deplored, inasmuch as the profession has generally, in questions of ordinary policy, seconded any laudable endeavors of the Board to stamp out dangerously infectious diseases. The real strength of the Board depends upon such backing, but when the line is drawn too tightly, when too much authority is assumed, and too many orders are given, a reaction is likely to occur. The argument upon which the action is based is very much one-sided, and calculated, in the interest of a few of the workers in the board, to alarm the public unduly, to place a large number of patients under public jurisdiction, and to inflict unnecessarily extra burdens upon the medical attendant.

The real obnoxiousness of this amendment to the sanitary code is its offensively dictatorial and defiantly compulsory character. It places the Board in the rather equivocal position of dictating to the profession and of creating a suspicion of an extra bid for public applause by unduly magnifying the importance of its bacteriological department. It would be a cause for much regret if such an opinion should take deep root, as it would tend to offset the effects of very much good work already done in the laboratory. We can trust only to time to see how the order will be carried into effect. The objections which will be most naturally raised will be those referring to the personal liberty of the patient, the disposition to superintend the physician in his management of a case, the reflection upon his judgment in assuming that an order is necessary to compel him to exercise the ordinary pre-

cautions against the spread of any disease, and the possibility in the near future of prescribing for his patient according to mandatory rules based solely on bacteriological research. The profession as a whole has watched with jealous eye the encroachments of the Board upon many of the previously well-recognized privileges of the medical attendant, and the order in question is likely in certain quarters to arouse active antagonism rather than to court that cordial support which just now is most needed by all concerned.

THE STATE MEDICAL SOCIETY.

As the date of meeting of the New York State Medical Society approaches, the question must come into the minds of many hundreds of men in and about New York City: "Why should I leave home at this, the busiest season of the year, to spend three days of hotel discomfort in Albany?" As a result of the self-questioning, the decision is usually reached that "the game isn't worth the candle," and the doctor decides to stay at home. There does not seem to be much in these meetings to attract any but the politically inclined practitioner. As an outing with rest, recreation, and friendly intercourse as its chief aim, it would be well enough if the place of meeting offered adequate hotel accommodations. It is most enjoyable and profitable to meet one's "up-the-State" friends, but a man can scarcely sleep three deep and perhaps be made the object of some practical joke in the small hours and keep up the delusion that he is enjoying himself.

As far as the scientific side goes, many men feel disinclined to prepare and read deeply scientific papers before a body whose time limit makes serious discussion almost impossible, feeling that too much of the time is taken up with the politics of the society, which the fact of meeting at the State's capital would seem to foster. Be this as it may, the argument has been advanced that Albany is the only suitable place of meeting because the legislators are there, and to secure their influence and good offices it is better to be on the spot.

It would seem, however, that the committee on legislation ought to be sufficient of itself to impress the law makers in the proper way, whether appointed in Albany, or elsewhere.

Now why not bring the State society to the metropolis once, for a change and by way of experiment? New York is a pleasant place and ought to attract members from all parts. Those who do not care for the proceedings could find ample enjoyment and instruction in visiting the hospitals, the libraries, the theatres, or music halls. All could find hotel quarters to suit the purse and inclination, even if there happened to be a meeting of the Knights of Pythias for the same date.

The William Thorndike Prize.—The committee of the Harvard Medical School to make the award of the William H. Thorndike prize has reported that it found no essay worthy of a prize.

News of the Week.

Medical Society of the State of New York.—The ninety-first annual meeting of this society will be held at Jermain Hall, Albany, commencing at 9:15 A.M., January 26, 1897, and continuing in session until 1 P.M., January 28th. Though the society is composed of duly elected permanent members, delegates, and honorary members, provision is made in the constitution for invited guests. Invitation is therefore extended to all members of county medical societies to attend. On presentation of their names to the committee of arrangements, they will be recommended to the society as invited guests and will have the privilege of presenting papers and taking part in discussions. Reduced fares can be obtained by applying for a certificate at the railway station on starting, which, on endorsement by the secretary of the society and by the special agent of the Trunk Line Association, who will be at the meeting during Tuesday and Wednesday, will entitle to return at one-third fare. The committee on credentials will be at the Kenmore Hotel, Monday evening, January 25th, and members and delegates who arrive then are requested, so far as possible, to register there, or otherwise as early as possible after arrival. Invited guests are requested to register also at the place of meeting. Dr. James D. Spencer is president, and Dr. F. C. Curtis secretary of the society.

Fire at Bellevue Hospital Medical College.—Early on the morning of January 20th a fire broke out in the top story of the Bellevue Hospital Medical College. The dissecting-room floor and part of the floor below were burned. The rest of the building was flooded with water. All the records of the college, however, are safe. The course will not be interrupted, but will be completed in the Carnegie Laboratory and the hospital. The lecture room in the laboratory is large enough. Fortunately, the dissecting for the session has been practically completed. The college building will be promptly restored.

Swine Plague in Oswego County.—As the result of the breaking out in Oswego County of the disease known as swine plague, State Commissioner of Agriculture Charle A. Wieting has caused many hogs that were affected with the disease to be killed. The affected district has been quarantined.

Obituary Notes.—Dr. Asa J. White, of Cortland, N. Y., died January 12th, at his home, of apoplexy. He was born in 1838 in Newfield, Tompkins County, N. Y., and was graduated from the Buffalo Medical College in 1863. He was one year an assistant surgeon of the 109th regiment. A widow and two daughters survive him.—Dr. Thomas T. Janeway, of this city, died suddenly in Bermuda on January 15th. He had been in poor health for several weeks, and had gone to Bermuda the Saturday before, in the hope of recuperating. His death was due to cardiac trouble. He was born thirty-six years ago, and was graduated in medicine from the College of Physicians and Surgeons in this city in 1883. A widow survives him.

Terror in Bombay.—Associated Press dispatches from Bombay state that more than half the population of that city, which has been estimated at nine hundred thousand souls, has fled to escape the plague, and the streets, docks, and bazaars are not recognizable. Business in piece goods, metals, crockery, and hardware is at a standstill. The money lenders have vanished, the courts are deserted, and the judges and officials have gone to a healthier region. Many of the native doctors, graduates of the college, have fled, and those remaining refuse to attend plague cases, or, when they do attend to them, will not touch the sufferers, dreading contagion. The cemeteries are already filled to overflowing, and corpses have even been found in the streets. The nights are made hideous by cymbals and melancholy dirges. Often difficulty is experienced in burying the dead, friends and relations refusing to carry the corpses. In some instances women assisted in carrying them. The official returns show that up to January 13th there had been 3,394 cases of bubonic plague and 2,356 deaths from that disease in Bombay.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending January 16, 1897: January 9th.—Medical Inspector J. C. Wise relieved from duty at the Museum of Hygiene; Medical Inspector J. R. Tryon ordered to examination for promotion, January 11th; Surgeon G. P. Bradley ordered to examination for promotion, January 18th. January 12th.—Surgeon A. C. H. Russell ordered to the *Lancaster*, per steamer of January 27th; Surgeon C. T. Hibbett detached from Norfolk navy-yard, February 1st, and ordered to the *Independence;* Passed Assistant Surgeon F. W. Olcott detached from the *Independence* on reporting of relief, and ordered to the Puget Sound naval station.

A Large Gift to a Hospital.—Mr. J. Pierpont Morgan has offered to build a new home for the New York Lying-in Hospital, now at Second Avenue and Seventeenth Street, to cost $1,000,000, on condition that the society shall raise sufficient money to carry on the work of the hospital on a scale which shall be in accord with the enlarged facilities. In his letter containing this offer, addressed to the president of the hospital, Mr. Morgan says that he has already obtained the plans for the new building, and that as soon as he receives the necessary assurance of support from the governors he will begin the work of construction. It is proposed to erect the new building upon the site of the present one, which is simply an old mansion fitted up for the needs of the hospital.

A Quarantine Against English Ports.—Italy and France have turned the sanitary tables for once on England, and have established a limited quarantine on vessels coming from English and Indian ports on account of the cholera and the bubonic plague, the former on account of the British steamship *Nubia*, which recently arrived at Plymouth with cases of cholera on board, and from which all the troops except a few who are in hospital have been landed. The *Nubia* has been docked in London, and no further cases of serious sickness among her recent passengers have been reported. France now subjects all passengers from Plymouth to five days' inspection. Both countries have issued decrees providing against the possible introduction of the plague. The Hamburg-American Line steamers will touch at Southampton instead of at Plymouth, for the present, on their trips from New York to Hamburg.

Reception to Borneo Explorers.—A reception was tendered on January 14th by the Penn Club of Philadelphia to Drs. W. H. Furness, 3d, and Henry M. Hiller, who have recently returned from an exploring expedition to Borneo after an absence of fourteen months.

A German Surgeon for the Russian Emperor.—Professor v. Bergmann, of Berlin, has been called to St. Petersburg to perform an operation on Tsar Nicholas, who is reported to be suffering from alarming attacks of vertigo. Some years ago, while travelling in Japan, the then Tsarewitch was struck on the head by a native, and it is thought his present trouble may be due to a splinter from the inner table of the skull or a meningeal thickening making pressure on the brain.

The Sale of Bodies.—The investigation into the charges against ex-Morgue Keeper Albert N. White by the commissioners of charity has brought out the fact that the Polyclinic College and Hospital paid $6 for each cadaver received. Realizing as we do how very important it is that graduates in medicine should receive every advantage for perfecting themselves in surgery, it seems too bad that any college should be compelled to resort to such underhand methods of procuring the necessary material. Provision should be made by the city so that no trouble would arise in obtaining cadavers.

Health Officer Doty has recently returned from a trip to Egypt and Italy, where he has been making a study of the shipment of rags from Egypt to this port, in order to satisfy himself as to the efficiency of the disinfection of the same before shipment. He also critically examined the details of the passenger detention at Naples and Genoa. As a result of his visit, he has appointed a resident agent at Suez, who will board all vessels bound here from India, etc., and will communicate at least twice monthly with the quarantine department here. At Naples also a resident physician has been appointed who will personally examine each immigrant passenger and give the steamer's captain a certificate to that effect. This agent will also keep careful track of any outbreak at other Mediterranean ports through his official connections, and will advise the quarantine department here.

An International Conference on the Plague.—The governments of England, France, Germany, Austria, Russia, and Turkey have agreed to hold an international conference, for the purpose of considering precautionary measures against the spread into Europe of the bubonic plague which is raging in India.

J. Hood Wright Memorial Hospital.—Dr. A. Jacobi has resigned from this institution as consulting physician.

Restriction of Medical Practice in Italy.—The Italian Medical Council has petitioned the government to favor a law providing that no foreigner shall practise medicine or be entitled to recover fees unless he has obtained a diploma from one of the Italian universities. At present a foreign qualified physician is permitted to practise among the foreign population, and we believe among the natives as well upon the payment of the legal license fees and taxes.

A Hospital for Consumptive Children on the Riviera.—It is stated that Baroness Hirsch has announced her intention to give 2,000,000 francs ($400,000) to build a hospital for consumptive children on the Riviera.

Legislating for Pure Beer.—It is announced that four bills in the interest of pure beer are soon to be introduced in the legislature, and three of these will aim to fix a standard. One of the bills will be introduced with the approval of the State board of health, and will provide for an appropriation to enable the board to summon the brewers before it during the investigation and from them learn what would be the most desirable standard. Another bill defines pure beer as a beverage made from hops, barley malt, and pure water, and, while permitting the sale of any beverage made from other ingredients which are in themselves not injurious in their effect, will require that they shall be so marked as to indicate whether they are pure beer or whether they are beverages made from rice, corn, glucose, or other substances. A third bill will provide that rice can also be used in addition to the ingredients mentioned in the preceding bill, but no acids. It is claimed that the general demand for light beer makes it necessary for the brewers to use rice. The fourth bill will fix the standard for pure beer the same as that recognized by the German government.

A French Degree for Foreigners.—One may acquire knowledge in France (perhaps), but no one not a native can turn such knowledge to practical account in France, if the French can help it. The Paris University Council is considering the institution of a degree for foreign, and particularly American, students.

Malignant Malaria.—The Russian correspondent of the *British Medical Journal* writes that an epidemic of malaria in malignant form has been ravaging Transcaspia, an Asiatic province of Russia. Letters from Askhabad, the capital of the province, give a harrowing picture of the sufferings of the unfortunate inhabitants of the Merv Oasis, where the epidemic was at its worst. One reads of tents full of unburied corpses or untended sick; fields lying waste and ownerless cattle wandering at will over the country. In Merv itself there was at first an uncontrollable panic, which soon gave way to complete apathy. The whole business of the town and province has long been at a standstill. As even in ordinary years malaria prevails in this region to an extent that would be alarming anywhere else, it is clear that this year the excess must have been very great to create such a state of panic in a seasoned population. Even the cholera epidemic of 1892 which aroused so much fear was a trifling visitation in comparison with the annual tribute of death to the effects of malaria. The cholera attacked only one per cent. of the inhabitants, and caused death to only 0.5 per cent.; while in the same year malaria attacked at least 31.6 per cent. of the population, and caused the death of 5.26 per cent. That was but an average year as regards malaria. But this year these figures will probably be at least doubled, if not tripled. Great credit is given to General Kuropatkin, the governor of Transcaspia, for the measures he has taken to deal with the epidemic. Measures are now being discussed which will aim at the prevention of a repetition of such an epidemic, by preventing a recurrence of the overflow of the large river Murghat in the spring.

Medical Women in London.—Since the admission of women to the London examinations in 1882, more than fifty have taken degrees and many have won gold medals for proficiency in obstetrics, anatomy, and materia medica.

Sugar Coating the Pill.—A pleasing custom exists in a town in Devonshire, England. At Christmas time all the medical men in the place invite those who have been under their professional care during the year, those who are still living at least, to dine with them. After all have eaten at the doctors' expense, the cigars and hot toddy are set out, and then comes the turn of the hosts. Each one corrals his own flock and proceeds to administer a corrective in the shape of a gentle reminder of the indebtedness of each head of the family. The victims are prepared, however, and settle up without demur, and the new year begins properly.

An Active Remedy.—Mr. Preserved Grant and his daughter, Mrs. Ferry, of Chardon, Geauga County, were badly burned October 12th by the explosion of a patent medicine which they were preparing for market. Mrs. Ferry's eyes were blown out, her hands were torn off, and she will probably die, as will also her little daughter. While not withholding sympathy from the afflicted, congratulations are due the public in general for its narrow escape. Probably even the public may appreciate that ignorance which permits careless handling of dangerous chemicals is hardly equipped to minister to the ills of humanity.—*Cleveland Journal of Medicine.*

The State Board of Health of Indiana.—Dr. J. N. Hurty, secretary, writes in explanation of the expression "or other contagious or infectious disease." employed in the circular to which we recently referred: "This is entirely for legal reasons," he writes, "as directed by the attorney-general, in order to make the rule operative in the diseases named. No action at law would stand, unless the ordinance mentioned every known contagious or infectious disease, or adopted the plan of naming the diseases particularly aimed at and following with general terms as we have done."

A Welcome to a Confrère.—A physician named Knöner, living in Schildau, Saxony, published the following advertisement in the local paper as his

greeting to a young physician who had just settled in the place: "One of our citizens has again succeeded in enticing a young medical man to rent his vacant house and set up a practice at Schildau. Although I know that this new practitioner will not be able to maintain himself for long in this town, I have decided not to remain inactive, and therefore declare as under: 1. To all those who avail themselves of the services of the new medical man I shall never again give any future medical aid whatsoever. 2. From October 15th I will allow a discount of fifty per cent. off my bills to any one in Schildau and the neighborhood who asks for it, and I reserve to myself the right to announce a further discount, or to treat my patients gratuitously."

Toronto Branch of the British Medical Association.—It has been determined to revive the Toronto Branch of the British Medical Association, in view of the meeting to be held in Montreal in August next. The branch was organized some years ago, but subsequently lapsed.

The Widow's Might.—A prominent member of Worcester's park commission, who died recently, provided in his will that his body should be taken to Forest Hills Cemetery, and there cremated. His ashes were then to be taken to the summit of a hill in one of the parks, and scattered to the four points of the compass. He is said to have made this provision as a protest against the unnecessary pomp, ceremony, and expense of funerals as they are ordinarily conducted. The wishes of his widow, however, prevailed against the desires of her late husband, and he was buried in the usual manner, after a simple funeral service.—*Boston Medical and Surgical Journal.*

Dr. Grenier, who was recently elected to the French chamber of deputies from Pontarlier, is a practising physician and a Mohammedan. Some years ago he went to Algiers on account of his health and there became converted. He wanted to become a mollah, but as he was lame, and all mollahs must be sound in body, he was told that he could be a "prophet of God" instead, and set up as one in Pontarlier. He dresses in a turban and an Arab burnous, attends to all Mussulman religious duties, practises as a physician without taking fees, gives away all his money in charity, and has made eight converts in the town.

A Protest Against the Indiana Board of Health Circular.—At a meeting of the Shelby County Medical Society held on December 28, 1896, in Shelbyville, the following resolution was adopted: "*Resolved*, That the State board of health, in their recent health circular, No. 5, assailed the dignity of the medical profession, and seriously interfered with its sacred prerogative, by recommending, in their official capacity, a certain preparation, now *sub judice*, and by saying to the physicians of Indiana that they should always and under all circumstances use this preparation in their treatment of diphtheria."

Legislation Against Wheelwomen.—It is proposed to introduce into the Kansas legislature a bill prohibiting the wearing of bloomers by women and making it a misdemeanor for a woman to appear in a public thoroughfare astride a bicycle. The proposer of the bill says eminent physicians agree that these women are ruining their health by riding the bicycle, and that the habit unfits them for the sacred duties of motherhood, and if continued will soon extinguish the race. There is nothing Malthusian about the Kansas Solons, and nothing that threatens to extinguish the race will be permitted if they can help it.

The Dangers of Total Abstinence.—At an inquest recently held in Birmingham, England, the coroner said that when one contemplated the crime and misery resulting from drunkenness it was little wonder that men and women should give themselves up to total abstinence as an example, and unselfishly doing so, he believed, at the risk of their health. He thought that a limited amount of alcohol was desirable at certain periods of life. He was well acquainted with the late Sir B. W. Richardson, and he felt that his life was more or less unselfishly devoted as an example to others and that he would have been benefited by the moderate use of alcohol, having regard to the climate of England and to the work that he did. His total abstinence for twenty years probably shortened his life. This deliverance has naturally excited much indignant comment among the total-abstinence people of the city.

A Russian Horror.—The Moscow correspondent of *The Lancet* relates an almost incredible instance of the hideous results of ignorance and credulity which, he says, is vouched for by an eye witness who writes to a Southern Russian paper. A peasant woman in the village of Slavyansk has a daughter, aged ten years, who recently suffered from some affliction of the eyes. She consulted a "wise woman" in the village, who gave her the following advice. She told her to procure some gunpowder, put it in the child's eyes, and apply a match to it. This advice the mother implicitly followed. The writer of the letter states that he was passing the house at the time, heard the report, and went in to see the cause of it. He found the room full of smoke, and when this had cleared off the wretched child was seen lying in agony with two cavities where once had been eyes. The mother was also injured by the explosion.

The Dignity of Lodge Practice in England.—At a recent meeting of the members of a club corresponding to the "lodges" in this country, the treasurer of the Norwich Medical Institute said their institution had been in existence twenty years, during which time they had so arranged the fees paid to their doctors as to make a profit of between four and five thousand pounds. The doctors grumbled, but if they could do so the members had a perfect right to make a profit out of those they employed. The money had been used to purchase the institute buildings, and had thus benefited the members. Doctors and their friends talked about "crushing the profession," but they had never heard of a doctor employing an assistant, unless with a view to making a profit out of his labor, and why should not a medical institute employing a doc-

tor carry out the same principle? They did not want to fight the medical profession. Physicians should be wise and accept the conditions of service which the clubs, knowing their strength, were determined to exact. The last vacancy they had at Norwich, there were forty-five applicants anxious to accept the post, notwithstanding that the medical papers refused to insert their advertisements. Their consulting physician at Norwich was Sir Peter Eade, who was always willing to be called in when a consultation was desired.—*Medical Times.*

The Bicycle Checks Tuberculosis in Women.—At the last quarterly meeting of the American Statistical Association, Dr. S. W. Abbott, secretary of the Massachusetts board of health, presented some interesting figures regarding the proportion of pulmonary tuberculosis in females to that in males in Massachusetts. The rate in 1851 was 1,451 females to 1,000 males; in 1890, 1,055 females to 1,000 males; and last year, only 974 females to 1,000 males. Last year was the first in the history of the State in which the number of deaths from phthisis in females was smaller than that in males. The fact that a uniform reduction in the rate of female deaths began some five years ago, about the time when women were beginning to ride the bicycle extensively, Dr. Abbott considers significant, and he is inclined to attribute the decrease in the death rate to the great increase in open-air exercise among women which has been inaugurated by the use of the bicycle.—*British Medical and Surgical Journal.*

College of Physicians of Philadelphia.—At a stated meeting of the College of Physicians of Philadelphia on January 6th, Dr. J. M. DaCosta read a paper entitled "Rapidly Developed General Paralysis in Acute Lead Poisoning." He detailed the case of a middle-aged woman who a day or two after sleeping in a freshly painted house manifested motor palsy, more pronounced on the right side and attended with disturbance of speech, headache, numbness and tingling, and increased knee jerks. Though there was neither wrist drop, nor foot drop, nor intestinal colic, a marked blue line was present on the gums and the urine contained lead but was free from albumin. Sensibility was preserved and hysterical symptoms were absent. The heart presented no lesion. Dr. D. D. Stewart exhibited a specimen of a large innominate aneurism cured by the use of gold wires and galvanism, and made some remarks upon the utility of this method of treatment. The patient, who was an unfavorable subject for the operation, being alcoholic and syphilitic and suffering from arterial and renal disease, lived for forty-two months and then died, not from the effects of the aneurism, but from thrombosis of the middle cerebral artery in consequencce of the vascular disease. The aneurismal sac was completely occluded by a firm, organized clot and a second (fusiform) aneurism had formed at the junction of the transverse and descending portions of the arch of the aorta. Dr. J. M. Anders read a memoir of the late Dr. H. Earnest Goodman. Dr. H. A. Hare presented a communication in which he maintained that death occurring as a result of chloroform narcosis was not necessarily due to either respiratory or cardiac failure, but essentially and fundamentally to vasomotor paralysis, as a result of which the subject is bled into his own vessels, the respiration failing from anæmia of the respiratory centre in the medulla and the heart from want of blood. To prevent the accidents of chloroform narcosis it is therefore recommended, in addition to removing the anæsthetic, that the pulse especially be watched and that the inhalation be preceded by hypodermic injection of atropine; and that in case of dangerous symptoms the patient be inverted and compression of the abdomen and chest or bandaging of the extremities be practised. Dr. Alfred Stengel read a paper on the "Value of Auscultatory Percussion in Diagnosis." The election of officers resulted in the selection for a second time of Dr. J. M. Da Costa as *President* and Dr. John Ashhurst, Jr., as *Vice-President.* The remaining officers also were re-elected. Dr. George E. de Schweinitz was elected a councillor and Dr. William H. Wells a fellow.

At a stated meeting of the section on otology and laryngology on January 5th, Dr. E. B. Gleason exhibited a case of leptothrix of the pharynx in which the deposit was dissipated by the local use of hydrogen dioxid, one of cholesteatoma of the external ear, and one of fibroma of the naso-pharynx. Dr. E. Larue Vansant presented a communication entitled "Should Cultures for Bacteriologic Examination be Taken from the Nasal Chambers as Well as from the Throat in Suspected Cases of Diphtheria?" He reported two cases presenting the clinical manifestations of faucial diphtheria, in which, however, examination of cultures from the throat failed to disclose the presence of Klebs-Loeffler bacilli, whereas in cultures from the nasal secretions such bacilli were demonstrable. Dr. Joseph S. Gibb read a paper entitled "Excision of the Tonsils by Means of the Galvano-Cautery Snare," and exhibited the instrument devised by Gradle, of Chicago, by means of which the operation can be performed without loss of blood and expeditiously. Dr. E. B. Gleason detailed a case of extensive fracture of the base of the skull involving the temporal bone, and exhibited the specimen. Dr. B. Alexander Randall demonstrated the brain from a case of recurrent purulent otitis media complicated by cerebellar abscess. The lesion was suspected to be present in the sphenotemporal lobe but trepining in this situation failed to reach the disease. Before a second operation could be undertaken death ensued. Dr. Randall exhibited also a specimen showing extensive destruction of the temporal bone in consequence of middle-ear disease and followed by cerebral abscess; and finally a specimen of mastoid involvement secondary to ear disease.

The American Laryngological, Rhinological, and Otological Society.—The southern section of this society will meet in New Orleans on March 3 and 4, 1897. This will be during the carnival season and half-rate fares may be obtained on the railroads by all intending to take part in the meeting. The chairman is Dr. W. Scheppegrell, New Orleans, and the secretary is Dr. Robert C. Myles, New York.

Reviews and Notices.

HUMAN ANATOMY, GENERAL AND DESCRIPTIVE, FOR THE USE OF STUDENTS. By JOHN CLELAND, M.D., LL.D., D.Sc., F.R.S., Professor of Anatomy, University of Glasgow, and JOHN YULE MACKAY, M.D., C.M., Professor of Anatomy, University College, Dundee. 8vo, pp. 833. New York: The Macmillan Company. London: Macmillan & Co. 1896.

THIS work is a very satisfactory compend of general and descriptive anatomy, in which there are a number of new features referring to a natural system of arrangement and an inductive method of study. The natural dependence of one part upon the other is skilfully brought out and relations of salient and important points are judiciously considered. In the latter respects the work is equally adaptable to the needs of the general practitioner and surgeon. The descriptions are clear and concise, and leave nothing to be desired in the way of simplifying the subjects treated. Many of the time-honored designations for positions, such as anterior, posterior, superior, and inferior, are ignored, and the more proper relations to the planes of the body are considered, thus avoiding much confusion in the minds of the students. The illustrations are quite numerous and consist of photographic representations, carefully prepared wood cuts, and schematic drawings. Nearly half of these are original and are of proportionate value. The histology of the tissues is sufficiently presented to give the student an understanding of the structure of the various organs and the proper dependence of their component parts. The style is admirably adapted to the subject, and the descriptions and explanations take the reader by such easy stages of explanation and demonstration that he loses sight of the study in the pleasure of its profitable progress.

FOODS: THEIR COMPOSITION AND ANALYSIS. A Manual for the Use of Analytical Chemists and Others. By ALEXANDER WYNTER BLYTH. Fourth Edition, Revised and Enlarged. London and New York. 1896.

THIS book, comprising over seven hundred pages, presents the results of the author's experience, besides excerpts from his previous publications. The historical introduction and the careful article on adulteration are the result of considerable labor and research. The scientific portion of the work is well adapted for the professional chemist, for food analyses have been carefully detailed. Chapter III., dealing with starchy and saccharine substances, is very complete. Part IV., dealing with milk, cream, cheese, and butter appears to be the stronghold of this work. It is abundantly illustrated with tables, charts, pictures of apparatus, and also of some infectious micro-organisms.

There seems nothing more to add than to say that the author has given us a very complete work which deserves praise.

NATURWISSENSCHAFTLICHE EINFÜHRUNG IN DIE BAKTERIOLOGIE. Von DR. FERDINAND HUEPPE, Professor der Hygiene in Prag. Wiesbaden: C. N. Kreidel, Verlag. 1896.

THIS book has been dedicated in honor of the one hundredth anniversary of the Friedrich Wilhelm Institute at Berlin. The author reviews certain theories, and elaborates some of his own views concerning bacteriology. He describes disinfection and antiseptics, goes into details about various epidemics, and dwells at length on the historical development of immunization and serum treatment. The book is instructive and written in an attractive manner. Some very good illustrations aid the descriptions of the text.

KLINISCHE PATHOLOGIE DES BLUTES. Von DR. ERNST GRAWITZ. Berlin: Verlag von Otto Euslin, N. W. 6. 1896.

THIS very valuable contribution to medical literature is published as a result of years of clinical experience in the examination of the blood. It is divided into twelve chapters dealing with the morphology, chemical and physiological conditions, anæmic and splenic diseases, poisoning, the blood in gout, diabetes mellitus, hemorrhagic diathesis, the examination of the gastro-enteric blood disorders, pneumonia, asthma; the infectious diseases, and so on.

The book is beautifully illustrated, technique being carefully given. It is evidently the result of great painstaking care and deserves to be carefully studied. It contains over three hundred pages; the type is clear.

A TEXT-BOOK OF HISTOLOGY, DESCRIPTIVE AND PRACTICAL, FOR THE USE OF STUDENTS. By ARTHUR CLARKSON, M.B., C.M., Edinburgh, formerly Demonstrator of Physiology in the Owens College, Manchester; late Demonstrator of Physiology in the Yorkshire College, Leeds. With 174 Original Colored Illustrations. Philadelphia: W. B. Saunders. 1896.

THE student is here furnished with a combined descriptive and practical work, profusely and instructively illustrated with colored plates. Methods have been excluded which have not stood the test of practical experience, and discussions of questions which cannot be settled in a work of this kind have been avoided.

To the student who wishes a really working knowledge of histology, without a history of the subject from its origin and without an account of the numerous controversies upon methods and results, we can commend this handbook. Many of the reagent formulas are from Sterling's "Outlines."

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY. By GEORGE FRANK BUTLER, PhG., M.D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Chicago; Professor of Materia Medica and Therapeutics, Northwestern University, Woman's Medical School, etc. Philadelphia: W. B. Saunders. 1896.

THIS work is dedicated to the medical students of the United States, and has been prepared with the view of supplying a permanent reference as well as a preparatory book. Special attention has been given to the pharmaceutical section. Effects due to idiosyncrasy have been separated from those due to toxic action. The unofficinal preparations have received appropriate consideration after the officinal, whenever their properties are known.

The portions included under "Origin" and "Description and Properties" of each drug have been taken almost verbatim from the "United States Pharmacopœia and National Dispensatory." The pronunciation is indicated by prosodial signs according to Foster.

The work naturally contains much valuable information and data. It is a large volume, covering eight hundred and fifty-eight pages, inclusive of clinical and general index. There are inaccuracies, shortcomings, and omissions. Almost every large work of this kind has the same to be said about it. Perhaps they are somewhat more noticeable in the present volume than in some other recent works covering much of the same ground. The weakest part of the work is the therapeutic. Speaking of therapeutics, the author says it is from the Greek word meaning to attend, or serve. Would it not be better to give the student the word itself and let him guess at its being Greek? Considerable Latin is given in the chapter on prescription writing, but, as all medical schools do not yet require a knowledge of this language before admission, it will be useful to most readers.

It seems strange that while the names of François Franck, Reichert, and a number of others are given, in the space devoted to cocaine that of Carl Koller is not mentioned.

Two plate pictures taken from life, or rather from death, of dogs poisoned by strychnine and gelsemium make one sorry for the beasts.

THE MEDICAL RECORD VISITING LIST OR PHYSICIAN'S DIARY FOR 1897. New Revised Edition. New York: William Wood and Company.

THIS year's list contains, besides the usual tables of equivalents, duration of pregnancy; maximum doses of drugs by the mouth and solutions for subcutaneous injection; solutions for atomization and inhalation; emergencies, anti-septics, disinfectants, dentition, etc.

It is arranged for sixty patients per week, with space left for charges, references to ledger page, and special memoranda. The usual departments for consultations, obstetric engagements, vaccinations, deaths, addresses of nurses, and general addresses have been supplied, as well as sufficient room for the cash account. It is bound in red leather, the leaves are gilt edged, and altogether the appearance of the diary is suggestive of the prosperity of the physician on whose desk it may lie.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections. From the Museum of the St. Louis Hospital, Paris. Part V. London: The Rebman Publishing Company, Ltd.

The first plate in this set is one of agminate trichophytic folliculitis, or ringworm of the kerion variety, occupying the back of the neck. Unless told what portion of the anatomy is before one, considerable study is required to make out the part involved. Lupus pernio, or chilblain lupus, must impress the casual observer as being rather overtinted. The disease is an unusual one, and the cyanotic feature of the lesions observed may have been particularly blue.

The coloring of the following plate—one of papulo-tuberculous syphilide—makes, on the other hand, a most favorable impression, because it is the raw-ham color with which one is familiar. The lesions here are pronounced but characteristic. Vacciniform infantile ecthyma and simple infantile ecthyma on one plate, and both included under the designation dermatitis vacciniformis infantilis, form the last subject. The lower of these figures is an excellent representation of the condition, while the upper less-pleasing picture shows a much rarer form of eruption.

Part V. is in keeping with those already noticed, and the descriptive text is well written.

A Manual of Materia Medica and Pharmacology. By David M. Culberth, Ph.G., M.D., Professor of Botany, Materia Medica, and Pharmacognosy in the Maryland College of Pharmacy. Lea Brothers & Co. 1896.

This book "comprises all the organic and inorganic drugs which are and have been official in the United States Pharmacopœia, together with important allied species and useful synthetics, especially designed for students of pharmacy and medicine, as well as for druggists, pharmacists, and physicians."

It is a book of unquestioned value to all for whom it was designed; primarily important to the pharmacist, it is also of use to the physician. For the former we know of no better work of the same character; for the latter it will doubtless prove a stimulus to active-thinking practitioners, not perhaps on account of its pharmaco-dynamics, nor its therapeutics, for in this regard it is of necessity weak, but from the standpoint of its accurate and painstaking accounts of the active constituents of organic drugs.

The large amount of information bearing upon the commercial side of drugs renders the work of especial value to those interested in the collection and importation of medicinal agents.

The book is arranged upon the botanical system of classification, which renders it somewhat unsatisfactory to the average physician, who is, as a rule, untrained to perceive natural affinities in the actions of drugs coming from closely allied families in the botanical sequence.

There are a number of excellent *résumé* tables distributed throughout, and good closing chapters upon "Non-pharmacopœial Organic Compounds and "The Microscope and its Use in Materia Medica." The book is, moreover, well printed and well illustrated.

A System of Surgery. Edited by Frederick Treves, F.R.C.S., Surgeon to London Hospital. Vol. II. 8vo, pp. 1,088. Philadelphia: Lea Brothers & Co. 1896.

The second volume of this work deals with a great variety of topics, with a corresponding distributive authorship, including the admirable contributions of the talented editor. There is manifested great discretion in the systematic arrangements of the subjects and in their concise treatment at the hands of the respective contributors. Not only are the general principles of surgery skilfully applied to ordinary conditions of diseases, but many interesting and striking exceptions are related, which serve to make these discussions consistent, perspicuous, and practical. A leading feature of the work is the large number of illustrations of the varied pathological conditions, which renders it of special clinical value. In all the chapters the aim of the different writers has been to condense the salient principles upon which diagnosis and treatment necessarily depend and to show the bearing of the latter on well-recognized pathological conditions.

While the surgical procedures are sufficiently indicated, there is shown a disposition, especially on the part of the editor, to refer for details and elaborate technique to his operative surgery. This may perhaps be considered quite pardonable in a work of this kind, but the reader will doubtless be ready to forgive all errors in the opposite direction. It is unnecessary to say that the work is in every way an exposition of the present state of surgery from the purely British point of view, and as such must necessarily take its place as a leading authority. All the later methods of operating are duly noted, and the preferences of the writers are clearly presented and the reasons plainly stated. Lengthy discussions on vexed questions are very properly ignored, each writer being content with a conservative view. Thus, in appendicitis, prostatic disease, carcinoma, cerebral tumors, and epilepsy, operations are not invariably indicated, there being a need for still more experience in given directions before positive conclusions can be reached. Altogether the work, so far as it goes, is an admirable digest of the surgery of the day, and a trustworthy guide for the advanced student in search of high authority for conditions and methods.

Essentials of Physical Diagnosis of the Thorax. By Arthur M. Corwin, A.M., M.D., Demonstrator of Physical Diagnosis in Rush Medical College, etc. Second Edition, Revised and Enlarged. Philadelphia: W. B. Saunders. 1896.

The first edition was entitled "Outline of Physical Diagnosis of the Thorax." To this new matter has been added, and alterations have been made which make the little volume more useful. The gist of physical diagnosis is presented in little less than two hundred pages, and is designed especially to meet the wants of students.

The American Academy of Railway Surgeons. Report of the Second Annual Meeting, held at Chicago, Ill., September 25, 26, and 27, 1895. Edited by R. Harvey Reed, M.D., Columbus, O.

The second volume contains over two hundred pages. One is pleased by the manner in which the papers and discussions are presented. The scientific work, with its discussions, is classified into chapters, so that one may readily refer to any particular subject. The academy is doing good work, its motto being "The higher the order of railway surgery the greater the protection to the employee, the passenger, and the company."

The Prescriber's Pharmacopœia: A Synopsis of the More Recent Remedies, Official and Unofficial, with a Therapeutic Index. Third Edition. Kemp & Co., Ltd., Wholesale and Manufacturing Chemists, Bombay. 1896.

This book is simply a reference handbook, and as such is of value. The list of drugs is arranged alphabetically. Under each drug are given its definition, natural order, therapeutic indications, official preparations, doses, incompatibles, and, in cases of poisons, the antidotes. There are also a few pages devoted to urinary testing, which certainly add to the value of the book. The therapeutic index is very complete. The fact that it was compiled by physicians in India adds to its general interest.

Transactions of the American Climatological Association for the Year 1896. Volume XII., containing Part II. of the Report of the Committee on Health Resorts. Philadelphia: Published for the Association. 1896.

This is the report of the thirteenth annual session of the American Climatological Association, held in Lakewood, N. J., May 12, 1896, under the presidency of Dr. James B. Walker, of Philadelphia. It is a neat volume, of nearly three hundred pages, and contains a large number of valuable papers, especially those that relate to consumption and hæmoptysis. The appendix is of great value to the physician-at-large, containing Part II. of the report of the committee on health resorts. The first section of the report is contained in Volume XI., published in 1895. It is an interesting volume, replete with valuable matter, and reflects great credit on members of the association.

Feeding in Early Infancy. By Arthur V. Meigs, M.D. Philadelphia: W. B. Saunders. 1896. Price, 25 cents.

A fifteen-page brochure, being a paper read at the meeting of the Philadelphia County Medical Society, April 8, 1896. A formula for a food is given, which, after fourteen years' experience, the author thinks well of.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, December 24, 1896.

SIMON MARX, M.D., CHAIRMAN PRO TEM.

DR. PAUL F. MUNDÉ presented several specimens with the following histories:

"**Dermoid Cyst of Ovary Enucleated from the Uterine Cavity.**—On June 6, 1895, a woman twenty-three years of age, married, mother of two children, who had had one miscarriage one year before, came to my office bringing two bunches of hair in a bottle which she said she had passed per vaginam the day before. She complained of a profuse, highly fetid vaginal discharge. On examination I found the external os widely dilated and protruding from it a tuft of hair, which sprang from the left wall of the uterus within the internal os. There was a deep furrow at this spot, into which I could insert the tip of my finger, and in a few minutes I easily succeeded in enucleating the tumor, which with the tufts of hair I present to the society. The tumor is evidently ovarian, and the only way in which I can explain its presence in the uterine wall is that a dermoid cyst of the left ovary formed between the layers of the left broad ligament, became inflamed and ulcerated through the uterine wall, and protruded into the uterine cavity. I have been unable to find a similar case in literature. That dermoid tumors of the ovary easily become inflamed and suppurate is well known, and there are several cases of perforation of the anterior rectal wall by such a suppurating dermoid, notably one presented by Janvrin to the New York Obstetrical Society some fifteen years ago, in which the dermoid hair protruded from the anus and first called attention to the true nature of the case. My patient's uterus was firmly tamponed with iodoform gauze, and she was referred to Dr. L. J. Ladinski for further observation, who reported an uneventful convalescence.

"**Double Ovarian Abscess, Right Ovary Adherent in Right Iliac Region, Simulating Appendical Abscess.**—A. S——, aged thirty-eight years, mother of two children, was operated on for rectocele on September 26, 1896. At that time there was no evidence of diseased appendages. When ready for discharge, patient suddenly complained of severe pain in the right iliac region. Temperature ran up to 102.6° F., and dulness was evident in the right appendical region. The diagnosis of appendicitis was made and operation advised, but refused. Patient was very obstinate and unruly. Four days later operation was accepted, and at once performed. The usual incision in the right semilunar line revealed an adherent suppurating ovary, which was removed. The vermiform appendix was normal. The fingers passed into the pelvic cavity through the incision detected a large fluctuating and adherent sac in the left half of the pelvis. A second incision was made in the median line and a large intraligamentous pus sac of the left ovary was removed. The wounds were packed with iodoform gauze. Death from exhaustion occurred several days later. Undoubtedly the delay in operating, due to the refusal of the patient, was in a great measure the cause of the unfortunate result. Still the complication of two universally adherent ovarian abscesses was not a favorable condition, although out of thirty or more such subjects on whom I have operated all but two recovered.

"**Myoma Uteri with Appendages, Removed by Cœliotomy; Double Pneumonia; Recovery.**—Mrs. A. R——, aged thirty-nine years, mother of two children. Indication for operation was rapid growth of tumor. Only three silk ligatures were used; the uterus was amputated at the level of the internal os, the cervical mucous membrane was excised and cauterized, and the stump and peritoneal wound were closed by interrupted catgut sutures and buried silk ligatures. Recovery, so far as operation is concerned, would have been uneventful, if a double hypostatic pneumonia and acute gastritis (perhaps caused by the ether and Trendelenburg's position) had not set in twenty-four hours after operation, and jeopardized the patient's life for several days. However, the patient was out of bed on the eighteenth day. This is not the first instance in my experience of pneumonia following ether narcosis.

"**Double Pyosalpinx Removed by Cœliotomy; Attempted Enucleation of Retro-Uterine Intraligamentous Myoma per Vaginam; Vaginal Hysterectomy; Recovery.**—C. W——, twenty-four years of age, no children, was seen at my office in September last with all the physical signs of a large pelvic exudate, with which her history agreed. There was a large boggy tumor behind the uterus, which I suspected would break down and become an abscess. She was sent to her physician with the necessary directions and the request to send her to me again in a month. When she called again as requested, the subacute signs of pelvic inflammation had subsided, but the retro-uterine mass was still unchanged, and I advised operation. After her admission to Mt. Sinai Hospital, I aspirated this mass, expecting to obtain pus, but only clear blood was withdrawn. My first intention was to operate through the vagina, but I finally decided to open the abdomen first, and it was well I did so, for I could scarcely have removed from below the double pyosalpinx I found. The retro-uterine tumor could be plainly outlined and was taken by me to be an intraligamentous hæmatoma. Hence, after closing the abdominal incision, I made a free incision into the posterior vaginal vault. To my surprise, what I took to be a mass of coagulated blood turned out to be a soft myoma, which I proceeded to enucleate. On drawing it out of the vagina I found that the whole uterus was embedded in it. My only course therefore was to remove the whole mass, which I did in the usual manner, using silk ligatures. Both operations were completed in less than three-quarters of an hour. Recovery. This was an error of diagnosis which I am afraid I may repeat in a similar case, for I confess that I see no way of avoiding it.

"**Retro-Uterine Hæmatocele; Ruptured Tubo-Ovarian Sac, Probably Ectopic; Prolapse and Removal of Vermiform Appendix; Accidental Enucleation and Removal of Three Inches of Ureter.**—R. F——, aged thirty years; one child; one miscarriage nine weeks ago; last menstruation three months ago. Retro-uterine elastic tumor. Aspirator showed dark fluid blood. Diagnosis: Pelvic hæmatocele. Free incision in posterior vaginal vault, evacuation of a large quantity of thin dark blood. Left index finger in cavity found it completely closed at the top; on the right side a firmly adherent mass of the size of a mandarin orange, at first thought to be a solid blood clot. It was enucleated without much difficulty with the finger and removed with the volsella. It was at once evident that this was the ovary and tube, filled with a firm coagulum. No ligature was applied. With it was expelled a free strand about three inches long, which was at first taken for the Fallopian tube; and to my surprise and dismay another body rolled out of the vagina which was evidently the vermiform appendix. As it was free and uninjured, I ligated it with catgut, removed it, and returned the stump into the retro-uterine cavity, which was then packed with iodoform

gauze. One week after the operation I was informed that the patient was leaking urine from the vagina. An examination of the specimens was then made by the pathologist, and it was settled without doubt that the smaller cord was the ureter, the larger the vermiform appendix, and the tumor a ruptured tubo-ovarian ectopic sac. An attempt to sound the right ureter (the injured one) through the cystoscope and by touch resulted in the house surgeon, Dr. Luckett, getting the probe in over two inches through the cystoscope, and in myself obtaining the same result by vaginal touch. It was impossible to push the probe farther, in consequence, I suppose, of traumatic and inflammatory contraction of the ureter at that point. I purpose in the near future to attempt to pass a probe into the left (or sound) ureter, and if I succeed in thus establishing beyond question what I do not doubt is the fact, that the right ureter is the injured one, I shall then proceed to consider whether it is worth while to endeavor to stitch together the ends of the ureter, or to implant the upper end into the bladder, or if it is best to remove the right kidney. I fear that the length of ureter missing will scarcely permit its successful plastic restoration or reimplantation, and that the removal of the kidney will be necessary. How I came to tear away the ureter is a mystery to me. In many hundred abdominal and vaginal sections I have never wounded but this one ureter. The same accident happened to Pozzi twice, as I see from the last edition of his text-book just received from him,[1] in enucleating an intraligamentous ovarian cyst and a broad ligament cyst. In the latter case he was eventually compelled to remove the respective kidney; in the former, having discovered the accident at once, he immediately implanted the upper end of the ureter into the bladder with a successful result. The very peculiar coincidence of ruptured tubo-ovarian sac, ureter, and vermiform appendix in a retro-uterine hæmatocele, I can explain only by assuming that the unusually long vermiform appendix hung into the pelvis long before the hæmatocele developed; that the ruptured right ectopic sac became firmly adherent to the right side of Douglas' pouch just over the course of the ureter; that the hæmatocele was closed above by the usual adhesive inflammation of the coils of intestine; and finally that I, in my efforts to dislodge the tumor in the right side of the hæmatocele, ruptured the peritoneum and tore away the ureter, which was firmly adherent to the ectopic sac. No violence was used, nor any cutting instrument; nothing but my left index finger.

"That the vermiform appendix is frequently found in the female pelvis is asserted by Byron Robinson, of Chicago. I do not happen ever to have seen it there before, unless adherent to the right Fallopian tube. Except for the urinary vaginal leakage, the woman is now in perfect health.

"Multiple Hæmatoma of Ovary; Twisted Pedicle; Pregnancy in One Horn of Double Uterus.—B. B——, aged twenty-eight years; last menstruation ten weeks ago. Recent severe pain in right ovarian region; signs of pregnancy. Tender tumor on right side of uterus; sound enters toward left to the depth of three inches. Suspected right tubal pregnancy. Cœliotomy, October 27, 1896. Error in diagnosis; small ovarian tumor on right side with sharply twisted pedicle; double uterus with pregnancy on right side. Tumor removed. Abortion on third day. This is the smallest ovarian tumor with a twisted pedicle which I have seen in quite a number, at least forty, cases of twisted pedicle. Probably there was originally a small polycystic tumor of the right ovary, of the type known as hydrops folliculorum, and the torsion of the pedicle produced an effusion of blood into the follicles, for the tumor was of dark blue color and filled with dark blood.

"Epithelioma of Lip of External Os and Cervical Cavity Removed by High Excision with the Thermo-Cautery.—H. M——, aged thirty-six years, married, no children, bleeding more or less steadily for two months. Excavated ulcer with sharp, undermined border on anterior lip of cervix; clinically undoubtedly malignant. Uterine mobility free; parametria apparently healthy. Hence yesterday high or conical excision of cervix with the thermo-cautery knife after ligation of both uterine arteries with deep silk sutures. The specimen shows how high the disease extends in the cervical cavity, but the division is well beyond the diseased tissue. This is the second case in which I have removed the whole or part of the cancerous uterus with the hot knife. The first case occurred about two months ago. I began with the galvano-cautery knife, the battery being kindly furnished me by the Waite & Bartlett Manufacturing Company, but the platinum was too thin, bent, and finally broke, and I performed the larger part of the operation with the curved Paquelin knife with great ease and rapidity, and with no hemorrhage whatever. The disease in this case involved nearly the whole uterus and extended somewhat into the right broad ligament. When I finished the operation I found that I had removed absolutely all the muscular tissue of the uterus, leaving only a thin shell of the peritoneal envelope, apparently not thicker than the finger of a kid glove. After again thoroughly searing the wound in the broad ligaments, I packed the cavity loosely with iodoform gauze. The patient made a good recovery, the slough separating slowly, and she was discharged in less than a month with the wound perfectly healed, and a fairly long, serviceable vagina. When seen again a month later, everything was healthy. Of course only the future will tell whether the cure is permanent or not.

Inasmuch as in the twenty-seven vaginal hysterectomies for cancer which I have performed (with three deaths) the disease has invariably returned within from two to nine months, I am not enthusiastic in favor of removal of the uterus, wholly or in part, for malignant disease by a cutting operation. It seems to me that Dr. John Byrne is right in his assertion that a slow charring process is the only one by which a thorough removal of the diseased tissue and a destruction of the microscopical cancer germs in the neighborhood of the wound are assured."

Dr. Edebohls expressed the belief that Dr. Mundé's case of dermoid removed from the uterus was originally one of dermoid tumor which developed from the remains of the Wolffian ducts alongside the uterus near the internal os, and from there found its way into the uterine body. The case of injury to the ureter again illustrated the fact that there was greater danger of this accident when operating through the vagina than when operating from above. In connection with the case of double uterus, Dr. Edebohls said he had within a week opened the abdomen of a young woman. She had been married a year, but had never been able to have intercourse properly. The vagina terminated at a distance of one inch above two abdominal tumors, one as large as a goose's egg, the other as large as a hen's egg. Abdominal exploration showed absence of the uterus, presence of one ovary and fimbriated extremity of the tube, absence of the ovary and tube on the other side. He was unable to say what was the nature of the tumors, but thought they were related to the Wolffian ducts.

Tubo-Abdominal Pregnancy; Delivery of a Living Fœtus at the Seventh Month.—Dr. Edward A. Avers presented the uterus and placenta from a case of tubo-abdominal pregnancy. He saw the case in consultation with Dr. Pinckney, and afterward the

[1] Paris, 1897, page 850.

patient was conveyed to the Mothers and Babies' Hospital, where he opened the abdomen. The history pointed to tubal pregnancy of about the seventh month at the time of operation, but the uterus was considerably increased in size and the cervix was soft. Uterine pregnancy was positively excluded on dilating the cervix and removing the lining decidual membrane, which, as he had pointed out on a former occasion, was pathognomonic of extra-uterine pregnancy. On opening the abdomen the fœtal head was found lying between the uterus and pubes. Its weight on delivery was three pounds and four ounces. It lived for some days, and he had hopes of saving it, but death took place from inanition. The placental blood supply was from a few large vessels, given off mostly by the tube; consequently in its removal there was not that amount of hemorrhage which was likely to occur when the vessels were small and numerous, covering a larger area. The amniotic covering of the fœtus had evidently been absent for some time, and the fœtal head was somewhat misshaped from compression between the uterus and pelvic walls, but the normal contour returned before death. The operation lasted three-quarters of an hour; there was considerable shock. The mother died of exhaustion.

The Inguinal Operation for Femoral Hernia.—Dr. George M. Edebohls read the paper. The following were his conclusions: The classical operation from below Poupart's ligament should be the operation of choice for femoral hernia, the inguinal operation being performed only upon special indications. In the absence of such special indications for the performance of the inguinal operation for femoral hernia, the writer would prefer the method of Bassini, modified so that the uppermost sutures would include Poupart's ligament and the periosteum of the os pubis. When the inguinal operation for femoral hernia is indicated, the best method of performing it is to open the anterior wall of the inguinal canal from external to internal ring, hook the spermatic cord or round ligament upward out of the way, and cut through the posterior wall of the inguinal canal. After reduction of the hernia, liberation and high ligation of the sac, and clearing of the femoral canal, the crural ring, if small, should be closed from above by suturing Poupart's ligament to the periosteum of the horizontal ramus of the pubis. Should the hernial aperture be large, a fibro-periosteal flap should be formed and used, in the manner described, to close the crural ring. In either case the irritation of the periosteum produced, tends to new formation, in and about the crural ring, of osseous tissue which will constitute an efficient barrier, efficiently placed, against the recrudescence of a hernia. The saphenous opening may then be closed by sewing the falciform process to the pubic portion of the fascia lata, although this procedure is of secondary importance. The posterior wall of the inguinal canal is reunited by suture, and the inguinal canal reconstructed after the manner of Bassini's operation for the radical cure of inguinal hernia. The chief advantages of the inguinal operation for femoral hernia are the possibility and easy performance of high ligation of the hernial sac, and of high and effective closure of the crural ring. The special indications for the inguinal operation for femoral hernia are: 1. The coexistence of complete or incomplete inguinal hernia with a femoral hernia of the same side. 2. In women, the coexistence with femoral hernia of a retrodisplacement of the uterus which can be corrected by shortening the round ligaments.

Dr. W. B. DeGarmo said he had expected the author would favor the inguinal operation for femoral hernia in nearly every case. The paper, however, showed that their views were not far apart. Dr. DeGarmo had operated in twenty-three cases of femoral hernia, twenty-one in women, two in men, during the last six years. In all the operation was done from below. In one instance the inguinal canal was opened for inguinal hernia, and he thought of operating from that direction for the femoral hernia, but lack of familiarity with the method deterred him from undertaking it. On another occasion he would hope to try it, with the aid of Dr. Edebohls. He had used but one method, which was original with himself, but which he thought was also probably original with many others. It consisted in cutting down over the sac, loosening the neck of the sac well up under Poupart's ligament before opening it, then opening it and treating its contents in any way which might be deemed advisable. Then traction was made upon the sac, and it was ligated as high as possible, cut off, and the stump replaced within Poupart's ligament. With three exceptions he had used silk ligatures altogether. In suturing, he began as near the femoral vessels as possible, passed down to the pubic bone, and included all the tissues. Three, sometimes four sutures were passed, the last one quite close to the attachment of Poupart's ligament to the pubic bone. Most of his patients had been seen in his private practice, and if there had been recurrences he would probably have heard from them. He knew of recurrence in only two cases.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 4, 1896.

Andrew H. Smith, M.D., President, in the Chair.

Superheated Dry-Air Treatment of Stiff and Painful Joints.—Dr. Virgil P. Gibney demonstrated superheated dry-air treatment of stiff and painful joints, and afterward read a paper on the subject (see p. 109).

Malgaigne's Operation on the Lower Lip.—Dr. Charles McBurney presented a man on whom he had operated two weeks before for epithelioma involving a large part of the lower lip, necessitating removal of nearly the full breadth of the lip as the base of the triangle, the apex extending down on the chin. He showed the patient to illustrate the advantages of the Malgaigne operation for closing in this large gap. By carrying the incision from the angle of the mouth out on the cheek and down only to the mucous membrane, dissecting this up, and making another incision at a lower level, one was able to bring the edges of the wound together and cover the inner surface of the skin which had been brought forward with the dissected mucous membrane in such a manner as to leave no deformity and scarcely a perceptible scar. By varying the line of the incisions somewhat, one could as successfully close the gap when removal of the whole lip required making a rectangular instead of a triangular wound. In spite of the evident advantages of this method, it seemed to be little practised by surgeons.

Amputation with Periosteal Flap in Lower Third of the Leg.—Dr. Joseph D. Bryant presented an illustrative case of amputation with periosteal flap in the lower third of the leg, according to a method which he had practised in more than a dozen cases in this locality. The flap was made a little longer than a fourth of the circumference of the limb at the point of amputation, and included the periosteum attached to, not dissected from, the soft parts. In suturing the flap no stitches were put into the periosteal portion, this being simply folded over the end of the bone. The advantage of the method lay in the fact that it gave a freely movable and painless stump, which al-

lowed the patient to wear an artificial limb with comfort. Some of the fourteen patients whose legs had been amputated in the lower third in this manner had worn an artificial limb within a month after the operation. In the case presented, the operation was done for necrosis of the tibia. A diagram was shown of the condition found at autopsy in the first case which he had operated upon in this manner, the patient having subsequently died of malignant disease. What little cicatrix which the method of operating had left had become almost entirely absorbed.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 28, 1896.

JOHN SLADE ELY, M.D., PRESIDENT.

Colloid Carcinoma of Stomach and Omentum.—DR. F. L. JEFFRIES presented a specimen from a case of colloid carcinoma of stomach and omentum. The patient, a man, forty-eight years of age, had enjoyed good health up to two months prior to his admission to the hospital, on September 17, 1896. At that time he began to suffer from persistent nausea and vomiting, and the abdomen was observed to be larger than usual. While in the hospital he complained of headache and shortness of breath, and had a short, dry cough. He died on September 26th. At the autopsy the entire peritoneum was found to be covered with small nodules. These nodules involved the peritoneum covering the diaphragm, the mesentery, and even extended down into the pelvic cavity. The liver, spleen, and pancreas were normal. About three-fourths of the wall of the stomach were thickened with this same growth, which apparently had its origin in the pylorus. Both the lungs were quite adherent to the diaphragm. Microscopical examination proved the nodules to be colloid carcinoma.

Carcinoma of Pancreas and Liver.—Dr. Jeffries then presented specimens from a case of carcinoma of pancreas and liver. The patient, a laborer, forty-eight years of age, was admitted to hospital on September 12, 1896. His health had been excellent up to about three months before, when he began to experience pain in the right hypochondriac region. This was soon followed by enlargement of the abdomen and considerable loss of flesh and strength. On admission, the patient was very weak and the skin was dry and yellowish. There was no cough or expectoration, and the heart and lungs were normal. The abdomen was distended with fluid. The lower border of the liver could hardly be felt. The urine was yellow. The clinical diagnosis was carcinoma of the liver. At the autopsy, the right lung was found to contain many white nodules, varying in size from that of a pinhead to that of a pea. There were a few such nodules in the other lung. The liver contained many white nodules, varying in size from that of a marble to that of a fist. The largest one was at the free border above the gall bladder. The gall bladder contained one large gall stone and two small ones. An impacted gall stone, half an inch in diameter, was found in the cystic duct. There was a large nodule in the head of the pancreas. The spleen and intestines were normal. The kidneys were much congested. The pancreas seemed to have been the first organ involved.

Perforation of the Stomach.—Dr. Jeffries also exhibited specimens from a third case, the history of which was unfortunately very meagre. The patient, a German, about thirty-five years of age, had been admitted to the Trinity Hospital on October 23, 1896, and had died on October 26th. It was stated that on October 18th he was suddenly seized with severe abdominal pain. On his admission a diagnosis of appendicitis had been made, and an exploratory operation performed, but the latter had failed to disclose any appendicitis or reveal the true condition. The autopsy showed a general peritonitis, and also peritoneal adhesions uniting the liver to the diaphragm. On separating these adhesions a cavity was discovered, the floor of which was formed by the stomach and half of the upper surface of the liver. The cavity was lined with considerable exudation, apparently indicating that the process was older than would appear from the history. There was also a perforation into the stomach, but the opening was round and smooth, and there was little evidence of inflammation there. The interesting question was as to the length of time that this had existed, and whether such a thick capsule as constituted the wall of this cavity could have been formed in seven days.

Discussion.—THE PRESIDENT referred to a similar case presented to the society a year or two ago, in which there was about the same thickening and involvement of the stomach, but in which the carcinomatous condition had been confined to the stomach.

DR. MARY PUTNAM JACOBI thought that the history and appearances of the case just presented agreed fairly well with those of a typical round ulcer of the stomach, with perforation and localized peritonitis. Microscopical examination of the tissues around the perforation might be interesting, as possibly disclosing thromboses and explaining the nature of the perforation. The first acute attack of pain probably coincided with the occurrence of the perforation. Such adhesions, she thought, could form in seven days.

THE PRESIDENT was of the opinion that the only way to settle the question about the capsule would be to determine by microscopical examination just how much old connective tissue was present.

Giant Cells and their Mode of Formation.—DR. CHARLES A. VALADIER exhibited under the microscope a section from a giant cell sarcoma of the tibia. It had been taken from one of the specimens in the laboratory of the College of Physicians and Surgeons, and was presented because it exhibited some interesting features of giant cells. In some places these giant cells seemed to show protoplasmic processes, and at other places retractions of the protoplasmic mass looking like pseudostomata. He had concluded that they were in the act of embodying some of the surrounding sarcoma, and further study of the specimen seemed to confirm this view. On looking up the literature, he had found that the question of the origin of giant cells and their significance in a tumor were much disputed. The fact of phagocytic action was mentioned by one or two observers, but more especially in regard to foreign particles rather than microorganisms. Two interesting experiments were mentioned in Virchow's *Archiv*, of giant cells found not only in tumors, but also in normal granulation tissue in wounds. They had been produced experimentally by placing small pieces of cotton, catgut, and hair under the skin of animals. After a short time, the granulation tissue which grew around these exhibited giant cells, and these cells had such phagocytic action that they not only embodied in their mass certain portions of hairs but also the pigment of the hairs. The other experiment consisted in placing two small pieces of cover glass with a capillary space between them, in the omentum of a frog. Here giant cells also developed. The author believed that the inflammatory process set up by these foreign bodies drew to the parts leucocytes, and the welding of two or more of these leucocytes caused the development of giant cells possessing phagocytic action. Dr. Valadier said that he had seen these giant cells in

epitheliomata and sarcomata. Their presence in sarcomata had been explained as having been occasioned by the osteoclast, but on this point there was much difference of opinion. He would like to raise these questions, viz.: Are these cells, as shown in the specimen, due to irritation within the tumor, as, for instance, from the presence of pigment? May not the giant cells obtain their nuclei from the phagocytic action of these pseudopods?

Dr. J. S. Thacher said that he had found giant cells so frequently present in various inflammatory processes, particularly when there were small pieces of foreign matter, such as bits of sponge and dressings, that in the laboratory they had come to speak of these as "foreign-body giant cells," in contradistinction to those found in tuberculosis. He had come to believe that giant cells were produced by irritations of various kinds; they were sometimes very abundant in a simple surgical wound. They usually differed from the giant cells of tuberculosis in that the latter had their nuclei arranged peripherally and had a necrotic centre.

Dr. George P. Biggs said that he had also observed giant cells very commonly, but those apparently of purely inflammatory origin were usually somewhat smaller than the true giant cells—they might be perhaps better described as multinuclear cells.

Dr. Thacher replied that the cells he had referred to were certainly as large as the cells usually described as true giant cells.

Dr. Louis Waldstein said that the more one observed giant cells under different conditions, the more one became impressed with the fact that they might have different origins. Those that he had seen in tuberculosis of glandular structures, such as the testicle and the kidney, had given the impression of being the product of a necrobiotic process—a fusion of cells which had gradually lost their distinct individuality. Then again, there were other giant cells, such as in the sarcomata and other neoplasms, which gave the impression of the body of the cell being still alive—as if there were multiplication of nuclei. Again, one was struck by the fact in tuberculosis, as well as in the cases referred to by Dr. Thacher and Dr. Biggs, that the bacilli were found inside of the giant cells. One might be led to suppose that here also the giant cell had had a phagocytic action. The cursory examination that he had made of the specimen presented by Dr. Valadier hardly allowed of the expression of a definite opinion, but he was in doubt as to the presence of true pseudopods. The empty space around the cells was probably due to the hardening process to which the tissue had been subjected. He would be inclined to assume that the form of the cell depended upon the contraction resulting from the dehydration of those cells.

Dr. Valadier said that it had been suggested to him that these spaces might have resulted in the way just mentioned by the last speaker. If this were so, the sarcoma cells should not follow the same outline—the dehydration would hardly have the same effect on the cells and on the tumor.

The President said that the giant cells of sarcoma, syphilis, and tuberculosis had a different origin. The last two were the result of a necrobiotic process, as Dr. Waldstein had said. In 1887, the tubercle bacilli had been described in the interior of the giant cells of tuberculosis, and at this time a phagocytic action had been attributed to these cells, but it had seemed to him quite as likely that the giant cell resulted from the massing together of a number of the epithelioid cells of a tubercle. These giant cells were formed at the point where the poison which produces cheesy degeneration was most abundant. These became fused together, there was a drawing in of the nearest epithelioid cells to the mass, which gradually underwent a similar degeneration, and so the giant cell spread. In this way might be explained: (1) The frequent occurrence of tubercle bacilli in the centres of giant cells; (2) that the cheesy matter was usually in the centre of the giant cells in tuberculosis; and (3) the peripheral arrangement of the nuclei. There did not seem to be any doubt that the giant cells in tuberculosis were derived from the epithelioid cells, and not from any chance leucocytes. Another point strengthening this idea was the distribution of the nuclei at one end of the giant cell. In the sarcomata the matter was totally different; it was strikingly suggestive of the myeloplaques of bone marrow, and of the osteoclast. Moreover, we found these cells almost without exception in those sarcomata which had their origin in bone. If the giant cell in this form of sarcoma were the analogue of the osteoclast, then we might very properly attribute to it a phagocytic action. What the function of the myeloplaques were he did not know.

Dr. Waldstein thought they were always found where calcareous matter had been destroyed, so that it was after all somewhat analogous to the other form of degeneration already referred to. The typical giant cell did not always have the nuclei at one end—they might be around the entire periphery, and in many cases it was possible to demonstrate that the giant cell did not originate in epithelial cells alone, even in tuberculosis, but from epithelial cells.

Abscess of Kidney; Cystitis without Symptoms.—Dr. Martha Wollstein presented specimens taken from a married woman, twenty-nine years of age, who had been a patient in the New York Infirmary for Women and Children. The woman had had two children. The first symptoms of her last illness developed one week after the second confinement, and four months before her death. After exposure to cold, the feet and ankles began to swell, and one week later anorexia, diarrhœa, and vomiting were present. The œdema then spread very rapidly, and soon culminated in a general anasarca. After three weeks of treatment in the hospital the œdema all disappeared. The youngest child died shortly after this, and the mother's symptoms almost immediately returned, probably as a result of exposure to cold. There were symptoms indicative of pneumonia—a temperature of 101° F., respirations 36, pulse 120, although during the month she was in the infirmary the temperature did not exceed 100° F. The œdema was the most marked symptom, and was quite general. There was fluid in the peritoneal and pleural cavities. The urine was pale, had a specific gravity of 1.018, and contained much albumin and some leucocytes, with epithelial and granular casts. There was no uræmia. At the autopsy it was found that the pleural cavities contained about three pints of fluid. There was no pleurisy. There were some red hepatization in the right lower lobe and marked œdema of both. The heart was practically normal. There was a typical nutmeg liver. A large quantity of fluid was found in the peritoneal cavity. The spleen was soft, friable, and congested. The stomach and intestines were normal. The right kidney showed the typical appearance of the large white kidney. In the upper part was a depressed yellowish cicatrix measuring about half an inch. The left kidney was very adherent, and it was much smaller than the right. Only about one-third of the organ was true kidney tissue, the remaining portion having been converted into cheesy matter. This was stained for tubercle bacilli, but none were found. Both ureters were patent. The bladder showed chronic cystitis, especially around the trigone. The uterus was normal, and in a state of hyperinvolution. The tubes and ovaries were normal.

The interesting points in the case were: (1) The absence of symptoms of cystitis throughout the entire illness; (2) the relative age of the lesions; and (3) the absolute age of both lesions.

Dr. Mary Putnam Jacobi said that in view of the cystitis it was possible that the abscess of the kidney might have been due to an ascending process from the bladder, prior to the last confinement. She thought that this was the case, and that it explained why the overworked right kidney had been so susceptible to cold. It was unfortunate that no examination of the ureters had been made during life. The absence of pus in the urine would seem to show that nothing had been discharged from the left kidney for a long time.

Endotheliomata or Epitheliomata of the Neck.—Dr. George P. Biggs presented specimens taken from a man, seventy years of age, who five months before coming under observation had first noticed a small lump beneath the right side of the lower jaw. This had grown steadily, but had caused no pain until a few weeks before coming under observation. Another lump had developed at a corresponding point on the opposite side of the neck a few days before his admission. Both tumors were removed. The first one measured 5 by 4 by 3½ cm.; the second, 4 by 3 by 2½ cm. That on the right side had caused some ulceration of the skin by the tension produced. Both tumors were circumscribed, but not distinctly encapsulated. Attached to each one of the tumors was some submaxillary gland tissue. Both tumors were quite firm, and on section presented a grayish granular appearance, with scattered yellowish points. They resembled in gross appearance rather an epitheliomatous growth than a connective-tissue growth. The gross and microscopical appearances of these tumors, and of the one next to be presented, were the same.

Specimens were also presented from a man, forty-six years of age, who eight months prior to coming under observation had first noticed a small growth on the right side of the neck, near the angle of the jaw. This had grown steadily in size until, on admission, it extended from the thyroid cartilage in front to the posterior border of the sterno-mastoid muscle behind, and from the cricoid cartilage below up to a point behind the lower jaw. It completely surrounded the internal jugular vein, so that a portion of this vein was resected at the operation. The mass measured 5 by 5 by 2½ cm., and was accompanied by several enlarged lymphatic glands. In these were circumscribed areas of distinct tumor tissue. Microscopically, all these tumors presented circumscribed areas of cells, which appeared to have developed in some pre-existing channels. The cells were arranged in concentric layers, those most central being larger and epithelioid in appearance, while the middle and outer layers were smaller and ovoid. At the periphery of the lobules a regular row of cells formed a sharp outline. A few very small pearl-like bodies, such as were present in endotheliomata, were seen. In the central portion the cells were more or less degenerated. He was disposed to consider these growths identical with several recently described as endotheliomata, but he would like an expression of opinion on this point.

Submaxillary Tumor; Mucoid Degeneration.—Dr. Biggs also presented a tumor removed from a boy fourteen years of age, who had first noticed the growth under the angle of the jaw two years and a half before coming under observation. It was situated very close to but was apparently not connected with the parotid gland. It measured 3 by 2 by 1 cm., and was irregular in outline. Some portions appeared to consist entirely of viscid, transparent mucus. Microscopical examination showed that a considerable proportion of the tumor had undergone mucoid degeneration, but in certain parts were ovoid spaces, lined and filled with cells which were of epithelial type and not much degenerated. It was impossible to determine the origin of the tumor, but possible sources seemed to be an outlying portion of parotid gland, or one of the fœtal ducts of the neck.

Dr. Thacher said that the specimens presented by Dr. Biggs reminded him of a dermoid cyst over the coccyx which he had examined. The lining wall of the cyst had been made up of cells having a very similar size and shape. He thought that the tumor presented might be an endothelioma of branchial origin.

The President said that possibly the last tumor presented might have been a portion of the parotid gland, which had become entirely separated from the main portion of the gland and had become converted into a retention cyst.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

NEW-YEAR HONORS FOR DOCTORS — MANCHESTER INFIRMARY—EDINBURGH JOURNALS—SENTENCE ON A QUACK—OYSTERS—ST. GEORGE'S HOSPITAL—THE DAIRY—FARADAY LABORATORIES—THE PARKE STATUE —MRS. GARRETT-ANDERSON—THE LATE SIR GEORGE B. OWENS.

London, January 1, 1897.

At last the "powers that be" have consented to honor the profession by calling one of its distinguished members to the upper house. In the list of New-Year honors for 1897 conferred by the Queen there is a peerage for Sir Joseph Lister. For many years there has been a feeling that the profession has been treated badly in the matter of honors. There was a great expectation at one time that Sir B. Brodie would receive a peerage, but obstacles seemed to have been made, and ever since more or less discontent has been expressed at intervals with the neglect or disregard of medical men in high quarters. No doubt very few are wealthy enough to accept a peerage. On the other hand, there are not a few who by their scientific and medical knowledge would be able to give most valuable counsel in this age of sanitary progress. In the House of Commons the few doctors who have obtained seats have been useful; but the more dignified upper house should afford a more suitable sphere for men who have devoted themselves to medicine. Science is well represented in Lord Kelvin, and Sir Joseph Lister, who is president of the Royal Society, will be an excellent medical peer.

Dr. Douglas Powell, who is physician extraordinary to the Queen, receives a baronetcy. Dr. Kynsey, inspector-general of hospitals in Ceylon, receives a knighthood; and Deputy Surgeon-General Mosse, superintendent medical officer of Jamaica, a C.M.G.

The conservative ministry is to be congratulated on opening the doors of the senate to doctors, who in all other countries have long been recognized as proper recipients of national honors. This government might well follow up its initiative by a free distribution of baronetcies and knighthoods among distinguished physicians and surgeons.

A poll of the trustees of the Royal Infirmary, Manchester, has been taken as to whether it shall be rebuilt on the present site or a more suitable one be sought for. Out of 853 voting-papers returned, a majority of 46 appeared in favor of the present site. It seems, however, that 496 trustees did not vote, and it is thought that the poll taken will hardly justify proceeding to expend £200,000 on a site that is acknowledged to be unsuitable. Manchester is wealthy

and her citizens are liberal. It is therefore to be expected that the question at issue will not be settled merely with regard to expense. The best scheme and the best site ought to be obtained.

From this date Edinburgh is to have two medical journals. I should have thought one enough, but Scotchmen know their own business. The *Edinburgh Medical Journal*, with which we are familiar, dates from 1855, when it was formed by the union of two others, and thus has a pedigree going back to 1805. Recently a new publisher acquired the property, and a movement was made to establish another, the proprietary of which should be professional. I hope the rivals will preserve the Scottish dignity. The multiplicity of journals at the present day is of no little inconvenience to those whose time is fairly occupied. That Scottish medicine was not in absolute need of additional journal accommodation appears to me evident from the fact that London men have been admitted to pad out the table of contents.

The quack who called himself "Dr. Ferdinand" and the "World's Fair physician," has been condemned to twelve months' hard labor. Not, however, for practising and promising to cure cancer, nor even for his frauds; but for perjury, in connection with the death of a victim. It was proved at the trial that this rascal was a plumber, who was many years ago convicted of stealing. Afterward he started as a cancer curer, and declared he was "M.D., U. S. A." When examined by the coroner about this bogus degree, he said he had studied for it in America: but it was proved that he was in business as plumber and glazier at the time he swore he was in America studying at an eclectic college for this degree. It would be a good thing if the persons who sell bogus documents of this kind could be brought to book. Cannot the United States suppress this traffic?

The danger of eating raw oysters has received another illustration. The medical officer of health for Marylebone has met with cases of diarrhœa and of typhoid fever which, he tells us in his report, he has traced to the consumption of raw oysters.

The Duke of Cambridge presided at the opening of the new operating-theatre of St. George's Hospital last week.

The Prince of Wales opened the Davy-Faraday Research Laboratories last week. These have been presented to the Royal Institution by Dr. L. Mond, together with a handsome sum as an endowment. Dr. Mond told a very distinguished audience that he had named his gift after the two men who had carried on much of their work on the spot now occupied by this building. The prince expressed the gratitude due from the nation to Dr. Mond, and felicitated him on naming the laboratories after the two greatest professors of the institution. Lord Rayleigh and Professor Dewar have undertaken the direction of the new laboratories without remuneration. They are the present professors of physics and chemistry to the Royal Institution.

Field-Marshal Lord Roberts, at present commander-in-chief in Ireland, unveiled the statue of Surgeon-Major Parke in Dublin, on the 19th ult. The memorial is in front of the Royal Dublin Society's museum. Lord Roberts expressed the greatest admiration of the late officer and pride that he was a fellow-countryman. He found it difficult to realize how much Surgeon-Major Parke had accomplished in so short a life—only thirty-eight years. Parke is represented in his working African costume, bare headed, and his hands resting on his rifle.

Mrs. Garrett-Anderson, M.D., has been elected president of one of the branches of the British Medical Association. The fear expressed by some members when it was first proposed to admit ladies as members, that the annual meeting might be presided over by one of them, may be nearer of realization than was then thought possible.

The death is announced of Sir George B. Owens, M.D., at the ripe age of eighty-eight. He took his first diploma in 1832, settled in Dublin in 1845, and graduated M.D. (Glasgow) in 1850. He was lord mayor of Dublin in 1876, and later was sheriff. As a poor-law guardian and chairman of the Southern City Dispensary he did good work, and was universally esteemed by his professional brethren and by Dublin society.

OUR PARIS LETTER.

(From our Special Correspondent.)

OPENING OF THE NEW YEAR—HEALTH OF PARIS—DEATH RATE BELOW THE AVERAGE—THE THOMSON CASE—ABORTION AND UNJUSTIFIABLE OVARIOTOMY—LOOSE GYNECOLOGICAL CLINICS—GOVERNMENTAL ACTION TO REGULATE PRIVATE HOSPITALS AND CLINICS—PASTEUR'S REMAINS LAID TO REST IN THE INSTITUT—NEW REMEDIES—PARIS NIGHT SERVICE—PROF. LABORDE'S NEW INSTRUMENT.

PARIS, January 4, 1897.

THE first days of the new year have been ushered in by a slight increase in diseases of the respiratory organs, but mostly not serious—colds, bronchitis, laryngitis, and mild cases of grippe predominating.

The service of municipal statistics has issued its weekly bulletin, showing that the mortality rate during the week that has just ended is nine hundred and fifty-one, or a little inferior to the average, nine hundred and sixty, at this season of the year. The health of Paris is therefore satisfactory.

The professors and general practitioners have returned from their Christmas and New Year's holidays, the École de Médecine has opened its doors again, and medical Paris is in full swing once more.

Since the lamentable *affaire Thomson*, in which the government claims, first, that criminal abortion was committed, and then unjustifiable removal of the uterus and ovaries—for which offence two well-known Parisian doctors are now in prison and will be tried shortly—official attention has been directed to the numerous *maisons de santé*, private hospitals, and policlinics, more especially those devoted to gynecology—as it was in one of these that Miss Thomson died in consequence of the operations.

The present legislation in this regard is quite insufficient, and the representatives of the State and municipality are consequently unable to exercise an efficient control of the institutions in question. It will therefore be necessary to apply to the Chamber of Deputies. What is wanted is a new law, in accordance with which the opening and functioning of private clinics shall be surrounded by serious legal guarantees. As above noted, it is more especially against the gynecological clinics that the measures are called for. There are in Paris not only establishments where abortion and unjustifiable ovariotomy are performed, but others where eyes are unnecessarily sacrificed. Before authorizing the opening of a private clinic or hospital, the prefect of police should ask for and obtain the favorable report of a medical commission—composed, for example, of the dean of the Faculty of Medicine, of the president of the Medical Society of the hospitals, of the president of the Society of Surgery, and two physicians of the benevolent offices. Furthermore, a service of supervision, administratively organized in conditions analogous to that of insane asylums, would also be charged with looking after such clinics and institutions permanently, as regards hygiene and antisepsis.

One point, however, and a very important one, seems to be entirely overlooked, and that is professional secrecy. And no one can tell in what measure and what fashion this would be interfered with, nor how much the free exercise of a liberal profession would be touched in the premises.

It is only establishments of doubtful character that would fear legal control; those of the best class would welcome it, as obtaining thereby a recognized official standing, which some of them have not at present.

On Saturday last the mortal remains of the great Pasteur were solemnly transferred from the Cathedral of Notre Dame to the Institut Pasteur, and there laid in their final resting-place, the crypt, above the vault of which are cut the simple words, "*Ici repose Pasteur.*" Among those who took part in the ceremony were representatives of the worlds of science, literature, art, medicine, law, theology, philosophy, etc. The following paragraph from the discourse of Mr. Tissié, president of the Association of Students, is quite characteristic and gives the keynote of all the others: "The institut that Pasteur has founded is not only the temple of a science that has not failed in one of its promises, but also a school of generosity where our youth can come to seek the most noble inspirations. We have not forgotten the words that Pasteur addressed us on one of our fête days: 'Young men,' he said, 'whatever may be your careers, never let yourselves be attainted by disparaging and sterile scepticism; live in the serene peace of the laboratories and libraries; work until the moment that you will have the immense happiness of thinking that you have contributed something to the progress and good of humanity.' Dear and venerated master, your benevolent voice will never repeat to us again these encouragements, but your memory and your eternal work remain with us, to remind us through struggles, through faintings and calumnies, that we should be faithful to that ideal which was yours—the alleviation of human suffering."

Each of the four English delegates—Sir Joseph Lister, Sir W. Priestley, Sir John Evans, and Sir Dyce Duckworth—then mounted the tribune in turn and expressed all the admiration, respect, and sympathy of the learned men and societies in England, of which they were the representatives. After this, the ceremonies closed and Pasteur was left alone in his glory. The crypt, which is behind a large grating of wrought iron, is entered by descending nine marble steps, and is encrusted with golden mosaics, the arches resting upon four groups of columns (three in each) of porphyry—one red between two green, with white capitals in the Byzantine style. Within we see Faith, Hope, and Charity; on the walls, the vine and hops, in memory of Pasteur's work in the fermentation of wine and beer; then there are the sheep preserved from foot rot and leg sore, the chickens cured of cholera, and further on the dogs, rabbits, and the docile guinea pigs, that are so often sacrificed in the laboratory and that are here honored as if they were collaborators.

A fitting tomb for Pasteur, and on the field of his labors—in the very midst of all that contributed to his greatness.

The new compound anilipyrin, obtained from exalgin and antipyrin, is destined to rival both drugs as an antipyretic and analgesic. It is a whitish powder, to be given in doses of from twenty-five to fifty centigrams, or from five to ten grains.

Another new compound is that of quinine and naphthol β, producing chemically a double monosulphate. This body consists of yellow rhomboid prisms, having a bitter taste, insoluble in cold water, soluble in hot water and alcohol. Acids do not decompose this body, that thus reaches the intestine in the same state in which it is taken by the mouth. It is only in presence of an alkali that it separates itself into its two components, which are very active under these conditions; the quinine possessing, in addition to its antithermic properties, a considerable bactericide power, destroying completely microbic life in a twenty-per-cent. solution. The dose is 0.50 centigram, three, four, five, or six (maximum) times a day. It is best given in wafers. It has already been given with brilliant results in typhoid fever, intestinal tuberculosis, and dysentery.

This "chinaphthol, as it has been christened, presents an analogy with asaprol, which is the double sulphate of lime and naphthol β, and on this account was employed with great success by Dr. Blind in acute articular rheumatism. The chemical combination owes its existence to Professor Riegler, and is likely to prove a valuable addition to our therapeutics.

In spite of the recent organization of the night medical service of Paris by the prefecture of police, grave abuses have arisen therein; for instance, the bills are very high, and some of the physicians had arranged with their clients to put down a call made during the day as a night visit. In consequence of this and other irregularities, it has been decided to establish a fixed fee which will not be modified. This service will be in force from ten o'clock at night until seven o'clock in the morning. Persons needing a physician or midwife between those hours, have only to go or send to the commissary of police, and an agent will conduct them to the doctor and afterward accompany them home.

A propos of the Institut Pasteur, the Baroness Hirsch, widow of the celebrated Vienna banker, has just given the sum of two millions of francs. It seems that not only are the daily treatments at the institut given in public charity to rich and poor alike, but savants like Dr. Roux and Professor Grancher are paid little or nothing for rendering such great services to humanity. Moreover, Dr. Metchnikof gives every day an open lecture to seventy or eighty students, who have to pay not one centime for matriculation or inscription of any sort. Thanks to this handsome donation, the Institut Pasteur will be provided with new and additional chemical and biological laboratories, which will make it the most complete institution of its kind in the world.

Professor Bouchard is continuing his interesting work and experiments with the radiograph. By making use of currents of very high tension he has been able to obtain sparks forty centimetres in length, causing the organs of the thorax to appear in detail on the phosphorescent screen. The organs within the abdominal cavity have not yet been seen so distinctly; in fact, nothing beyond the arch of the liver and the pale space of the stomach when the latter is extremely distended by gas.

Professor Laborde, whose discovery that rhythmic traction of the tongue would induce respiratory movements of the lungs quicker and more surely than any other method known to science in cases of asphyxia from whatever cause, has invented a new instrument, a combination of the microphone and phonograph, which will undoubtedly have as great practical value in cases of deafness as it has scientific interest. He exhibited it at the last meeting of the Academy of Medicine, at which also Professor Panas made a very conclusive communication on the treatment of extreme myopia by ablation of the crystalline. The operation, which is really efficacious, is the more indicated the younger the subject. Of course, the operation should be resorted to only in those cases of exceptional myopia in which the near-sightedness is greatly accentuated or such that work is impossible or very much impeded.

ICE BAGS FROM BICYCLE TIRES.

To the Editor of the Medical Record

Sir: Recently having occasion to apply an ice bag to a limited area of the face, and not being near a supply house, I had the patient's husband make a bag from a section of an old inner tube of a bicycle tire. One end was sealed with bicycle cement and after the cracked ice was put in the other end was folded over and encircled by a cord. This plan could be used in making ice bags for the face, mastoid, larynx, spine, groin, or in fact for any part where the application of ice to a limited area is desired. Again is "the bicycle in therapeutics" in evidence. G. H. Stover, M.D.

Eaton, Col.

LET US ABOLISH "APPENDICITIS"!

To the Editor of the Medical Record.

Sir: In venturing to make a proposition regarding the nomenclature of the inflammatory affections of the vermiform appendix, my motive is the desire to eliminate the constantly recurring irritation caused to the reader by the common use in medical literature of certain philological monstrosities. I refer not only to the familiar "appendicitis," but also to "appendectomy" and "appendicectomy." Who is responsible for the term "appendicitis" I do not know nor do I care. But so much is certain, that the reckless ease with which the word was coined cannot be excused by the difficulty or impossibility of finding a better, more rational, less barbaric, and yet intelligible expression.

In the case, for instance, of the inflammation of the Descemetian membrane, known under the form of "descemetitis," the selection of this barbaric noun can be excused by our inability to invent a better one. Widely different from this is the case of the vermiform appendix. There is ample, good, and sufficiently plastic material in the normal and customary terms of Greek anatomical nomenclature that could have been utilized in a legitimate manner for attaining correct and precise expression. The Greek term for the vermiform appendix, transliterated in Latin script, is *apophysis scolecoides—apophysis* standing for appendix, and *scolecoides* for worm-like or vermiform. A good word can be coined either from *apophysis* or from the nominal root of the adjective *scolecoides*, which is *scolex* (*Anglice*, worm). The former would be "apophysitis;" the latter, "scolecitis."

I would discard "apophysitis," however, on account of its phonetic similarity to "epiphysitis," which might lead to misunderstandings. "Scolecitis," on the other hand, is unobjectionable. It is brief, easily remembered and pronounced, tersely expressing the meaning sought for; and though the word *scolex* occurs in the nomenclature of helminths—denoting the undeveloped form of ecchinococcus—it is met with nowhere else in pathology, and, once accepted, would carry a single and well-understood significance.

The therapeutic derivatives of the pathological term follow in a natural and unconstrained manner. Cutting for the exposure of the appendix would be scolecotomy; an operation involving its removal, scolecectomy.

In making these simple and, as it seems to me, rational propositions, I count upon the judicious and weighty approbation of the Medical Record, whose efforts on behalf of the upholding of linguistic purity and good taste are well remembered and much appreciated by all its readers.

Let cacophonic "appendicitis" and atrocious "appendicecotomy" be forever abolished, and let us have instead euphonic "scolecitis," "scolecotomy," and "scolecectomy." Arpad G. Gerster, M.D.

New York, January 16, 1897.

CONGENITAL TEETH.

To the Editor of the Medical Record.

Sir: I have read with much interest the contributions by Dr. E. S. McKee, of Cincinnati, and Dr. A. S. Waiss, of New Orleans, on congenital incisors.

From the time of the deformed Richard to the present, this condition has been looked upon as an ill omen, and the midwives inform us that a child so born is sure to die within a few months.

I hope to be able to prove the contrary. On January 12th last my wife gave birth to a nine-pound girl baby—our first. The child was well developed and normal in every way with the exception of having two lower incisors. Within two months these teeth turned black and seemed about to decay, but never became loose. After a time they cleared up and now look like ordinary teeth. She began to walk at ten months and is now, at a little more than eleven months, well nourished, weighing twenty-two pounds, and runs all about the house. She has recently cut one upper incisor.

These cases are interesting, and I would like to know if there are ever more than the two usual sets of teeth, or will these congenital teeth be the ordinary temporary set? J. Q. Allen, M.D.

Montrose, Col.

CONTAGIOUSNESS OF LEPROSY.

To the Editor of the Medical Record.

Sir: The action of the New York County Medical Society, in passing unanimously the report of its committee against the segregation of the lepers in New York City is something astounding. There are only three individuals isolated at North Brother Island, but the number of lepers, foreigners, coming and going, according to competent authority, amounts to about a hundred. These are loose on the streets of New York, with or without the knowledge of the competent authorities.

The reports says that "the disease is probably infectious." Well, is not that enough to show the necessity of isolation?

No one doubts that leprosy is inoculable; it must be, if it is a bacillary disease.

Dr. Petersen, professor of dermatology and syphilis in the University of St. Petersburg, is of opinion: 1. That leprosy is a bacillary disease, communicated by means of contact, though it is probable that for the further development of the bacilli a certain individual predisposition is necessary, as is the case with the micro-organisms the cultivation of which will often only succeed upon certain means of nourishment. 2. Since it is possible for leprosy to be communicated from man to man, we should erect colonies for the lepers, where isolation and the prevention of propagation can be secured.

Dr. Petersen, as president of the commission appointed by the Russian government to inquire into the conditions of leprosy in his country, and to devise the best means for the treatment of the patients, is about to report to his government in the sense above noted.

Dr. Dehio, professor of dermatology and syphilis at Dorpat, says that "the discovery of the bacillus has convinced medical men that the disease is contagious, and that by actual contact, not through the air, water, or food. The predisposing causes are misery, poverty, and dirt." He quotes numerous cases which prove contagion. He says "the incubation period of the disease is generally from two to three years, but has been known to last from ten to fifteen years, which accounts for contagion being so seldom detected."

Dr. Bergmann, lecturer on dermatology, of Riga, believes that leprosy is spread by contagion only.

Dr. Reissner, of the Riga Leper Asylum, is of the same opinion.

Professor Unna even goes so far as to oppose the discharge of anæsthetic cases—that is, of such as show no bacilli.

Arming is a contagionist.

Munro, late of St. Kitts, West Indies, is the pioneer of compulsory isolation.

Patrick Manson says that leprosy is contagious, but that the disease, introduced into the system, will grow only in persons susceptible to it.

Professor Sousa Martens, of the San José Leper Hospital of Lisbon, says that in his opinion the increase of leprosy in Portugal is probably due to the fact that the law enforcing segregation is now obsolete. He believes in contagion.

Dr. Panixo Munox, of the Seville (Spain) Leper Asylum, believes that leprosy is contagious.

Dr. Roberto Campana, of the Bacteriological Institute of Rome, believes also in contagion.

Dr. Rogers Pasha, director-general of hospitals and health officers, Cairo, Egypt, considers leprosy a contagious disease.

Dr. Engle Bey says that, although he does not believe that the leper bacillus is the cause of the disease, he is convinced that leprosy is contagious.

Goldschmidt, of Madeira, is a pronounced contagionist, although he thinks that misery and dirt do the work generally credited to the bacillus.

Smirnhoff, of Helsingfors, Finland, is a contagionist.

Professor Saltzman, the director-general of Finland, does not want lepers to be treated in the same wards with other patients. He thinks they are more dangerous than syphilitics.

Sederholm, the highest authority on leprosy in Sweden, believes that even anæsthetic lepers may spread the contagion in the first stage. He says that leprosy has diminished in Sweden only in those districts where hospitals have been built.

Hansen and all his assistants believe that leprosy is contagious. So do Kaurin, of the Reknas Leper Asylum at Molde; Holmboe, chief medical officer of Norway; Professor Boeck, of Christiania; Dr. Sand, of the Trondhjem Leper Asylum; and Dr. Borthen, the leper eye specialist of Norway.

Impey, of Cape Town, South Africa, is a confirmed isolationist. So are all the Sandwich Island physicians.

Carrasquilla, of Colombia, declares that the increase of leper cases in Colombia, from four hundred to twenty-seven hundred in forty years, is due to contagion and non-isolation.

Robelin, of Cuba, has published a pamphlet with the title, "Is Leprosy Contagious or is It Not?"[1] He concludes that it is contagious. I find in this pamphlet the following quotation. By way of winding up my tale, I shall give it in its entirety.

"The following conclusions are taken from the last and quite recent study of Neisser:[2]

"1. The lepra bacillus is the cause of all leprous affections, every time when its mode of propagation is unknown.

"2. All the observations concerning heredity or family disease are rightly interpreted as cases of infection in the family.

"3. The possibility of direct contagion is undoubted, from the moment when the bacilli of the diseased individual reach the surface of the body (cutaneous ulcers, etc.). However, the danger and the probability of infection is very slight, as the introduction of the bacillus into a healthy man meets many difficulties. The latter may be connected with certain individual conditions (absence of predisposition), or on the properties of the bacillus itself (necessity of a development tranquil and without disturbance of the infected point, etc.).

"4. The existence of spore, or, better, of stable forms, admits the contagious nature of leprosy. This contagion may be direct, from individual to individual; it may be indirect, as, for instance, by means of deposits of infectious matters in the ground (corpses), or of an accidental contact through aliments, drinking-water, etc.

"The multiplication of the bacillus outside of the human organism is not likely to occur. The attempts at cultivation show that animal heat is necessary for the development of the bacilli. So far, man is the principal agent of the leprous virus, and there is no reason for protesting in the name of humanity against the isolation of lepers.

"5. The individuals who come in close contact with lepers, as by marriage, etc., do not become lepers.

"The contrary is proved, as we have seen. Even supposing this to be the case, would it prove that leprosy is not contagious? What should we, then, say of tuberculosis? Marital tuberculosis is exceedingly rare, as Leubet (of Rouen) demonstrated in 1884. Will it be said that tuberculosis is not contagious? We shall not insist. Consequences must be wrong if founded on wrong premises.

"6. Individuals in contact with lepers—as physicians, sisters of mercy, assistants, etc.—do not contract leprosy.

"This is very hackneyed and beyond serious argument; it would be time to drop it forever. Absence of contagion in hospital is a negative argument, as has been shown by Danielssen himself. The same might be said of tuberculosis. In a number of diseases the same thing happens. How many physicians, assistants, etc., attend syphilitics, tinoses, and tuberculous patients without contracting these affections. Are they less contagious on that account? Leubet himself has just shown, in the Academy of Sciences in Paris, that the transmission of tuberculosis in hospitals is very rare. Would it be reasonable to conclude that tuberculosis is not contagious? Such arguments ought to have no place in modern studies. What we have just said is founded on good logic. Besides, we can quote cases where assistants of lepers have been infected. Read the works of Schilling, Landré, the cases of MacNamara, Hildebrand, Robertson, Livingstone, Carter, Pasquier. Dr. Robertson quotes a case.[1] Dr. Vidal published the case of a Brazilian physician, who, attending a patient, became a leper. Why should we quote more facts? What has been said covers the case.

"7. The lepers residing in places exempt of lepra do not transmit the disease to those within their surroundings.

"This is absolutely unacceptable. What happened in the United States? The American dermatologists say that imported leprosy is not confined to the individuals, but is transmitted to healthy Americans and sons of healthy individuals. It is often said that the sixty or one hundred lepers who live in Paris do not propagate the disease. To this we answer that the incubation of leprosy extends over a large period, and to judge with certainty we ought to wait a long time. Erasmus Wilson, who considered the importation of lepers into London as very dangerous, said that it was necessary to wait. But why should we quote only European localities? Is it not proved that leprosy did not exist in America before it was imported? It is proved that such countries as have had no intercourse with lepers have not acquired the disease. To all

[1] "Es O no Contagiosa La Lepra?" Por el Dr. D. Enrique Robelin, Habana, 1887.

[2] "Histologische und bacteriologische Lepra-Untersuchungen."

[1] Lancet, 1867.

these reasons is added a modern and absolute proof—the epidemic of the Sandwich Islands. This fact alone, in the absence of all others, would be more than sufficient to prove the contagion of leprosy."

ALBERT S. ASHMEAD, M.D.

NEW YORK, December 29, 1896.

"LEPROSY" OF THE BIBLE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Replying to Dr. Porter's letter concerning "What Moses Knew about Leprosy," I would say that the disease described by Moses and termed "leprosy" in King James' version of the Scriptures, is clearly not the affection known by this name to-day. In fact, we do not know of any existing disease corresponding to the one mentioned by the Hebrew law giver. The word "leprosy" occurs also in the same version of the New Testament. Here, however, the matter is a little clearer, for if we turn to the Greek version, and compare it with the writings of the Greek physicians, we will see the disease referred to was the one now commonly known under the name of psoriasis.

HENRY G. PIFFARD, M.D.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 16, 1897:

	Cases.	Deaths.
Tuberculosis	182	111
Typhoid fever	15	5
Scarlet fever	148	6
Cerebro-spinal meningitis	2	4
Measles	165	6
Diphtheria	283	27
Laryngeal diphtheria (croup)	12	7
Chicken-pox	32	0

The Vienna Academy of Sciences has just opened a contest with a prize of 10,000 florins for the best work on ultra-violet light. The decision will be made in 1899.

Dangers of Aconitine.—In one instance a fifth of a milligram of the crystallized azotate of aconitine produced pronounced manifestations of intoxication by the drug—dilated pupils, creepy feelings, cramps, feeble respiration, arrhythmic heart beat, pricking of tongue and lips, constriction of the throat, abundant flow of saliva, excitation alternating with prostration, and finally complete arrest of respiration. By means of artificial respiration, injections of ether, tincture of belladonna, and frictions with mustard water, etc., recovery was brought about. The advice is given in employing this drug never to order more than a tenth of a milligram.—DR. TONDEUR, *Concours Médical.*

"Monatsblatt" is the title of a new, or rather resurrected journal published in German, and intended for apothecaries, druggists, and physicians. An attack upon the School of Pharmacy, a poem, and the advertisements are in English. It would scarcely seem necessary at the present day to publish such journals in any but the English language. All druggists and practising physicians should read the language of their adopted country, and to maintain medical societies whose transactions are conducted in a foreign tongue and medical journals published in a foreign language seems un-American and not for the best interests of the profession as a whole.

Beer Yeast in Diabetes.—At first a strict regimen is insisted upon; then two of the following powders are to be taken daily, until the sugar disappears:

℞ Antipyrin	0.50
Cinchona	0.40
Tannin	0.10

After this a teaspoonful of beer yeast is given before each meal and continued for a long time.—BOULLAND.

Roentgen Rays in Cancer.—The case treated by Dr. Despeigne resulted fatally, but there had been noted a pronounced diminution in volume of the tumor under the influence of the rays, the general state of the patient was improved, and the pain ceased. It is thought that perhaps if applied early it might have some decided influence upon malignant growths.—*Journ. d'Accouchements.*

Pyrogallol Poisoning.—In an instance related by Vollmar a ten-per-cent. ointment applied to a patient aged sixty-nine years brought about marked symptoms of intoxication, although the region and time of application were both limited. Locally there were produced œdema and dermatitis, while the general symptoms included fever, prostration, and albuminuria.

Measles in Cambridge, in an epidemic form, is reported.

Cuban Physicians.—According to the *Bulletin Méd.*, of November 11th, there has been issued an appeal to the Spanish government for more physicians. There is said to be a great scarcity of physicians in Cuba. A movement was recently inaugurated by the physicians of St. Paul to raise money to buy medicines, etc. A committee, consisting of Drs. Kelly, Wheaton, and Boeckmann, has already raised several hundred dollars. It is expected that the supplies and medicines will be sent under protection of the Red Cross Society, as no articles contraband of war will be sent.

Small-Pox and Yellow Fever in Cuba.—Dr. D. M. Burgess, U.S.M.H.S., in his recent report, states that during the week ending December 17th there were 306 deaths in Havana, 57 of these caused by small-pox, with about 500 new cases; and 55 caused by yellow fever, with 150 new cases. Fifty-two of the 55 deaths from yellow fever were among Spanish soldiers.

The Germ of Yellow Fever.—A dispatch sent from Rome to a London publication states that Dr. Gaccarelli has discovered the germ of yellow fever. So many scientific researches have been made in Italy which have borne fruit that we can only hope that the above report will be productive of something more definite.

A Delicate Compliment is paid the recipients of a circular sent out this week by a lady who advertises her newly established maternity home. The good name of the institution is asserted in the following retro-active manner: "The respectability and professional standing of those physicians who I believe will be my patrons will soon prove to be the guarantee of the character of my home."

Infected Milk.—The investigations of the health board extending into the annexed district have shown that more than sixteen per cent. of the cows are unfit for milk production. Over twenty thousand persons in this city are supplied with milk from city-kept cows.

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MUCOUS COLITIS, A FUNCTIONAL NEUROSIS.[1]

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NEW YORK.

By the terms mucous colitis, mucous colic, membranous enteritis, diarrhœa tubularis, colonic dyspepsia, pellicular enteritis, pseudo-membranous enteritis, fibrinous diarrhœa, hypochondriasis pituitosa, and a host of other synonyms, there has been known for some three hundred years a complex of symptoms which deserves to be more generally recognized by the profession at large than it is. Though, according to Woodward,[2] it was first described as far back as 1554 by Femelius, and though from time to time admirable articles upon it have appeared in the medical journals, yet, as far as my observation goes, the knowledge of its existence, or at least the recognition of its importance, has not become the general property of the profession. Not that the condition is a rare one. On the contrary, if looked for, it will be found to exist in various grades of severity in many patients who are under treatment for "general debility," "neurasthenia," "chronic dyspepsia," "catarrh of the bowels," and other similar vague troubles; and its recognition will often afford the key to the true understanding of these vexatious cases.

In this paper, I do not propose to give an exhaustive account of the trouble in question, but I shall confine myself chiefly to my own observations, and shall develop the nature of the disease as I have conceived it.

Symptoms.—In the symptomatology of this affection there are three cardinal symptoms, which, if looked for, will not be found wanting, and which are so characteristic as to be pathognomonic. These three cardinal symptoms are: Neurasthenia, mucous passages, abdominal pain.

The symptoms are not all present to the same degree nor all at the same time. Any one or any two will usually predominate; and any one may be so slight as scarcely to attract attention. Another highly characteristic feature of this affection which must strike the observer is its marked chronicity—for few patients come to you for treatment who have not had the disease for months at least, while many have been suffering for ten years, for fifteen years, or even longer. This very chronicity is a point in diagnosis, allowing you to throw out most if not all of the organic diseases of the intestine.

Of the three symptoms which I have called cardinal, I have placed the nervous one first, because I believe it to be the essential and basic factor in the disease, and, being so, the one whose importance must be given particular consideration in formulating a rational conception of the trouble, and, consequently, of a rational form of treatment. For not only has neurasthenia, in its various protean manifestations, never been absent in any of the cases of mucous colitis which have come under my observation, but I believe that the reverse of the proposition may almost as confidently be affirmed—namely, that if neurasthenic patients be closely questioned, very few will be found who have not had at some time repeated characteristic passages of stringy mucus, associated with abdominal pain.

While, in my opinion, the neurasthenia is the most exponential of the symptoms, it is usually not the most prominent. For it is the second of the cardinal symptoms—the passages of mucus (together with the associated pain)—that usually causes the patient to seek the physician's aid.

This mucus may be passed daily for a period of days, weeks, or months; or there may be a discharge for a few days, then a varying period of freedom, after which the mucous discharges begin again. In my own cases I have noticed that the discharge almost always occurred in the early morning,[1] the subsequent movements being generally free from mucus.

The attacks of mucous colitis are usually brought on by some nervous strain, as hearing some bad news, worrying, a fatiguing journey—in fact, by anything depressing, mentally or physically. The movements themselves may present a variety of types, but in most cases incline toward the diarrhœal. They may be of normal consistency, or quite hard, or of a watery or pasty nature. Sometimes the first movement will be normal, followed shortly by a loose one containing the mucus, or several loose movements may follow several hours after the first and normal movement.

The mucus is usually in the form of flat or round cords, from one-fourth to three-fourths of an inch in breadth, and often a foot or more in length. These are very often taken for worms by the patient. The mucus may also appear in flakes, or as shreds and patches, or in the form of tubular casts of the intestine, or in the shape of round masses, varying from the size of boiled sago grains (which they much resemble) to lumps as big—as I once saw—as a mandarin orange, the latter giving rise to excruciating pain as it passed the rectum.

The mucus is translucent or opaque, is grayish-white or yellowish in color. Its consistency varies from that of a thin jelly to that of an elastic, tenacious, and sometimes rather tough gelatinous mass. A characteristic feature is that the mucus is never intimately mixed with the movement, as in an acute colitis, but that it can always be seen lying apart from the fæces. Thus, when there is constipation the fæcal masses may be coated with the mucus, or jelly-like blobs of it may be seen adhering to them; while, if the movement be loose, the whitish, ropy masses, often looking like worms, can easily be seen as being quite apart from the fæcal mass.

Examined with the microscope, the mucous masses are seen to consist of a structureless, gelatinous ma-

[1] Read before the section on general medicine of the New York Academy of Medicine, December 15, 1896.

[2] Woodward: "Medical and Surgical History of the War of the Rebellion," second medical volume, Washington, 1879, where a full bibliography will be found.

[1] In his article on "Morning Diarrhœa," Delafield (New York Medical Record, May 11, 1895) has described cases which seem to be of the kind commonly classed as mucous colitis.

terial, sometimes faintly fibrillated, and containing scattered epithelial cells, bits of undigested food, and other forms of intestinal débris. Occasionally I have observed streaks of blood. Andrew Clark has observed upon the surface of the mucus the impress of the mouths of the intestinal follicles.

Passing now to the third cardinal symptom—the abdominal pain—we will find that the pain varies from a dull aching to the most severe colic. In my cases, as already observed, it has usually come on early in the morning, before daylight, rousing the patient from sleep and hurrying her to the watercloset, when, after one or more movements, the pain subsides and allows the patient to sleep again. Other patients will complain of colicky pains, often very severe, during most of the forenoon and persisting often for a long while after the bowels have moved.[2] It is rare, in my experience, to find the pain persisting till the afternoon or evening, and this is probably because the offending mucus has been evacuated during the earlier part of the day.

In the case of the patient already referred to, who passed a mass of mucus the size of a small orange, the tenesmus was most agonizing, and she compared the preceding pains in severity to those of labor. As regards the physical signs which may be observed in this affection, they are limited to finding painful spots on palpating the abdomen. These are usually along the course of the transverse and descending colon, less often over the ascending colon. The pain produced by pressure is seldom acute, and the patient can usually indicate beforehand just where the sensitive spots will be found.

Diagnosis.—If the association of the three cardinal symptoms—neurasthenia, mucous passages, and abdominal pain—together with their chronicity, be kept in mind, the diagnosis is readily made. And yet few cases will come under the physician's care without a history of having been treated for a variety of diseases, so little, as I have before observed, does the recognition of this condition seem to have been absorbed into the common stock of medical knowledge.

The most usual error is to regard it either as a true inflammatory disease of the intestine—either a catarrhal enteritis or an ulceration—or to look upon it as a form of intestinal dyspepsia, the nervous symptoms (really primary) being held to be secondary.

I well remember the case which first called my attention to the subject. The patient, a lady, had been under treatment for ten years by her father, a very intelligent physician and a man well read. He had treated her for the diarrhœa in every variety of way, and when he finally turned her over to me he expressed the fear that she had tuberculous ulcers, as she had emaciated considerably for the two preceding years. Probably if the neurasthenic symptoms had not been so marked as they were in her case, and the case altogether so striking a one, I, too, would have fallen into the same error and would not have framed in my mind the conception of the trouble which I finally did. For it was not until I began to see more of these cases, and looked through the literature of the subject, that I found that that which at the time seemed to me like a discovery had all been well described years ago, and that, too, over and over again. So much for personal reminiscence.

There is one possible source of error which I ought perhaps to mention, though it is hardly likely really to mislead any but a careless observer. It is this: Occasionally those neurasthenics who are constantly watching their stools will bring to you what they regard as portions of the lining of the bowel itself. When these are not mucus, they consist of some undigested portions of food. In this way I once saw a large membranous sheet, which on microscopic examination proved to be the aponeurosis from a piece of meat. And only recently a hypochondriac brought to me, in great alarm, a tubular structure, which proved to be the outer woody skin of an asparagus stalk, the soft inner portion having been digested away.

Etiology.—As for the cause of the malady, I have perhaps already dwelt sufficiently upon its neurotic etiology. It is not a disease of servant girls nor yet of truck drivers; but of sensitive, highly strung, overanxious, overburdened mothers, or of hysterical young girls, and of overworked, hypochondriacal business men, who seldom take a vacation and who no longer know how to enjoy one when they do take it.

Sex and Age.—As women furnish the bulk of our nervous patients, so they, too, are more often sufferers from mucous colitis than men. Young girls are occasionally affected, and even children[1] are not wholly exempt, as I have had one occasion to witness. It is rare to observe the disease in a woman who has passed the menopause, a period when nervous excitability becomes markedly lessened; and old age in both sexes, I believe, is practically if not wholly exempt. It is the ages from, say, twenty to forty or forty-five—that is, the child-bearing period of woman—which furnish the most cases, this being the time of life when cares and worries are most abundant, when uterine disease is most prevalent, and when the nervous system is probably most open to influences of every kind.

Pathology.—Of the morbid anatomy we know nothing, as the disease is never fatal.[2]

Pathogenesis.—When we try to frame for ourselves an explanation of the connection between the different symptoms of this complex of symptoms which we call mucous colitis or mucous colic, it seems to me that we must look upon the bowel trouble as but one of the many disturbances of nerve function, whose totality we sum up in the convenient term neurasthenia.

As there is scarcely any organ of the body which may not at some time become the seat of disturbed nerve function, and as every abnormal functional activity is accompanied by abnormal metabolism, we may, I think, look upon this secretion of mucus—abnormal both in kind and in degree—as the metabolic product of glands whose particular nervous apparatus has become involved in the general nervous derangement which obtains in these cases. Nor are analogous secretory disturbances of other organs wanting to strengthen this view. Witness in hysteria the "spastic" urine, the continued secretion and vomiting of watery fluid from the stomach, the prolonged salivation—all these point to abnormal metabolic glandular activity, the result of disturbed innervation. The bowel trouble, once established, in itself tends to become a cause of further nervousness, partly through that depression of spirits which every abdominal pain brings with it, partly by increasing the hypochondriacal tendency through directing continuous attention to an organ or a function, in a way so marked that the patient is unable to distract her mind from it, even if she would. Thus, that which in the beginning was an effect now becomes a cause, and we have established a vicious circle which tends to perpetuate itself indefinitely.

And it is, I think, only by keeping this essentially

[1] Trans. London Pathological Society, vol. ix., 1858.

[2] Hence the name "mucous colic," which Nothnagel ("Darmkrankheiten," Berlin, 1884) proposes for this affection, and which really seems preferable to any heretofore in use.

[1] Edwards (Keating's "Cyclopædia of Diseases of Children," Philadelphia, 1890) says: "In one hundred and eleven cases six were under the age of ten."

[2] The case reported by Edwards (Amer. Jour. Med. Sci., April, 1888) cannot be looked upon as one in point, for although mucus in cord-like masses and in flakes and patches was found post mortem, yet the patient gave no clinical history of having had mucous colitis during life.

neurosal view of the nature of the trouble in mind that we can proceed to a rational treatment.

Treatment.—If we take the view that mucous colitis is a form of neurasthenia, a rational treatment will naturally resolve itself into treating the basic cause; and this course has, in fact, yielded to me the best results.

My plan, speaking generally, is to combine the "rest cure" with irrigation of the bowel. If possible, I put the patient to bed and keep her there, feed her systematically with milk, have her massaged, and have the large intestine thoroughly washed out once a day. Milder cases need not be put to bed, but the improvement of their nutrition through plenty of food or the copious use of milk in some form must be insisted on. I often tell these patients that if they can manage to gain ten pounds they will probably be cured. It is, of course, the increased nutrition of the nerve cells which causes the morbid symptoms to disappear. Milk is chosen because, as these patients have usually a very poor appetite, they can most easily be nourished in this way. But as the appetite improves, a liberal and varied diet should be urged. It is a mistake to keep these patients on milk with the idea that this in itself will cure the intestinal dyspepsia of which they are considered to be the victims. If persisted in with that idea, the patient usually grows worse instead of better.

The method of intestinal irrigation to be pursued is not indifferent. No good can be anticipated from enemas taken by the patient while standing up or sitting on the closet. It must be our aim thoroughly to wash away all the mucus from the colon. To do this, two quarts of water or more should be used in a fountain syringe. The patient must lie upon the left side, the knees drawn up to relax the abdominal muscles, the hips on the edge and the shoulders toward the middle of the bed, so as to raise the hips higher than the rest of the body—a modified Sims position. The water, in which a dessertspoonful of borax may be dissolved, and which should be at about the temperature of 100° F., is then allowed to flow slowly into the rectum, whence gravity will carry it into the colon. It is rarely necessary to use a long rectal tube, especially as many patients object to it. By allowing the water to flow very gradually and by having it at about the temperature of the body, all straining is avoided, and patients quickly learn to hold a quart or two of water and to retain it for from ten to twenty minutes. When this is then passed, large quantities of mucus generally come away with it. The best time to give the enema is about ten o'clock in the morning. By that time the bowels will usually have moved, and the action of the water upon the empty intestine will be all the more complete. When there is constipation, I order either a mild laxative at bedtime or a glass of hot water with some Rochelle salts to be taken on rising.

As there is no class of patients in whom the influence of the mind over the body is greater than in neurasthenics, it is of the highest importance to keep these patients well in hand, impressing them with the necessity of strict and minute obedience to orders, and at the same time encouraging them in the belief that they will get well. In many cases the co-operation of an intelligent nurse is absolutely essential, especially if the patient be put to bed. In every case the patient must consent to make the systematic care of her case the first consideration, with which no social or other obligations can be allowed to conflict. And unless this be done, little can be hoped for.

The surroundings of the patient must be carefully inquired into, and household, family, or business cares, as far as possible, removed. The good effects which so often are seen to follow a trip to some milder climate are doubtless as much due to the improved mental atmosphere—the absence of household cares or of business worries—in which the patient now moves, as to the salubrity of the place itself. Such a journey is, therefore, by all means to be recommended when practicable.

Of drugs I have so far said nothing, and, indeed, they play but a minor part in the treatment. If there be anæmia—and there generally is—iron and arsenic and strychnine should be given. And let me say, in parenthesis, that after trying most of the new preparations of iron so highly vaunted, I believe nothing is better than the old ferrous-carbonate pills known as Blaud's pills, provided they are well made and fresh—and they frequently are neither. The newer peptonized preparations I find useful to fall back upon when the time comes when the patient tells you that "she thinks the iron is beginning to disagree with her," for there is nothing like having many strings to your bow, even though they be all alike.

When there is much fermentation, intestinal antiseptics are of limited use. Creosote, bismuth salicylate, and bismuth subgallate I have used with apparent benefit; but let your motto be, the fewer drugs the better.

Duration.—With regard to the duration of treatment, no fixed time can be set, but six weeks should be stated to the patient as the minimum, and it may seem best to extend it over several months.

Prognosis.—The form of treatment just outlined has yielded in some cases most brilliant results; in others the failures have been no less conspicuous: while in yet others there has been considerable improvement, lasting for varying periods after the treatment had ceased. And this, taking the neurotic origin of the affection into consideration, is what might have been predicted.

I believe that the prognosis will always be found to hinge upon the particular grade of neurasthenia with which we have to deal, and only treatment will reveal what the particular grade is. The prognosis will be bad in those cases in which there seems to be an ingrained vice of the nerve cells—a deficiency in their anatomy—which no art can overcome; and it will be good in proportion as the nerve cells are amenable to functional restoration.

In practice it will be found impossible to say to what class of neurasthenics—the curable or the incurable—patients belong, till you put them to the test of treatment. Some of the severest cases recover; some of the mildest persist, in spite of every effort to cure them. Others, while apparently recovering, suddenly, without any apparent cause, relapse into their original condition. In these latter cases it would seem as though the nerve cell, after having been laboriously built up, was too feeble to bear even its own weight, and collapsed.

I believe that often a tolerably shrewd forecast can be made by observing the type of woman to be dealt with—in general, the prognosis in the neurotic type being better than in the hysterical. The neurotic woman is intelligent, sensitive, zealous, unselfish, wearing herself out for others; while the hysterical is purposeless, selfish, introspective, and capricious. This type of woman seems to lack the necessary fixity of will essential to getting well.

I cannot, I think, give you a better picture of the disease than by presenting the brief histories of a few cases.

Case I.—Mrs. R. R. H——, aged thirty-seven, married ten years, and mother of four children, whose various serious illnesses have caused her continued anxiety. About two years before her marriage she had had a severe attack of diarrhœa, lasting two weeks. After her marriage she began to have diarrhœal at-

tacks, lasting a few days at a time, and coming on every two to three months. These attacks gradually increased in frequency and duration, and were generally sure to follow any unusual exertion. Owing to the severe and prolonged illness of one of the children, she became very nervous and much run down in body and spirits, though naturally a woman of superior intellect and strength of mind. About a year before she came under my care, she had taken a trip to Boston for recreation, hoping the change would do her good. But it proved anything but a recreation, for immediately on her arrival she was seized with one of her diarrhœal attacks, so severe as to keep her six weeks in bed. While formerly the attacks had consisted of simple watery discharges without pain, on this occasion she first began to notice pain in the abdomen. Ever since this last prolonged seizure, she had had at intervals attacks of abdominal pain, coming on pretty regularly about 4 A.M., followed by movements, of which the first would be solid, the following two or three watery. Later in the day the movements, if any, would be normal. She had never looked at the movements particularly, so could not tell their character. There was much flatulency, both gastric and intestinal.

Examination showed the patient looking thin and pale. Weight, one hundred and five pounds. Abdomen unusually sunken and the walls devoid of fat. On palpation, areas of pain were discovered along the course of the transverse and descending colon. Nothing abnormal was discovered about any of the other organs. No uterine disease. The stools examined contained numerous small masses of mucus. Special search was made for the amœba coli, but none was found.

Treatment consisted of absolute rest in bed, the patient not being allowed to get up even to go to the closet, but being obliged to use a bed pan. Fluid diet—three quarts of milk daily, in divided portions every two hours; general massage once a day, and intestinal irrigation every morning about ten o'clock. Creosote was given in maltine for the flatulency, and iron for the anæmia. The milk diet was varied later by the addition of scraped meat and farinaceous foods.

Under this treatment the patient steadily improved. The early morning pain and diarrhœa disappeared first; later the abdominal tenderness grew less and less, and finally disappeared; and a marked improvement took place in her whole appearance and manner. She was kept steadily in bed on the above treatment (in which I was ably assisted by a faithful nurse) for eleven weeks, and when she finally was allowed to get up, it was found when she could be weighed that she had gained twenty pounds. Although, almost on the very day of her being allowed to go about generally, one of the children was taken seriously ill and had finally to be operated upon, which necessitated the mother's constant care for many weeks and was a great strain upon her in every way, no relapse occurred. This lady was treated in the summer of 1892. In the four years that have elapsed she has, on the whole, enjoyed excellent health. She has stood the test of another confinement and of various illnesses among her children, without breaking down. She has had occasional attacks of her old trouble since, but has never become so run down as before. After nursing her husband through typhoid fever last summer, she had a rather prolonged attack in the fall, but recovered from it without having to go to bed. I saw her a few weeks ago, and she looks and feels well, weighing now about one hundred and fifty pounds, against one hundred and five pounds when first put to bed for treatment.

This case presents that type of neurasthenia in which the nerve cells are capable, by forced nutrition, of being built up, and, once built up, they maintain their integrity. This case illustrates well what I have before insisted on, namely, that so much depends upon the mental calibre of the patient. This lady, as already stated, was a woman of unusual good sense and intelligence. She made up her mind that although it was necessary to make considerable sacrifice in order to get well, it would be worth the trial. And having come to that conclusion, she adhered rigidly to her determination. Since her recovery she has kept up her general health much better than before. She still drinks a goodly quantity of milk every day, and this undoubtedly has had much to do in preventing a relapse.

Case II. presents a different type of patient and consequently of the disease. Mrs. G. C. S——, aged about twenty-six, married and the mother of two rickety children, was referred to me by Dr. Gibney, who was treating one of the children for fragilitas ossium. Since the birth of the youngest child, twenty months previously, the patient had been suffering from the effects of a lacerated cervix and perineum. These had been operated upon about a month before she came under my care, and she was feeling better in consequence. She gave a history of having led a life of fashionable dissipation before marriage, and of having had an attack of "nervous prostration" just prior to her wedding. Since the birth of her first child she had never been well. About two years before I first saw her, she first began to notice abdominal pain and the passage of strings of mucus, which she thought were the "lining membrane of the bowel." Her general habit was a very constipated one, the bowels never moving without laxatives.

The patient was a delicate-looking brunette; weight, one hundred and three pounds, having been one hundred and twenty-five pounds before marriage. Examination showed a very moderate degree of abdominal tenderness, and nothing else. She was put upon the routine treatment of feeding with milk, giving massage, and intestinal irrigation, which she adhered to with some regularity in the beginning, but soon allowed social duties to interrupt. At Christmas time she stopped all treatment for a while. However, she gained five pounds in weight and felt a good deal better, and had learned that she could drink milk without becoming "bilious," which she had heretofore thought impossible, when an attack of the grippe prostrated her utterly, so that it was nearly two months before she could leave to go to Lakewood. In the fall she fell into the hands of one of the beef and hot-water specialists, under whose treatment she remained for about six months, without any improvement. She now lives in the country, is not much better than formerly, but finds, I am told, that intestinal irrigation gives her more relief than anything else.

This was a case in which the mental fibre was as weak and flabby as the physical. The intellectual development was not marked and the will power feeble, and I believe that this patient is, in consequence, condemned to a chronic invalidism.

Case III.—William P——, aged forty, a man of large affairs and a very successful business man: formerly had many financial cares, but now has none at all. He is rich, but works as hard as ever, and has scarcely any mental resources outside of business, but, fortunately, is fond of riding and driving. He says that he fears "nervous prostration," does not sleep well, and is nervous and apprehensive, and unable to apply himself to business as well as usual. Of late he has noticed pain in the abdomen, coming on in the early morning and necessitating going to the closet. The bowels are irregular; often loose, with frequent strings of mucus mingled with the fæces. The urine shows traces of albumin and a few hyaline casts.

There is much oxalate of lime deposit. No high-tension pulse is to be felt, and the heart is not enlarged.

He was ordered irrigation of the colon, a meat diet, and iron, and to take more recreation. The patient improved considerably under this, and later went to Florida for a month. On his return he slept well and all the old nervousness and apprehension had passed away. The bowel trouble disappeared, as well as the trace of albumin and the casts from the urine. At my advice he changed radically his mode of life, gave up many of his business interests, cut down his work, cultivated the pleasures and amenities of life, and devoted some of his business abilities to the management of philanthropic enterprises. This was three years ago, and he has had no sign of nervous prostration or of mucous colitis since, and is in every way a healthier and a happier man, and I may add that he has become almost as devoted to golf as he formerly was to business.

Case IV.—Mrs. L——, aged forty-two, widow, with one grown daughter, says that for the past twenty years she has had flatulent dyspepsia and obstinate constipation, for which treatment has given but temporary relief. About six months before consulting me for the present trouble, she began to notice pain about the region of the navel, coming on every morning about four o'clock. On going to the closet she would have a normal movement, after which the pain disappeared. She had not inspected the movements, so could not say whether mucus was present or not. She was nervous and run down.

Examination: Patient was pale and thin, weighing one hundred and eight and one-half pounds. The abdomen protruded markedly between the recti muscles on coughing. There was very slight pain on pressure over the lower part of the descending colon and the sigmoid flexure. The day after examining the patient I was hurriedly called to see her early in the morning, as she had had most excruciating pain, caused by the passage of a round mass of yellowish-white, tough mucus, the size of a small orange. The pain ceased when this mass, which was slightly streaked with blood, came away.

Treatment: The patient was put to bed and kept there strictly, with a nurse to look after her. The diet was milk only, three quarts a day. High enemata of one quart of water with two drachms of boric acid were given every morning. Bismuth salicylate, twenty grains by the mouth, was given three times a day.

In two weeks' time the movements following the enema, which had originally been full of mucus, were almost wholly free from it, and there was a marked improvement in the general health and tone of the patient. Just about this time she had a most severe attack of the grippe, with broncho-pneumonia, which at one time threatened to be fatal. For nearly a month she had temperatures ranging from 101° to 103.5° F. This naturally necessitated stopping the bowel treatment. However, on recovering from her broncho-pneumonia, she had no return of the bowel trouble and was in better health than she had been for a long time, and looked upon herself as fully cured. I saw nothing more of her, but I infer that she had a relapse and that the abdominal pains returned, for I learned through friends that about a year later she had had both ovaries removed by a gentleman who is known to remove ovaries on the very slightest provocation. As the lady had been a patient of mine for several years before treating her for this particular attack, and as there had never been the slightest reason for believing that anything was wrong with her ovaries, I cannot help surmising that her ovaries were offered as a sacrifice to her mucous colitis by this too facile operator.

I do not wish to weary you with the recital of too many cases, but I would like to add one more, which is instructive in several ways. It shows how long a patient may have this trouble, and also what positive harm may be done by not having a clear conception of its real nature.

Case V.—Mrs. C——, aged thirty-seven, married at nineteen, and the mother of two healthy children. Her present trouble began when she was seventeen (twenty years ago!), with recurring attacks of diarrhœa. The movements were watery or pasty, and contained a little mucus, never any blood. She would have some pain and uneasiness about 6 A.M., followed by a movement, which gave relief. She sometimes had as many as twenty movements in a day. These attacks had continued off and on ever since, being generally brought on by some fatigue or mental emotion. No treatment had been of any avail. She had been treated for "catarrh of the bowels." Since July 10, 1895, up to the time that I saw her first—July 19, 1896—she had been on an absolute milk diet, not having eaten during that time—as she expressed it—"as much as would amount to a loaf of bread or a pound of meat." Part of this time she had been on peptonized milk, and she had taken drugs without number, all to no effect. At the time I saw her she was having from three to five movements a day, sometimes as many as twenty. Her weight then was ninety-eight pounds. Fifteen months before she had weighed one hundred and twenty-six pounds—a loss of twenty-eight pounds under a milk diet and drug treatment.

Examination: The patient was a small brunette, with snappy eyes, and of the nervous, energetic, sensible type of woman—not hysterical. The abdomen, I found, had marks of having been repeatedly blistered over the course of the large intestine. There was slight tenderness on deep pressure over the descending colon. The movement that I saw was pasty, but looked like well-digested material, and contained no mucus. Her tongue was coated.

For treatment, I told her to stop all drugs absolutely, and to take daily at 10 A.M. a high enema of borax water. I ordered her a liberal diet of meat and green vegetables and fruits, restricting only the carbohydrates on account of flatulency. I also urged her to go out, and not to consider herself in any way a sick woman.

Ten days after this treatment was begun her abdominal morning pains had disappeared, her movements had been reduced to one formed one a day, her tongue was clear instead of being coated, and she said that she felt perfectly well again. I ordered her, consequently, to stop the enemas and to regard herself as no longer a patient.

In a month after beginning treatment (or, to speak more correctly, after discarding treatment) she had gained seven pounds, and looked and felt like quite another woman; for whereas she had formerly feared to leave the house on account of bringing on inconvenient seizures of diarrhœa, she now entered eagerly into all her husband's yachting excursions. Occasionally she would have a few loose movements, but these did not persist nor cause any distress.

This case illustrates how little is to be gained—indeed, how much harm can be done—by regarding these cases as intestinal dyspepsias, pure and simple, and treating them as such.

I have notes of many other cases, but I think it needless to reproduce them here. The typical symptoms are present in all, varying only in degree; but I hope that the cases I have cited will suffice to arouse interest in a condition which is, I think, often overlooked, and—in my experience, at least—is frequently misunderstood.

Fennel Oil in dose of five to ten drops twice daily is reported to be efficacious in whooping-cough.

THE RADICAL CURE OF UMBILICAL HERNIA BY OMPHALECTOMY.

By JOSEPH RANSOHOFF, M.D., F.R.C.S.,

CINCINNATI.

The division of umbilical hernias into the congenital and acquired has long been fixed, since they differ in etiology and, to a certain extent, in their anatomical relations. In the present paper I beg to limit consideration to the umbilical hernia of adults.

In all its phases this has been, from the infancy of the art chirurgical, the most dreaded and the least cared for of the more common varieties of rupture. The rapidity with which gangrene develops in comparison with other forms of strangulated hernia and the relatively large fatality of relief operations must account for this former dread. For the long neglect in the matter of radical treatment, other than retention by truss, to which the non-strangulated hernias of the navel have been subjected three factors are responsible. First, the mechanical difficulties of the operation inherent in the abdominal parietes; second, the complications, visceral and omental, within the hernia; and third, the very general tendency to recurrence. A brief consideration of these factors seems warranted, since it entails the better comprehension of the sources of failure and points the way to methods that make this less frequent.

The mechanical difficulties afforded by the abdominal walls are ordinarily a very thick layer of adipose tissue, in the depths of which, often two or three inches removed from the wound margin, there is found a small hernial ring. In three of the cases to be appended, this layer of fat, with the old operation of median incision, would have made the closure of the ring in the depths of the wound very difficult. Added to this layer of fat, in hernias that are larger than the size of a walnut, there is a very thin layer of integument, a spread-out covering of the umbilical cicatrix, which after operations even aseptically made is prone to undergo necrosis and be the cause of a late wound infection. The chief obstacle to success, so far as the abdominal wall is concerned, is in the hernial ring itself. As a rule, it is an aperture the margins of which are thin, rigid, and difficult of approximation, even when the ring is an inch or less in diameter. In yet other cases, from omental adhesions or the use of convex pads, the margins are very much thickened and rigid, but none the less difficult of approximation. It is for this reason probably that most operators have at one time or another seen the necessity of enlarging the fascial aperture or excising it altogether, to be enabled to bring about a fair apposition. The most perfect approximation of the umbilical ring, when firmly united, still leaves no muscular covering between the peritoneum and the integument. The tendency to recurrence with every renewed tension upon the abdominal wall, such as would occur during pregnancy, would necessarily follow.

The visceral and omental complications of umbilical hernia form the source of greatest anxiety during the operation. In hernias of small size, though irreducible, the contents are, as a rule, limited to a large mass of omentum, which, though adherent in one or many places to the sac or the ring, can ordinarily be separated with little difficulty and removed. In the larger hernias there is almost invariably found a part of the transverse colon, and not infrequently many coils of the small intestine. While the latter do not ordinarily form adhesions, the transverse colon is prone to become adherent to the sac wall or to the omentum, or to both. To complicate further the relations, the sac is, as a rule, multilocular and divided into imperfect compartments by the presence of bands stretching from wall to wall. Fortunately, in these cases the hernial ring is, as a rule, very large, for which reason strangulation at the ring is a comparatively infrequent occurrence in these cases of umbilical hernias that resemble eventration. Nevertheless, even here obstruction of the protruded intestine is followed by colicky pains, vomiting, or gastric disturbances often enough to make it necessary to attempt a radical cure; or, if this is not feasible, so to enlarge the ring by incision as to preclude the probability of temporary obstruction. In these large eventrations much has in recent years been accomplished by radical operation; the only limit to operative interference would be so contracted a condition of the abdominal cavity as to prevent or preclude the probability of a return of the protruded intestine without the danger of inducing obstruction. There is no phase of abdominal surgery in which the danger of unintentionally wounding an adherent intestine is greater than in these large umbilical hernias when operated upon by the old method of the single median incision.

From the foregoing, the tendency to recurrence in cases operated upon by the older method is in part explained. The imperfect apposition of the margins of the ring, the absence of a muscular covering, unequal pressure on the wound margins by the interrupted suture passing through the entire thickness of the abdominal walls, the tendency to fat necrosis and sloughing of the integument, are all held accountable for the immediate failures often obtained and the very decided tendency to recurrence. Within recent years three very decisive steps have been taken to overcome the obstacles to success theretofore existent.

The first of these is the excision of the umbilical ring in all radical operations; the second, the suturing of the median borders of the recti muscles to each other; the third, the closure of aponeurosis and muscle by a suture separate and distinct from that of the overlying adipose and cutaneous layers.

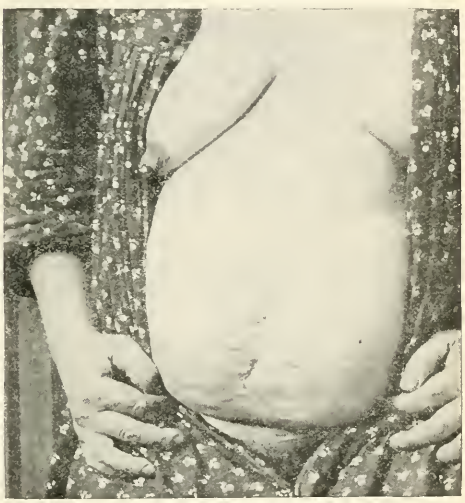
In 1888 Keen was forced to resort to excision of the ring in a case of strangulated hernia. Before that, in 1866, Storer had already resorted to this procedure, which probably has been forced on many operators. It remained, however, for Condemin, 1892, to elevate his procedure into a distinct method of operating for umbilical hernia. His object from the beginning is to excise the hernial ring, for which purpose he opens the peritoneum by elliptical incisions which meet above and below the median line and are carried directly down to the peritoneum outside of the peritoneal covering. After division of the skin, adipose layers, and fasciæ, he opens the peritoneum on the outer side of the ring itself. The single median incision is therefore discarded entirely. In the cases in which I resorted to this procedure, and two of them were of very large hernias, the operation proved to be very simple. It very greatly facilitated the return of the reducible portion of the hernial contents, and after the splitting of the sac, subsequently made, lessened, it seemed very greatly, the difficulties of separating adherent omentum and intestine. In one of the cases the hernia was quite as large as an adult head, the patient being of short stature and weighing over two hundred pounds. Except for the elliptical incision, the task of exposing thoroughly the ring and of severing adhesions of omentum and transverse colon would have been extremely tedious and accordingly dangerous. A further advantage of the complete excision of the hernial sac, with all the coverings of the hernia, together with the ring, is that at the close of the operation the conditions of the wound are best suited to primary union. The attenuated skin, the surrounding fat, the fibrous margins of the hernial ring, which are liable to necrosis, are removed, so that the wound really is like that left after the ordinary median lapa-

rotomy. In this method of operating, furthermore, there is included, as a rule, by necessity, the suggestion made by Gersuny in 1893, to suture together the median borders of the recti after opening their sheaths, in order that a continuous muscular plane may oppose the recurrence of the hernia. Unfortunately, the subjects of acquired umbilical hernia are usually women blessed with more fat than muscle, and the recti are found to be poorly developed, atrophic, or the site of fatty infiltration, so that in them too much importance must not be attached to the completion of the muscular plane between the abdominal cavity and integument as a preventive of recurrence. A third step in advance has been made in the separate suturing of the fascia and muscular layers on the one hand, and the integument on the other. In the four cases recorded, I have resorted to the silver-wire buried suture for the deeper structures, and the subcutaneous suture for the superficial part of the wound. In only one of the cases, that of the largest hernia, did secondary infection follow on fat necrosis. The deeper portion of the wound was not opened by the mishap. It is nearly a year since the operation was performed and a recurrence has not taken place. In a second case, in which the radical operation followed the relief for strangulation, a similar wound complication resulted. In one of the cases, which healed *per primam*, an abscess formed about the ligated omentum four months after the operation and discharged through the abdominal wall. In three of the cases which I beg now to report the operation was that of radical cure by omphalectomy. In the fourth case, that of a strangulated hernia, the omphalectomy was made secondary to the old operation.

Case I.—Mrs. S——, Dayton, O., aged forty-nine years, widow, has given birth to ten children, the oldest twenty-seven years of age. She has had a hernia since the birth of her last child, ten years ago. It was at first reducible, but, notwithstanding the use of trusses, has grown very much and become irreducible. She has never had any strangulation but has suffered very much from colicky pains and constipation, which attacks come on at irregular intervals of one or two months, and confine her to bed for days at a time. When not so affected she is able to do her work as a laundress. During the last two months she has been almost entirely unable to work.

Present condition: Very fleshy woman, little over five feet in height, weighing between two hundred and two hundred and ten pounds. Presents an umbilical hernia nearly as large as an adult head, within which portions of the colon can be readily mapped out by percussion. On a rough estimate, about one-third of the hernial protrusion is reducible. What feels like an omental mass can be outlined within the tumor. The hernial ring has a measurement of about six inches in its long diameter and three in its transverse. Owing to omental adhesions the outline of the ring cannot be everywhere distinctly felt.

Operation, October 25, 1895, at the Good Samaritan Hospital, morphine and A.-C.-E. anæsthesia. An incision beginning about three inches above the upper margin of the hernia in the middle line, surrounding it on both sides, and terminating a like distance below in the median line, was made. After dividing the abdominal wall, layer after layer, upon either side, the subperitoneal fat was reached and the peritoneum opened on the left side, the finger being used as a guide. Incision was made through the peritoneum upward and downward, completely encircling the ring upon its left side. By retracting the median margin of the wound, the ring was readily exposed to view, and the entrance through it into the hernia of the omentum, parts of the transverse colon, and of the coils of the small intestine could be seen. With the intestine exposed, reducible portions of the hernia were returned to the abdominal cavity, where they were retained with large gauze aprons. To facilitate the return of the adherent portions, the ring and the hernial sac were now divided from within and the adherent contents completely exposed. There were many large and small apartments in the hernial sac. The entire omentum was contained within the sac, adherent in many places, but for the most part converted into an irreducible fibro-lipomatous mass, which was removed, after ligation, in four divisions. The adhesions of the transverse colon were likewise separated without much difficulty. The removal of the hernial sac, together with the overlying integument, was completed by division of the peritoneum in the line of the ellipse upon the right side. Closure of the wound was made by buried silver-wire mattress sutures. The external wound was closed by buried silkworm-gut sutures. To prevent pocketing, three deep silkworm-gut sutures were placed through the entire thickness of skin and fat layer of the abdominal wall. When completed,



the wound resembled an ordinary laparotomy wound about ten inches in length. Time of operation, forty-five minutes.

Subsequent history: The patient made an uninterrupted recovery, except that a fat necrosis developed within the grasp of one of the interrupted silkworm-gut sutures. This was followed by suppuration on the fourteenth day and somewhat protracted recovery. There never was any elevation of temperature above the normal. The patient was discharged well December 8th, six weeks after operation, without abdominal support.

Case II.—Mrs. J. D——, aged sixty years, of Richwood, Ky.; married, mother of six children. She has had an umbilical hernia for many years, and has frequently suffered from colicky pain. She was seized with violent pain, vomiting, and obstipation on April 9th, when she was seen by Dr. Duncan, of Walton, Ky., who recognized the presence of strangulation. When seen thirty-six hours after the inception of the symptoms, the patient presented an umbilical hernia the size of a large walnut, tender to the touch, and irreducible. The integument covering it was very thin, and through it a mass of omentum could easily be distinguished. The usual symptoms of acute strangulation were present.

Operation, under A.-C.-E. anæsthesia. Incision in the middle opening of the sac revealed a well-marked

strangulation by a ring one-half inch in diameter. The contents were an adherent mass of omentum, beneath which was found a coil of the small intestine tightly held by the ring. When this was divided, the intestine was readily brought into the wound, and, being found healthy, was returned. The omentum, adherent to the sac wall in a number of places, was removed after ligation of the pedicle. When the sac had been removed it was found that the edges of the ring were very much attenuated, rigid, and difficult of approximation. An incision was therefore made one-half an inch above and below the margins of the ring, and this completely dissected out. The sheaths of the recti muscles were by this procedure opened and readily approximated. The superfluous integument was removed by two semilunar incisions and the wound closed by deep and superficial sets of sutures. This patient made an uninterrupted recovery, save for a limited sloughing of the fat contained between the superficial and deep sutures. The hernia has not returned.

Case III.—Mrs. S. R——, of Greeley, Col., operated upon at the Jewish Hospital, January 4, 1895. Patient, aged fifty-nine years, mother of four children, has had an umbilical hernia for many years. She has never had attacks of strangulation, but frequent attacks of colicky pain, gastric disturbance dyspeptic in character, and cardiac palpitation. These are almost always developed after the ingestion of a full meal, and are associated with severe pain in the hernia. At other times the hernia presents nothing indicative of its relation to the gastric symptoms presented.

Present condition: Patient has a small umbilical hernia the size of a walnut. The abdominal wall is densely covered with fat and is pendulous; the hernia is covered with attenuated skin, through which adherent omentum can be outlined.

Operation: A.-C.-E. narcosis. An elliptical incision completely surrounding the hernial tumor and beginning an inch above and terminating an inch below the median line was made. The incision was continued through the entire thickness of the abdominal wall, including the peritoneum. The peritoneum was first divided on the left side, when the omentum could readily be discerned entering through the hernial ring. Since no intestine entered at all, the incision was made through the peritoneum upon the opposite side, and the hernia, together with the omentum, drawn into the wound. The latter was ligated at its point of entrance into the sac and returned to the abdominal cavity. The operation was completed by deep, buried silver-wire sutures and subcutaneous silkworm-gut sutures. The patient made an uninterrupted recovery. She was discharged from the hospital, February 10, 1895. Three months later she developed an abscess about the omental stump, which was opened through the abdominal wall in the region of the gall bladder. With the outflow of pus there was discharged the ligature placed about the omentum. This is the only case in my experience in which the ligation of the omentum has been followed by suppuration.

Case IV.—Mrs. J. C——, Cincinnati Hospital, married. Admitted to the service, April 24, 1896. She has in the last years been very fleshy, and for ten years has had an umbilical hernia, which has, through frequent attacks of colic, interfered with her work as housemaid. The hernia is about the size of a large fist and irreducible. Pressure upon it is painful in places. Intestinal contents cannot be discovered.

Operation, April 25, 1896, as in previous case. The sac contained almost all of the apron of the omentum, which could not be returned and was removed in sections after ligation with strong catgut. The hernial ring measured an inch in length by three-fourths of an inch in width. The umbilical ring, and all of the overlying soft parts included within the elliptical incision, were then removed and the wound was closed with deep silver and superficial silkworm-gut sutures. The patient made an uninterrupted recovery.

The cases reported have been operated on within two years, a period too short to warrant conclusions as to the permanence of the cures. Nevertheless, it must be borne in mind that in umbilical as in post-operative ventral hernias the visceral protrusion usually occurs within a few months of the operation. In all of the cases the abdominal wall at the wound site is firm, and I hardly look for recurrence. The salient features of the operation as performed, namely, excision of the ring, suture of the recti muscles, and buried metallic sutures, form the basis of my confidence in the results obtained. Should further experience fail to shake it, it is certain that many patients with umbilical hernias can by this method be rescued from what is always a source of great annoyance, and often a direct menace to life.

TREATMENT OF TYPHOID FEVER.

By J. L. C. WHITCOMB, M.D.,

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It has been my good fortune never to have lost a case of typhoid fever. During the past six years, which covers the whole of my professional career, my notebook shows that I have treated ninety-seven cases, some of them falling into my hands during the third or fourth week of the disease, some of them neglected cases, which I entertained little hope that any form of treatment would bring to a successful issue, some of them complicated by pre-existing heart, kidney, or lung disease of a more or less serious nature. Therefore I use the words "good fortune" advisedly, as I am well aware that the element of fortune must enter largely into such a series of consecutive unselected cases unbroken by a single death, no matter what the treatment. Especially during the earlier years of my practice the uniform success which attended my treatment of this disease was regarded by me as largely fortuitous and not the result of the treatment. However, as my cases multiplied in number, the conviction grew on me that there must be some intrinsic merit in any treatment that resulted in one hundred per cent. of recoveries in a disease with a normal mortality rate of from twenty to forty per cent. During the months of September and October of the past year I treated eighteen cases of typhoid without a death. These, with my former cases, making nearly one hundred in all, and all being treated after the same plan, have led me to report my method of treatment to the profession, believing it is worthy of more extended trial.

With the possible exception of malaria, typhoid is more common and more widely diffused than any other disease. There is no climate or soil where it is unknown, no race or condition of men which is exempt. Man cannot flee from it, as he undoubtedly carries its germs within the recesses of his own bowels. The innocent bacillus coli communis requires but the proper conditions of soil, heat, and moisture, after it has passed from the bowels, to become the deadly germ of typhoid, ready to contaminate springs and wells and all drinking-waters not properly protected. Although so widely diffused, its germs so omnipresent, it would seem that it can be more easily controlled by proper sanitation and hygiene than any other of the infectious diseases; and when once contracted it is more amenable to correct treatment, as has been demonstrated by Brand and others. In spite of these well-known facts, eminent physicians have reported series of cases

during the past year, showing mortality rates ranging from fifteen to twenty-five per cent. The recent deaths from this disease of a number of persons of nation-wide reputations have served to emphasize the fact that it is still unconquered, even when all the advantages which wealth and science can command are arrayed against it.

The grand, almost perfect results obtained by the Brand treatment seem unable to induce any great number of the profession to adopt its cumbrous and costly technique in private practice. This is partly explained by the fact that many patients will not submit to what appears to them a very formidable procedure, while others will insist that a less heroic treatment be tried at first and will yield to the advice of their physicians only when it is perhaps too late. Flesh and blood shrink instinctively from the severe requirements of the tubbing process. It will never become popular, or the routine practice of the profession, any more than hypodermatic medication will ever become popular, no matter how much its advocates may laud its superior merits.

In this country we still, unfortunately perhaps, have to consult the tastes and predilections, often the whims and fancies of our patients in the matter of treatment of their ailments. I fancy this is one of the reasons why the charity patient in the hospital gets well of his typhoid while the rich man dies, a victim to his own high privilege of bossing the doctor. They do these things better abroad, especially in Germany. While we can take our treatment from Germany, we cannot take our patients from that country, where the martyr-like submission of the patient to his doctor is only equalled by the docility of the guinea-pig in the hands of the bacteriologist. In this land of boasted freedom, it is doubtful if Brand would ever have demonstrated to an admiring world the possibility of curing all cases of typhoid. His investigations would have long since come to an end from lack of material with which to experiment. I was an early convert to the Brand treatment, but the impossibility of carrying it out among the class of patients which form so largely the clientèle of the medical fledgling prevented me from ever giving it a trial.

Necessity was ever the mother of invention, and it was sheer necessity that led me to adopt the method of treatment that has stood by me so faithfully—the necessity of giving my patients the benefit of the principle involved in the Brand treatment, so far at least as was possible without the impracticable apparatus of that treatment. I have always claimed that my treatment was but a modification of Brand's. In my opinion Brand did more than discover a successful treatment for typhoid. He discovered a principle of treatment, which principle may be as successfully applied in a more convenient and agreeable manner than by the impracticable tubbing. This principle may be formulated thus: The chief indication in the treatment of typhoid is the sustaining of the nerve centres rendered inert by the typhoid toxæmia, and this indication is best met by the application of cold to the body. Brand and his followers maintain that the cold baths are not to reduce the temperature so much as to stimulate the nerve centres to maintain the vital functions until the fever has run its course. I believe this principle of treatment is fully met by systematic cold sponging if properly applied. I am aware that this is denied by the advocates of the tub, who also deny that cold envelopment, or, in fact, the application of cold in any other form has the same action as submersion. This assertion never appeared rational to me, and in the light of my experience I must take issue with them on this point. I believe the difference is one of degree and not of kind. It must be granted that submersion gives a greater stimulus, followed by more marked reaction. In this very fact there may be an element of danger. Certainly care and judgment are required to graduate the temperature of the bath to the strength of the patient, or harm may result.

It might not be fair to expect that every physician would obtain the same results as Brand obtains after thirty years of experience. It is open to question, however, if his treatment would not long since have fallen into disrepute, had not its difficulties prevented it from becoming popular. For the most part it has been tried only by men of ripe experience and under the most favorable conditions, usually in hospitals, where constant attendance of trained assistants to carry out its requirements has contributed largely to its success. It has been the fate of many a successful mode of treatment to go down in obloquy to unmerited oblivion, simply because of its too general use by unskilled experimenters.

Brand's record of twelve hundred cases with but twelve deaths, or without any deaths if we exclude those who came under treatment subsequent to the fifth day, offers little chance of improvement, unless it be in a manner to bring about the same results by a less tedious procedure. This is what I claim for the method of ice-cold sponge baths I employ, a method which, I believe, comprehends the cardinal principle of the Brand treatment, and, if conscientiously carried out, will give the same results. It will be urged that other plans of treatment have been as successful as the one herein advocated, considering the limited number of cases treated. Pepper, of Philadelphia, treated one hundred consecutive cases without a death, using nitrate of silver. It must be admitted that the number of cases is far too small to lend much significance to the plan of their treatment—that is, if they are to stand alone. If, however, the treatment followed be but a modification of the Brand treatment, as is claimed, then the import of this series of cases becomes obvious at once, and the only successful treatment of typhoid yet devised is brought within the means of every patient and its application made possible to every physician. The importance of this fact cannot be overestimated. Typhoid is a disease of the country. It usually has to be treated in farmhouses where the expensive apparatus of the bath treatment is simply out of the question. Were it largely a city disease, the difficulties might possibly be met by hospital treatment.

My method of treatment is as follows: All subjects, no matter how mild the symptoms, are put in bed at once and a sponge bath, at the temperature of blood heat, is given. In two hours another is given, its temperature being about that of the room. In this manner the patient is gradually prepared for the ice-cold sponge baths, which are now to follow every two or four hours, according as I consider the symptoms mild or severe. Ice is floating in the bath bowl after the first two baths. The time consumed in each bath is about thirty minutes. If the temperature of the patient ranges at 103° F. or above, I order the baths prolonged to forty-five minutes, the body to be gone over several times in succession, with brisk rubbing. In severe cases, when the temperature runs up to 105° F. once or twice a day, I order, in addition to the sponging every two hours, that bags of crushed ice be placed as follows: two on the abdomen, one on either thigh, and one on the head. If the patient complains much of cold, I place a hot-water bag at the feet. These are to be kept on continuously until the fever drops to 103° F., when they are removed, but the baths are continued. I also enjoin the drinking of from one to two quarts of cold water during the twenty-four hours. It is often a matter of surprise to me how little the patients complain of the cold applications. On the contrary, nearly all will express themselves as being

relieved by them, even looking forward with pleasure to the bath. The ice bags are not always tolerated with the same fortitude, their weight sometimes being complained of, yet I have never had to discontinue their use because of their discomfort. During the third and fourth week of the fever, or at any time if there be much weakness, I frequently order one-half ounce of brandy before each bath or before every other bath, according as the case demands. As a result of these sponge baths I have never noted any immediate or marked fall of temperature, but I have never yet failed to see a toning up, a brightening of the whole aspect of the patient. The tongue becomes more moist, the eye less dull, and the apathetic face assumes a livelier expression. If treatment be begun at the onset of the disease, it is rare to meet with the severer symptoms. They are usually all of a mild character. The cases of death-like stupor from profound typhoid intoxication described in the text-books are conspicuous by their absence or extreme rarity.

I am convinced that of all therapeutic measures employed to-day in typhoid, none are fraught with more good to the patient, or are capable of doing less harm, than are cold applications. Although I consider the cold applications the sheet anchor in the treatment, I have never employed them altogether to the exclusion of drugs. Consequently I cannot say whether I should have had the same results had I omitted all drugs, as is done in the Brand treatment. I am inclined much to doubt that I should, however, especially in those cases which came under treatment late in the disease, or in those which were complicated by pre-existing organic disease. If treatment be begun at the onset of the disease, or before the fifth day, I believe the results would compare favorably with the results of the Brand treatment, all conditions being similar. The chief indication being to save life and not to simplify treatment, however desirable the latter may be, I never cared to experiment in the way of seeing how little treatment would suffice to bring the patient through. The drugs I employ can do no possible injury if used with judgment, and in some cases I am convinced they do positive good. I begin the drug treatment with a dose of calomel followed by a saline cathartic. Throughout the entire course of the disease I keep the bowels open from two to four times during the twenty-four hours, using, if necessary, calomel in one-tenth-grain tablets every half-hour until the desired result is obtained. In case there be moderate diarrhœa, I do not interfere with it. If, however, there be five or more passages per day, and especially if they be watery in character or accompanied with much pain and discomfort, I give small doses of opium until the number of movements is reduced to the required amount. I invariably give strychnine sulphate, one-sixtieth to one-thirtieth of a grain every four hours from start to finish. I believe that it aids the baths in keeping the nerve centres alive to their functions.

As an intestinal disinfectant I use salol, five to ten grains every four hours. When the patient comes from a malarial district I also give quinine. The diet is peptonized milk, sometimes alternating with beef juice, beef broths, kumyss, or buttermilk.

In the treatment outlined above, there is nothing original, so far as I know. It is in fact a combination of several methods advocated by different members of the profession at the present day, namely, the Brand, the Woodbridge, and the eliminating and antiseptic treatment of Thistle, of Toronto. Between the latter two methods of treatment I doubt if there be any essential difference. In both calomel is used to keep the bowels active, and in both an intestinal antiseptic is used—in the former guaiacol, in the latter salol, the only difference being in choice of antiseptic and in some small details. In applying the treatment employed in this series of cases, it is essential to have a good faithful person, not a trained nurse necessarily, not even a pseudo-professional nurse, of whom there are so many in every community. Any person of ordinary intelligence will with a little instruction soon become expert enough to answer our purpose.

I have come to rely on the cold sponging to such an extent that I have sometimes threatened to withdraw from a case unless I could have it applied regularly by some competent person. In this series of cases there were ten of the aborted type, running from ten days to two weeks. There were four cases of hemorrhage from the bowels, all occurring after the fever had subsided, and all of a very slight character. My cases have been very free from complications. There were two cases of anterior crural neuritis, both of the right leg. Both of these patients ultimately recovered completely. There were also two cases of phlebitis of the right leg, the swelling of the limb lasting for two or three months, but finally disappearing. There were three cases of relapse, occurring on the sixth, eighth, and twelfth days respectively. I cannot close this article without expressing my unbounded admiration for Brand, whose labors entitle his name to be written alongside of Jenner's as a benefactor of his race.

THE CHARCOAL DRESSING IN MILITARY SURGERY.

By S. SHERWELL, M.D.,

BROOKLYN,

KNIGHT OF THE ORDER OF MILITARY MERIT, BAVARIA; CONSULTING PHYSICIAN, BROOKLYN HOSPITAL; CLINICAL PROFESSOR OF DERMATOLOGY, LONG ISLAND HOSPITAL MEDICAL COLLEGE; SENIOR SURGEON, SKIN AND THROAT DEPARTMENT OF THE BROOKLYN EYE AND EAR HOSPITAL; MEMBER OF THE AMERICAN DERMATOLOGICAL ASSOCIATION AND NEW YORK AND BROOKLYN DERMATOLOGICAL SOCIETIES, ETC.

THE successful use of charcoal as a surgical dressing, recently so strongly advocated by Dr. Kikusi of the Japanese army, which has been noted in many journals, and particularly in a courteous and kindly editorial reference to my own writings on the subject in the MEDICAL RECORD of November 14, 1896, impels me to reassert my own claim of original suggestion of this manner of treatment of wounds in military surgery. The subject can never lose its interest to me, and I think, if my original paper on the subject be studied, my earnest advocacy of the plan seemingly so exactly carried out by Dr. Kikusi cannot be denied.

The article of mine to which reference was made was published in the *New York Journal and Obstetrical Review* for October, 1882. It had been read the year previous in the surgical section of the International Medical Congress held in London, an abstract appearing in the published transactions of that body in 1881. It was entitled "A Ready and Convenient Antiseptic Dressing for Amputation and Other Open Wounds in Field Surgery."

In this paper I state that I had the honor of serving under Sir William McCormack and Marion Sims in the Anglo-American ambulance at Sedan, Orleans, etc., in the war of 1870–71, and had unfortunately seen a great deal of the septic and pyæmic complications following operations in our own and other field hospitals; so much, in fact, that I almost came to the belief that the methods antedating Ambrose Paré, "a clean chop and a bucket of hot tar," would have been of almost equal value, so far as saving life was concerned. Certainly very few cases of major operations escaped septic infection, more or less grave, in spite of the plentiful and various applications of the then vaunted antiseptic, carbolic acid.

After the war was over and our services had ended, I thought long, earnestly, and regretfully over this fact; and when reading of the terrible sufferings and mortality of the wounded during the Russo-Turkish campaign, at Plevna and elsewhere in later years, I wrote the article to which I refer as being read in London.

To show, then, that my method was and is identical with that of Dr. Kikusi, I must quote from the paper in question somewhat *in extenso:* "I believe a large amount of these septic complications is due to direct infection;" and after some explanatory remarks, urged the following substitute for the ordinary bandaging: "Among almost all continental nations charcoal is largely used, and everywhere available, and easily obtained; I would suggest, then, after operation, the instant envelopment of the wounds, particularly those of the limbs, and especially, as I think, those of the lower limbs, in a sack or bag (a common, small pillow-slip would serve) of charcoal, finely pulverized; a fair excess of this to be used, so as to shield and envelop the tissues; the charcoal to be either directly laid on the wound or mediately, a fold of some dressing, gauze, book muslin, or the like, being applied next the surface; this not to be removed for days at a time, except under pressing necessity, and then preferably by a jet of water from some clear source; the same form of dressing to be reapplied thereafter if fitting.

"Although this, as I am ready to admit, would not have the extremely neat surgical look of good bandaging, scientifically applied, I am convinced that in hospitals of the kind to which reference is made it would prove infinitely superior to the orthodox dressings by the infected hands and armamenta of the ignorant, dirty, or careless army nurse or aid. This charcoal dressing may and perhaps should be slightly dampened with some antiseptic or disinfectant fluid, though this, in view of the properties of charcoal itself, would seem supererogatory. I am convinced that in this way and by carrying out the *rationale* of this dressing, a certain, not to say large, amount of septic infection and consequent suffering and death in field hospitals might be avoided. The proceeding is so egregiously simple that I have hesitated many years to set it on paper, but have thought over it so long and seriously that, at the risk, it may be, of ridicule, I can hold my peace no longer."

I added farther on: "We know that the perfect carrying out of Listerism is practically impossible in the field, and I incline to the belief, which so many eminent men have recorded, that that treatment owes its success in the greatest degree to the transcendental cleanliness observed before, during, and after operation, rather than to the antiseptic (carbolic acid) and the manner of using it. At any rate, as above said, it would be hard to carry out in the impromptu services often demanded in campaigns."

The paper was closed with an urgent appeal to surgeons in any future war to give this simple and seemingly crude treatment a trial in the cases indicated and appropriate. A few remarks were added by the author as a rider, and were to this effect: That while this manner of dressing wounds might have the appearance of turning army nurses and aides into stokers, still this was in reality but a sentimental objection, as he believed that a clean, healthy wound under an apparently dirty and black exterior was infinitely preferable to the exact converse, which last is found so often to be the state of things under ordinary bandagings of the accepted and orthodox kind.

Now, as to the qualities and merits of charcoal in itself, I am not sufficiently egotistic or ignorant as to urge or believe that I was or am the discoverer of its disinfectant properties; in fact, this is distinctly disclaimed in the extract from my paper above quoted. It has been used almost from time immemorial as an adjunct to other dressings—as, for instance, in poultices or the like, in which it has played the part of a condiment, as it were. From my readings, however, I can nowhere discover that it has been recommended in the way and to the excess which I advocated in its use, until reading Dr. Matignon's articles descriptive of Dr. Kikusi's method. Hence I must claim originality for the suggestion; in fact, that gentleman (Dr. Matignon), as well as the journals—for instance, *La Médecine Moderne* (May 6, 1896)—speak of it in language that implies nothing else.

The kind of charcoal used by Dr. Kikusi was made by carbonization of rice straw (in the ordinary way of preparing charcoal). The reason for this substance being used, I take it, was largely due to the absence or scarcity of wood in certain parts of China, where wood is as scarce as on the plateaux of Dakota in our own country, and where the inhabitants keep themselves warm through the bitter winter by burning in their stoves wheat straw, twisted up into hard knots, from their almost boundless wheat fields. Dr. Matignon gives an analysis of the charcoal so prepared, in which its chemical constituents are set out at length. Without being positive on the subject, I would hesitate to believe that charcoal from that sort of woody fibre (rice straw) would be found to differ essentially from that, we will say, of any ordinary woods, there might be, I could imagine possible, a slight excess of the silicates. Be that as it may, I think, as I say, that charcoal remains charcoal, or, as the Germans put it, "*Wurst bleibt Wurst.*"

A last word may, perhaps, be permitted, as explanatory of the slight notice my paper received at the time of reading and publication. In the first place, the paper was very brief, taking scarcely ten minutes in delivery; secondly and chiefly, it was read in the surgical section of the congress just after the closing of a momentous debate, historic in character, and which no one present will ever forget—being, in short, an attack on and defence of antiseptic surgery in general, and Sir Joseph Lister's method in particular; the debate being closed by the latter gentleman in person, and having lasted all the morning session, up to within fifteen minutes of the time for adjournment. Most of the more renowned surgeons of Europe, America, and other lands were present, and many of them had spoken. The chairman gave me the option of proceeding then or of postponing the reading until the afternoon session. Since it would require but about ten minutes, I proceeded to read the paper then.

I had hoped, of course, as all authors do, to see my article reported in full in the published Transactions of the congress; but I was disappointed, I must confess, in the brevity of the abstract which appears. I seldom send out reprints of my papers published, and did not do so when my article appeared later in the *New York Medical Journal.*

As it is, however, I may conclude by expressing my satisfaction, from a humanitarian point of view, that another has arisen to carry out my idea, and, furthermore, to reap success therewith—no matter whether he has adopted it or whether it was reoriginated by him.

The opportunity of carrying out the idea has been one of the main ambitions of my life, if circumstances favoring it had arisen; fortunately, however, for the human race, such occasions are rare, and my hope is that they will become yet rarer.

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Clinical Department.

A CASE OF PULSATING EMPYEMA.

By ANDREW J. McCOSH, M.D.,

NEW YORK.

Pulsating empyema is of rare occurrence. The number of reported cases is very limited. That condition is still more rare in which a pulsating thoracic hernia of the purulent pleural effusion exists, the so-called empyema necessitatis. Many theories have been advanced to explain the pulsation of certain empyemas. Not one of them, however, seems to offer a satisfactory explanation. Cases of pulsating pleurisy, in which the fluid has been serum, have been reported. The pulsation generally occurs when effusion occupies the left pleural cavity, but in a few cases it has been observed in right-sided pleurisy. The high specific gravity of the effusion has been offered as an explanation of the pulsation; but in the case the report of which follows this was not the cause, as pulsation was equally distinct when the chest was filled with salt solution.

The explanation of empyēma necessitatis is probably as follows: As the result of long-continued pressure, a local necrosis of a portion of the pleura occurs; the pus, being no longer confined by this tense membrane, bulges out the soft parts which cover the chest, and finally, after forcing itself through the ribs, forms an external tumor. The muscles stretch, become very thin, and may gradually disappear, thus leaving the skin as the only covering of the hernia; and finally this latter structure may become gangrenous and complete perforation of the chest wall take place.

G. V. E——, aged thirty-seven. Brother died of pulmonary tuberculosis; family history otherwise good. No alcoholic, syphilitic, or rheumatic history. Five years ago pneumonia, followed by pleurisy, with apparently perfect recovery; at the same time fistula in ano, cured by operation. General health fairly good until December, 1895, when he noticed shortness of breath on exercise. This gradually increased, so that by the middle of January he was obliged to give up work. He had not been confined to bed, but felt that he was losing flesh and strength, suffered from slight cough, but there were no expectoration and no night sweats. About the middle of February he noticed a small, pulsating swelling on the chest wall, half-way between the left nipple and the middle of the clavicle. This slowly increased in size. Loss of flesh and strength continued, with increased difficulty in breathing. In May he was seen by Dr. Edward G. Janeway, who diagnosed pulsating empyema. A needle passed by him into the left pleural cavity withdrew thick pus. This was examined by Dr. Theodore C. Janeway, who found with the microscope tubercle bacilli, and a guinea-pig which he inoculated died two months later of general tuberculosis. Dr. Janeway recommended operation and sent him to the hospital.

Admitted to the surgical division, May 28, 1896. Temperature, 98° F.; pulse, 120; respiration, 32. Patient anæmic, poorly nourished. Considerable dyspnœa on exertion. On examination, there was seen on the anterior surface of the left side of the chest a swelling somewhat circular in shape, about four inches in diameter. There was marked pulsation in this swelling, and this was evident to the eye even at a considerable distance. On palpation it was so distinct that the impulse was similar to that of an aortic aneurism. Pulsation was synchronous with the cardiac impulse, and was more marked on expiration. The swelling was in greater part reducible by strong pressure. There was marked pulsation, both to sight and touch, of the intercostal spaces of the left side of the chest. There were flatness and loss of fremitus and of auscultatory signs over the entire left chest, except at the apex of the lung, where there was a tympanitic note. The heart was pushed to the right of the sternum, so that the apex beat was situated one and one-half inches to the right of that bone, and cardiac dulness extended three inches in the same direction.

Operation under chloroform: An incision two and one-half inches long was made over the eighth rib in the midaxillary line of the left side. The periosteum was reflected: the pleural cavity opened by a small puncture between the eighth and ninth ribs, and thick creamy pus allowed to run out slowly. The pus was so thick that it flowed out with some difficulty. There was no foul odor. When two quarts had been evacuated, a portion of the eighth rib, one and one-half inches in length, was excised.

The patient was then turned on the left side, and another quart or more of pus escaped, its egress being still further aided by elevation and depression of the patient. Irrigation with hot salt solution followed, which brought away thick masses of coagulated pus and fibrin. As the opening was not large enough to afford free exit to these masses, a corresponding portion of the ninth rib was excised. The internal surface of the pleura was covered throughout with a layer of membrane thicker than blotting-paper. Free washing with salt solution was not sufficient to dislodge the membrane, and therefore the surface of the pleura was thoroughly scrubbed with gauze sponges till the irrigating fluid came out comparatively clear. Two large drainage tubes and some strips of iodoform gauze were inserted for drainage.

As soon as the fluid was evacuated, the heart began slowly to return to its normal situation, and when the operation was completed the apex beat was felt midway between the sternum and left nipple. The pericardial sac could not at first be felt by the exploring finger, but at the close of the operation it was within reach.

In order to test whether or not the pulsation had been due to the character of the fluid, the chest was filled with salt solution, the opening being temporarily closed, when the pulsation returned as vigorously as before operation. Comparatively little shock followed, but there was considerable oozing from the wound.

May 29th, highest temperature, 99.25° F.; pulse, 90; respiration, 26. Much relieved.

May 30th, highest temperature, 100° F.; pulse, 100; respiration, 26. Profuse discharge from the chest.

During the following week the temperature ranged between 99.5° and 101° F.; pulse, 90 to 100; respiration, 24 to 30.

On June 3d the tubes were removed, the chest was irrigated with salt solution, and the tubes were replaced.

During the next fortnight irrigation was used every second day. Considerable discharge of pus.

On June 9th the temperature became normal, and did not again rise above 99.5° F. The pulse remained at about 80, and respiration between 24 and 30.

After June 18th, daily irrigation. Cavity contained forty-two ounces of salt solution. Daily discharge of pus, three to four ounces. Patient out of bed on June 13th. Rapid gain of strength, shortness of breath disappearing. As the patient desired to go to his home in the country, he was discharged on July 13th. The cavity at that time contained thirty-eight ounces. The discharge of pus was between three and four ounces in the twenty-four hours.

Pathologist's report by Dr. Thacher: Microscopical examination of sections of membrane: no structure—amorphous material. Microscopical examination of

smears from the pus: no tubercle bacilli found, no bacteria of any kind. Culture on blood serum resembles staphylococcus poygenes albus.

November 15th, Dr. George E. Titus, of Hightstown, N. J., writes that the progress of the case has not been satisfactory. The patient has lost rather than gained strength. His evening temperature is between 100° and 101° F.; pulse, 90 to 110. The lung is not expanding. I have advised him to return to the hospital for the purpose of undergoing either Estlander's or Schede's operation.

In this case the question at once arises: How long had the empyema existed? Was it the direct result of the pleurisy and pneumonia from which he had suffered four years previously, or was it of more recent occurrence (five months)? He claims that he felt perfectly well until December, 1895. If this is true, the onset at this time must have been insidious. If the empyema followed the pleurisy of four years previously, it is singular that his general health should not have suffered during this period, and yet the partial perforation of the chest wall certainly favors the longer duration of the disease. If the empyema is tuberculous, as seems probable, the five months' duration seems more probable than the four years', considering the condition of the patient during this period.

GANGRENE OF THE PENIS AFTER RITUAL CIRCUMCISION.

By A. BROTHERS, B.S., M.D.,

NEW YORK.

It is bad enough to lose a child from disease, but it is terrible to see a healthy, well-developed child sacrificed to a religious custom. A certain number of subjects succumbs yearly after having been subjected to the trivial operation of circumcision—chiefly from hemorrhage or sepsis—and only exceptionally are such cases exposed to the sunlight of publicity. The specialist in circumcision, or "mohel," is usually a pious man or "reverend doctor," and the religious element acts as a cloak in protecting him from the punishment or suits for damages to which midwives, dentists, or physicians would, under parallel circumstances, be exposed. As the case in point was certainly due to ignorance of the worst sort, and as the "operator" has tried to shift the blame to the doctor, I do not hesitate to publish the case, in the hope that it may add to the testimony favoring inhibitory or restrictive legislation in this particular kind of work. It may be of interest to state that the individual in question has had an experience of many years, which, instead of making him more cautious, has only tended to increase his sense of inflated vanity. He publicly boasts of his ability to dispense with medical assistance, and in the present instance coolly announces that "the doctor was at fault." Now for the case.

On October 2, 1896, I delivered Mrs. I—— of her third child, after an unusually easy labor. The baby was of the male gender, weighed eight pounds, and was normal in every respect. The puerperal week was uneventful, and on the ninth day I ceased making visits.

On October 10th the child was circumcised, and, as is customary in such cases, I was not invited to interest myself in the religious features of the case.

On October 12th—forty-eight hours after the operation—I was sent for, and for the first time was told the following story: On the night of the circumcision the baby bled so freely that the "mohel" (not the doctor!) was sent for. After stripping the child, he laid it on a table in a rather cold room, and worked over the baby from seven until eleven o'clock, before he could control the hemorrhage. After thus satisfying the family of his ability to get along without doctors, he departed. On the following morning (October 11th), although the child was cross, refused to nurse, and had fever, he pronounced everything all right. I saw the mother for a few moments that day, but, as she explained afterward, fear of my intruding into the "mohel's" domain restrained her from directing my attention to the facts concerning the baby. On the next day, however—October 12th—she was obliged to send for me. The baby was feverish, refused to nurse, whined continuously, vomited from time to time (occasionally with blood), and was distinctly collapsed. I was sent for to prescribe for the "baby's stomach," as the vomiting indicated to the nurse that the baby's stomach certainly was out of order and syrup of rhubarb had failed to give relief.

On looking at the baby I was struck with its appearance of profound collapse. The rectal temperature was 101.5° F. After eliciting the foregoing history, I proceeded to investigate the surgical aspect of the case. The abdominal wall protruded, on account of a distended bladder, which extended half-way up to the umbilicus. The penis presented an appearance which I have never seen before. The skin of the penis did not extend beyond a half-inch from the line of the abdominal wall. Anterior to this the organ was in a condition of dry gangrene, and presented a black, hard, cylindrical mass, about three-fourths of an inch in length. Constricting the gangrenous portion of the penis, I discovered a narrow strip of gauze, evidently saturated with some styptic. This was separated with difficulty from the tissues beneath, after division with scissors. No sign of the urethral orifice could be discovered. I began cutting away the charcoal-like tissue at the extremity of the penis for about one-eighth of an inch, until structures were reached presenting a sickly yellow appearance. Beyond this, healthy living tissue was met, which bled on being cut into. At this stage, a free discharge of the pent-up urine occurred—probably three or four ounces—and continued in a fine stream for nearly a minute. I ordered boracic-acid dressings for the wound.

The subsequent progress of the case was, briefly, as follows: During the night the child developed convulsions. Vomiting was incessant.

October 13th, rectal temperature, 103° F.; pulse, 160.

October 16th, temperature still ranged between 102° and 103° F. Vomiting ceased. Bowels loose. Child presented a more encouraging appearance. Gangrenous portion of penis was steadily growing smaller.

October 18th, stump of gangrene came away in a lump.

October 23d, a large abscess over the right scapular region was freely incised. Convulsions again made their appearance, but were kept fairly well under control with two-grain doses of potassium bromide.

From this time on the baby lost slowly but steadily. Nursing became more difficult. Vomiting appeared, later with blood. There seemed to be some swelling of the remaining portion of the penis from to time.

On November 15th the baby died of exhaustion, under the care of a fellow-practitioner.

I do not wish to be understood as opposing the ritual performance of circumcision, or condemning "mohels" in general. Under proper surroundings, I believe the rapid performance of circumcision to be attended with little more risk than the extraction of a tooth. Similarly do I know that there are many "mohels" who possess good judgment and discretion. Besides all this, the Jewish religion makes provision for certain classes of cases, in which postponement of the operation is allowed. Still, I believe that certain laws ought to provide for the punishment of "mohels" who wilfully neglect to call in the assistance of physicians in cases of hemorrhage which may require the

use of cautery, suture, or ligature, in the proper use of which they, as a rule, have not been instructed. Similarly it would do no harm if some supervising influence would result in teaching the majority of "mohels" the first principles of asepsis.

PNEUMONIA.

By J. C. McALLISTER, M.D.,

HIGHESVILLE, PA.

Inasmuch as you have recently published two leading articles on pneumonia, one of which spoke disparagingly of cold applications to the chest, I wish to submit the following report, wherein I attribute the good effects largely to the use of ice over the pneumonic area. While my experience in the use of ice has been very limited, yet all the physicians with whom I have talked and who have used it, report similar favorable results.

Mrs. H——, aged fifty, is of fair physical size and appearance, but does not endure sickness well. The

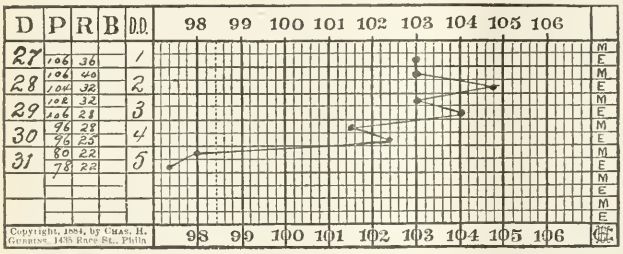

chart will show pulse rate, temperature, and respiration. These were taken at 9 A.M. and 5 P.M. of each day.

The following are notes taken from the nurse's record:

August 27th: "Came this evening. Patient has great pain in right side. Applied hot stupes. Vomits everything."

August 28th: "Dr. McAllister called at 9 A.M., and ordered ice applied to the patient's side. Ordered one-fortieth grain sulphate of strychnine every four hours, and one tablet Da Costa's heart tonic (glonoin, strophanthus, belladonna, and digitalis) every four hours. Bowels moved several times, for which were given powders of calomel, podophyllin, menthol, guaiacol, and eucalyptol."

August 29th: "Bowels move frequently. Much gas and distress in bowels. Ordered to use four to six drops of guaiacol, applied to inner surface of left thigh, every two hours, to rèduce temperature. At 6 P.M. perspired freely. Liquid peptonoids used as food."

August 30th: "Perspired very freely. Bowels still loose. Give one drachm of paregoric as often as necessary reasonably to control bowels."

August 31st: "Remove the ice from patient's side. Profuse sweating. Bowels move a number of times. Apply fly blister to side."

Diagnosis of broncho-pleuro-pneumonia made from general symptoms, pain, prune-juice expectoration, etc. The complicating diarrhœa was of a fetid character, and was very much like that of typhoid fever. The calomel and podophyllin were given in very small doses.

The prevention of consolidation of the lung and the speedy cure (five days), I attribute to the local use of the ice, as no other radical measures were taken, such as venesection or the use of veratrum viride, to jugulate the disease. There were no evils present attributable to the use of the ice.

A CASE OF CARBOLIC-ACID POISONING.

By W. W. KING, M.D.,

DAYTON, O.,

ASSISTANT SURGEON TO THE NATIONAL MILITARY HOME.

On Sunday afternoon, November 22, 1896, Edd. A—— (ward master of Ward 11), in the presence of several patients, poured into a small medicine glass about an ounce of a colorless fluid and swallowed it at a gulp. Immediately afterward he hurried up the ward to the water tank and rinsed his mouth out with water. He seemed excited and to two nurses who asked him what was wrong he stated that he had swallowed an ounce and a half of carbolic acid, mistaking it for morphine solution.

He now hurried over to my room, which was a short distance away, and informed me upon his arrival there that he had swallowed by mistake an ounce and a half of carbolic acid.

Patient seemed very much excited. There was a strong odor of carbolic acid in his breath, and the lips were white. He was asked to seat himself on the sofa and I immediately prepared and injected into his arm a hypodermatic of apomorphine hydrochlorate, one-tenth grain. Soap being the only alkali present at the time, a solution of that was made and given. Dr. B. Jelland entered my room about this time and was asked to bring an alkali. He had a supply of sodium bicarbonate and bismuth subnitrate in his room across the hall. They were brought and quite a quantity of each was given. Patient at this time had considerable difficulty in swallowing. Five minutes having elapsed and vomiting not having occurred, the dose of apomorphine was repeated. No emesis followed. The patient's face, at first flushed, soon became pale and slightly cyanotic. About five minutes after I first saw him he had tonic spasms of the voluntary muscles with muttering delirium; he did not at this time seem conscious of his surroundings.

Tonic rigidity of muscles preventing deglutition, a male urethral soft-rubber catheter was passed through the nostril into the œsophagus, a Davidson syringe attached to the catheter, and a quart of milk pumped into the stomach.

Pallor became markedly increased and the surface of the body cold to the touch. Respirations labored; pulse weak and intermittent; pupils contracted. Patient did not at any time complain of pain.

Fifteen minutes after entering my room he was carried to a ward near by and placed in bed. Bottles of hot water were placed about him and he was well covered with blankets. Nitroglycerin, one-fiftieth grain; strychnine sulphate, one-twentieth grain; tincture of digitalis, ten drops, were given hypodermatically. Whiskey was given freely hypodermatically, the patient having been addicted to constant use of alcoholic beverages.

About thirty minutes after the ingestion of the poison he was catheterized and a half-ounce of urine was withdrawn. The urine had a light color and a very distinct odor of carbolic acid. Fifty minutes after I first saw the man respiration ceased. The pulse still beat feebly. Artificial respiration was resorted to, and in about a minute he again commenced to breathe and continued to do so thirty minutes longer, at which time respiration ceased and the pulse could not be detected. Artificial respiration was kept up ten minutes after death. Autopsy was not allowed.

On investigation we found that the man had swallowed one ounce of pure carbolic acid, he thinking at

the time that it was dilute alcohol which he was in the habit of taking.

I wish to call attention to the fact that in this case apomorphine had absolutely no emetic effect. This was probably due to the fact that the carbolic acid already absorbed had paralyzed the vomiting-centre in the medulla.

Several months ago I had occasion to use apomorphine in a case of chloral poisoning, the patient at the time being in a stupor. It was given in one-tenth-grain doses three times hypodermatically, doses being about five minutes apart. No vomiting was produced.

In my opinion apomorphine as an emetic is unreliable, and in neurotic poisoning, when the drug or drugs taken produce stupor I think apomorphine utterly worthless. Valuable time is often lost while we await its emetic effect. In the carbolic-acid poisoning case if I had not depended on the emetic effect of the apomorphine, I would in all probability have given the nearest alkali and then hurried after a stomach tube. I should probably have been able to wash out the stomach before tonic rigidity became marked. As it was, the jaws soon became firmly closed, and fifteen minutes after I first saw him the introduction of a soft-rubber catheter into the œsophagus (with the intention of pumping a solution of Glauber's salt into the stomach) so interfered with respiration that it was soon withdrawn.

APPEARANCE OF ZOSTER AND SYPHILIS IN THE SAME SUBJECT.

By J. ABBOTT CANTRELL, M.D.,

PHILADELPHIA, PA.,

PROFESSOR OF DISEASES OF THE SKIN IN THE PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE, DERMATOLOGIST TO THE PHILADELPHIA AND FREDERICK DOUGLASS MEMORIAL HOSPITALS.

The simultaneous appearance of a herpes zoster and a syphiloderma in the same individual is so likely to lead one into error that, such a condition having arisen in one of the clinical subjects of the Philadelphia Polyclinic, I venture to record it.

These affections appeared in a woman who presented herself for treatment on February 26, 1896, and, according to her statement, were of only two weeks' duration. Examination of the diseased areas revealed groups of vesicles scattered at irregular intervals upon or around the left shoulder and corresponding portion of the chest. She stated that for about seven days previous to the appearances of these little "bladders," as she termed them, she suffered from the most extreme pain, which did not confine itself to the site of the present lesions, but radiated all through the contiguous areas. This pain was of a neuralgic nature, varying greatly in intensity, at times almost passing endurance, and affecting her in a manner that almost drove her to distraction. Being paroxysmal, it gave her moments in which life seemed to her to be at least tolerable, but in another moment the excruciating pain that was induced was almost unbearable, causing her to walk to and fro through the limited area of her room, with little if any clothing upon the diseased part, as every weight seemed to aggravate the degree of discomfort. Upon the appearance of the vesicles, she says, the pain decreased in some degree, but was still disagreeably uncomfortable, though more of an incessant character, being more like the pain of a dull toot ache.

The lesi ns at the time of her appearance at the clinic were situated upon the left side of the body, encircling the chest, and arranged with the usual manner of grouping. In addition to the lesions seen upon the trunk, there were numerous groups situated upon the external aspect of the left arm and covering its shoulder, but not presenting any contamination of the axillary region. These lesions were all characteristic of the condition, being grouped in the majority of instances with scattering vesicles in rather a direct line along the course of the intercostal nerve, with groups and discrete lesions over the remaining territory. Some of the lesions situated upon the arm had ruptured, possibly from rubbing of the clothing, and were covered with a blood-stained crust, which revealed upon removal some discharge of a purulent material, while those lesions found upon the upper part of the shoulder presented a denuded appearance with the discharge of a sero-purulent character without the formation of a crust. The after-effects were of rather a mild character compared with the previous intense symptoms, but nevertheless the pain which had been the forerunner and an acccompaniment of the vesicular manifestation remained to some slight degree for a period of at least two or three weeks after the entire disappearance of these lesions. During this latter period she was permitted to sleep the entire night, a privilege which was not enjoyed since the seven days previous to the appearance of the zoster.

The foregoing history presents nothing unusual in the history of a herpes zoster, but the peculiar and interesting portion of the case was witnessed in the intrascapular region of the right side, in which a collection of lesions were massed in one group, about midway between the upper and lower angles of the right scapula and on a line with the affection of the opposite portion of the body. These lesions were of a tubercular nature but of a small size, being grouped in a manner similar to the aggregation of zoster vesicles, and for a time it was rather difficult to say whether they were the papular stage of a zoster or whether another disease was present. Upon closer inspection, zoster was entirely differentiated from the diagnosis, because of the absence of the peculiar halo or erythematous redness, which was well-marked upon the lesions occupying the corresponding portion of the opposite side, the hard character of the lesions, the entire absence of pain to the touch, its non-superficial attack, and the amount of induration with the depth to which it had extended.

The color of the lesions was possibly suggestive of no particular disease, as we are all aware of the manifold colorations which the syphilitic process may assume, being in the one instance of what may be termed a raw-ham color, while at another time the coppery hue may be discernible, or at still other times gradations of tints varying from positive redness to bluish redness may be witnessed. The lesions under consideration, as well as the surrounding area, were of a darkish brown color, with no tendency to ulceration or discharge of any character, nor did they present any subjective symptoms of itching or pain—in fact the history, as far as it was obtainable from the patient, did not give any clew to a diagnosis; but she positively stated that the lesions were not there before the present zoster, but had appeared coincidently with it, at somewhat a later period than the attack of zoster. Close inspection revealed that instead of being papules the lesions were tubercles, and, being closely aggregated without discharge or pain, with the depth to which the patch was affected and a peculiar tint which we could not associate with any other disease, they drew my mind to a non-ulcerating tubercular syphiloderm, which indeed the affection proved to be.

There is no doubt in the mind of the writer that such complications may arise, just as well as any other disease may simulate those affections in which it is difficult to make a correct diagnosis without deep inquiry, and for that reason this case is placed upon record.

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Progress of Medical Science.

The Immunizing Power of Nucleohiston and of Histon.—An experimental inquiry into the immunizing power of nucleohiston and of histon conducted by Novy (*Journal of Experimental Medicine*, November, 1896, p. 693) in the hygienic laboratory of the University of Michigan has shown that neither of these substances affords protection against a separate and subcutaneous injection of tetanus toxin, diphtheria toxin, hog-cholera bacillus, or anthrax bacillus. Mixtures of nucleohiston, and both tetanus toxin and diphtheria toxin admixed with nucleohiston, lose their specific toxic action, the second much more rapidly than the first. Animals that survive such inoculations are, however, not immune. In a mixture of nucleohiston and anthrax bacillus the latter is unaffected, even after the lapse of several days (eleven). The destruction of specific toxins in a solution of nucleohiston, though in part due to the sodium carbonate present, is probably due chiefly to the nucleohiston. In a mixture of histon and diphtheria toxin the latter is destroyed in a few minutes. This action is due in part if not wholly to the acidity of the histon solution. Similar mixtures of closely related bodies, serum globulin or albumoses, in Witte's peptone yield analogous results. The animals that survive such injections are not immune. Histon does not destroy the tetanus toxin so readily as it does the diphtheria toxin. Histon possesses decided and marked toxic properties which are not due to the hydrochloric acid present.

Paralysis of Central Origin Following Diphtheria.—Dr. Manicatide (*La Médecine Moderne*, November 7, 1896) distinguishes the following groups of paralysis following diphtheria, or, better, the different terminations of the toxin of the bacillus of Loeffler: 1. A limited group at present. Paralysis due to muscular lesions, without alteration of the nerve substance, to which the studies of Hochhaus bear witness. 2. A group comprising all paralyses due to neuritic lesions: common paralysis, classic and those more rare, which take the form of pseudo-tabes or ascending paralysis. The lesion is always found in peripheral, centrifugal, or centripetal (motor or sensory) nerves. 3. Paralyses with medullary lesions, whether of the gray matter, as in certain cases of persistent muscular atrophy (Oertel, Déjerine), or of the white matter, as in certain cases of the locomotor-ataxia form or sclerosis in patches (Bikeles, Preisz, Henchen). These lesions have been produced experimentally by the Crocq brothers, Hallion, and Enriquez. 4. Paralysis of central origin; cerebral, ordinarily hemiplegic, due to embolism, a hemorrhage from cardiac or vascular lesion, and these have been made the special object of study. The diphtheritic toxin can also have a direct action upon the cerebral nerves, as has been observed by C. Ceni in his experiments. A case of paralysis in an adult clearly due to diphtheritic encephalitis has not yet been found. The degenerative lesions and atrophies of cerebral cells found by Pernice and Scagliosi are disseminated, and do not produce appreciable functional troubles. It is but rarely that one can observe a typical case of lesion purely neuritic, medullary, or cerebral. More often these lesions are combined, neuritic and medullary, cerebral and neuritic, neuritic and muscular, etc. The prognosis and treatment vary according to the nature of the lesion and its importance.

The Human Hand.—In a paper upon the clinical significance of the changes noted in the hand, Dr. A. S. Wohlmann gives the following *résumé* of the various conditions of more or less rare occurrence in which characteristic alterations are noted: 1. Paget's disease (osteitis deformans). The cranium and long bones are the parts usually affected, and though the hands sometimes show changes, these are hardly diagnostic and are very rare. 2. Acromegaly (of Marie). The large size of the hands is due to the excessive development of all the tissues. There is no appreciable increase of length, only of width and thickness, earning for the hands the epithets of "battledore" and "spade-like." The wrists are about normal. The nails are somewhat flattened, small, and longitudinally striated. 3. Hypertrophic pulmonary osteo-arthropathy. The carpo-metacarpus, the hand proper, is about normal in size; but the fingers are enormously enlarged, the bulbous terminal phalanges being especially prominent. The nails are curved and striated, reminding one of the beak of a parrot. There is great enlargement of the wrists. 4. Myxœdematous hands may at first sight be mistaken for either 2 or 3: but it will be seen that the skin of the other parts of the body is involved and it is adherent to the deeper structures. 5. Vasomotor paralysis of the extremities. A few rare cases have been set down to this cause, and may somewhat resemble the foregoing; the presence of subcutaneous hemorrhages may clear up the diagnosis. 6. The hands may exhibit marked changes in rickets, which in rare cases may simulate some of the former diseases; but an examination of the rest of the body will generally readily afford the data for a diagnosis. 7. In leontiasis ossea (Virchow) the hands may be affected; but for diagnostic purposes the changes are unimportant. 8. Nodosities of the fingers have been noted in connection with dilatation of the stomach.—*The Bristol Medico-Chirurgical Journal*, June, 1896.

Serum Therapy in Leprosy.—Dr. Carrasquilla, of Bogota, says the following changes are produced. 1. It restores sensation, more or less rapidly, according to the extent and gravity of the peripheral nerve lesions. 2. It decolorizes the maculæ, without entirely obliterating them; they desquamate abundantly. 3. It makes the œdemas disappear rapidly in some cases, slowly in others; the skin shrinks, becomes wrinkled, and returns to its physiological condition when the œdemas have disappeared. 4. The tubercles become smooth and soft, and disappear by absorption, desquamation, or suppuration, leaving traces at their sites. 5. The ulcers, after suppurating freely, cicatrize with amazing rapidity and leave the skin healthy. 6. The scars of old cicatrized lepromes grow pale and tend to become level with the surrounding skin. 7. The ulcerated mucosæ begin to cicatrize, decolorize like the skin, become sensitive, and the tubercles vanish. 8. The face becomes dry and entirely loses its leonine expression, when the œdemas and tubercles disappear and it becomes decolorized. 9. The appetite returns and so does sleep; the mind is gladdened, contentment takes the place of profound despair and depression of spirits, hope returns. 10. From the first injection of serum the morbific action of the leprabacillus ceases, because from that day on no new manifestation of the disease develops. "I have treated fifteen patients up to the present time, and in all, without exception, I have observed this fact, which I deem fundamental and decisive, since it reveals that the remedy acts directly and immediately upon the cause of the disease, and this is confirmed by the return of sensibility." To obtain the serum a leper is bled and with the serum derived a goat is inoculated. After several days the animal is bled from the jugular vein and the serum is preserved in flasks. Trial is first made on a guinea-pig to make sure that no septic matter is present.—*New Orleans Medical and Surgical Journal*, November, 1896.

MEDICAL RECORD:

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THE TREATMENT OF SYPHILIS BY INJECTION.

SINCE intravenous injections of cyanide of mercury have come up in the treatment of the severer manifestations of syphilis threatening such organs as the eye, the question of the injection method has become somewhat complicated. Formerly one was called upon to decide whether the injected mercurial should be of the soluble or of the insoluble kind. Now the decision must be made between intravenous and subdermic methods. It is no new thing to inject remedies directly into the veins, and even mercurial preparations, notably the bichloride, were long since used in this manner in certain septic and other states.

The tardy and uncertain action of mercury when given by the mouth or by inunction, in certain severe and obstinate syphilitic manifestations, especially when vital or important organs are threatened, has led investigators to pursue their search for better means of introducing the remedy so as to secure more speedy effects. This resulted in the introduction of the subcutaneous and subsequently of the intravenous method.

For the latter it is claimed that advantages are offered which offset the dangers of introducing air into the vein and of causing embolism, etc. One of the advantages claimed by Dr. Jéhin-Prume[1] is that stomatitis is rarely if ever produced. In an experience covering two thousand injections, he saw this complication produced but twice, and each time in a slight degree.

The conclusions this writer has drawn are that intravenous injections should be made only in the severe forms of syphilis, in which an immediate result is desired; when other forms of treatment have given little or no result; when other methods of application have not been accepted by the patient.

They should not be made when the venous system is but little developed, or in patients suffering from cardiac affections, or in patients with disorders of the vascular system—arteriosclerosis, varices, etc.

The syringe and needle must be kept sterile, and great care is required to exclude all air before injecting the solution, which contains one gram of the cyanide of mercury in one hundred grams of water. The maximum adult dose is given as one centigram, or the contents of a syringe holding one cubic centimetre.

Much has been written concerning the relative value of the soluble and insoluble mercurial preparations for hypodermic use, and each method has its ardent advocates. Surprising results have been reported from both methods in equally grave instances of syphilis. The tolerance shown by patients for the weaker solutions of sublimate has led Dr. Irsai to employ solutions of from three to five per cent., and during the past two years he has treated ten cases of severe syphilis of the larynx, giving from seven to ten injections in each. There was no instance of stomatitis, and only once or twice any salivation. An interesting report of a case is made by Horowitz,[1] which would go to show that in syphilitic endarteritis with nutrition changes in the brain or multiple gummata, inunctions may fail because the mercury does not penetrate to the blood current, examination of the urine showing that the mercury is not being absorbed. Stopping the frictions and giving sublimate by deep injection into the muscular tissue brought about speedy relief of the distressing symptoms in the case noted.

Experiments carried out upon animals in Ludwig's laboratory, in Vienna, have shown that mercury penetrates the various tissues in a very unequal manner, and thus is explained the slight effect often obtained in spinal-cord alterations and syphilis of the cornea.

The chief objections usually raised to insoluble preparations are the risks of cumulative effects and the inability to cut short the absorption when stomatitis, diarrhœa, or other signs of intoxication develop; the dangers of abscess formation, indurations, and pain. Yet, in spite of these drawbacks, these preparations would seem to hold the first place in the injection treatment of the present day. Their action is rapid, intense, and sure, and with proper antiseptic precautions they need not occasion fear of abscess, for the great majority of cases. Dr. Thibierge gives, in *La Presse Médicale*, October 17, 1896, the following *résumé* of the opinions held upon the question by those who have recently communicated their views to the Paris Dermatological Society: Injections of calomel are indicated in syphilitic manifestations which are severe by reason of their localization, their rapid progress, their resistance to other methods of mercurialization, their recurrences; they are also indicated each time that there is urgent necessity to establish rapidly and upon a certain basis the diagnosis of a lesion suspected of being of syphilitic nature. Personally, he thinks gray oil preferable to calomel for some cases.

One of the most recently proposed preparations is that of Rille—double hyposulphite of mercury and potassium, one and one-fourth grams dissolved in ten grams of distilled water. Of this a Pravaz syringeful is injected every five days. Although the injections are said to be quite painful, the results were satisfactory to the experimenter in the twenty-eight cases in which he employed the preparation.

[1] L'Union Médicale du Canada, vol. i., No. 9.

[1] La Méd. Mod., No. 19, 1896.

FATAL HEMORRHAGE FROM A GASTRIC VARIX.

The differentiation between hæmatemesis and hæmoptysis, while at times simple and easy, is at other times quite the reverse. Important differential points are the mode of ejection, the appearance and color of the blood, and the presence of air or of food particles, in conjunction with a knowledge of the existence of disease of stomach or lungs. Hemorrhage from the stomach may be due to one of various causes, the most common of which are ulceration, carcinoma, aneurism, and cirrhosis of the liver. Ulceration is likely to be attended with localized pain, general anæmia, and excess of hydrochloric acid in the gastric juice. The positive recognition of carcinoma demands the demonstration of a tumor, although the peculiar cachexia and a deficiency of hydrochloric acid in the gastric juice have collateral significance. Fatal hæmatemesis may follow rupture into the stomach of an aortic or other aneurism whose existence may not have been suspected during life. When gastric hemorrhage is dependent upon cirrhosis of the liver the diagnosis must be based upon the size of the liver, the enlargement of the superficial abdominal veins, the presence of ascites, and the existence of hemorrhoids, together with various symptoms of gastro-intestinal derangement and a typical hepatic facies. Such hemorrhage may take place from numerous small vessels in the form of a general oozing, or it may occur freely from a single large and dilated vessel, or a congeries of such vessels. Sometimes fatal hemorrhage takes place in cases of cirrhosis of the liver from rupture of a varix of this kind in the œsophagus.

At a recent meeting of the Clinical Society of London, Lancaster[1] related the case of a married woman, thirty-six years old, who had felt badly for several weeks, but without definite symptoms, until she suddenly vomited about two pints of blood. Several days later she again vomited a similar amount of blood. There had been no abdominal pain or other symptom of indigestion or of peritonitis. The woman was extremely weak and pallid, and presented the signs of profound anæmia. There was no history of alcoholism or of syphilis. Gastric ulceration was diagnosticated and rectal feeding instituted. Slight improvement appeared to take place, but on attempting one day to turn in bed the woman fainted. Thereafter, in spite of active treatment, the patient continued to run down, dying finally fourteen days after the first hemorrhage. Upon post-mortem examination there was found a varicose condition of several branches of the gastro-epiploic veins in the great omentum and gastric submucosa. The largest of the gastric varices presented on its upper surface a small, circular, smooth-edged aperture about the size of a pin's head. The left kidney and the left adrenal were wanting. In the discussion that followed the reading of the report of this case, the suggestion was offered that if the condition could have been diagnosticated, operation would have been indicated.

Barker (*Lancet*, December 5, 1896, p. 1,583) has reported a series of seven cases of gastric ulceration, all in women, in which operation with suture of the perforation was undertaken, recovery resulting in three. He adds a brief reference to two other cases, occurring in males, in one of which recovery seemed assured, while in the other death took place.

[1] Lancet, October 31, 1896, p. 1,228.

AGAIN THE DIPLOMA MILL.

It is with humiliation that we feel called upon once more to appeal to a sister State in the West to remove a stain from her banner. Communications have been received from many sources, not only here but in Canada, calling our attention to the circulars sent out by the Wisconsin Eclectic Medical College of Milwaukee, with correspondence department in the city of Chicago.

The offer, signed by Fred. Rutland, Ph.D., M.D., places a diploma at the disposal of any one who will pay $35, "all inclusive." The circulars seem to be sent largely to druggists, who are hoped to have aspirations to a profession which "runs side by side with that of pharmacy." It would seem too bad if, in face of the efforts made by the Illinois State board of health and the desires of all reputable physicians the country over, we should approach the new century with this blot still upon American medicine. The vast importance of making a United States diploma respected in all parts of the world should arouse those in authority to unusual effort at once. A State examination in every part of the country, ignoring for the time being every medical-college diploma, is the first step toward the abolition of these disgraceful clap-trap schemes of unscrupulous pretenders.

Rutland and his wife, who poses as the secretary of the "college," are the only members of the faculty who can be found to have any existence, according to investigations recently carried on at the seat of learning.

The president has titles of distinction. It is said that he claims to be a late surgeon and medical officer of the Wagga-Wagga district of the mounted police of South Wales. If they would only come over and take their lost surgeon home! Why stay in Wisconsin when he can have his Wagga-Wagga? And still Great Britain is the first to blame us! He is also a member of the National Union Medical Society of Chicago. Now, in the name of all that is good, will not a member of this society, if there is another member, see that steps are taken to expel Professor Rutland for conduct unbecoming a gentleman? If there is no other member, we should certainly expect him to have decency enough to expel himself at the very next meeting.

A Momentous Question.—A dentist in London has written to *The Lancet* to ask if it would be proper for him to extract a tooth from a patient who had been anæsthetized by a homœopath. The question has staggered even such expert medical casuists as the editors of *The Lancet*, and they suggest that it be referred to the British Dental Association.

News of the Week.

The Plague in Bombay and Kurrachee shows no signs of abatement. According to the official returns up to January 18th, there had been 3,636 cases and 2,592 deaths from the disease in Bombay, and 543 cases with 498 deaths in Kurrachee. It is believed, however, that these figures are far from correct, many of the cases being returned by the native physicians under other names. There has been a great apparent increase in the number of deaths from typhoid fever and malaria, and it is said that many cases of plague are returned as of some other disease through ether ignorance or a desire to spare the family a visit from the sanitary authorities. The *Times of India*, basing its estimate upon the number of deaths which have occurred in Bombay in excess of the average death rate for the last five years, which it thinks may safely be attributed to the plague, says that the disease has caused 9,835 deaths since its presence in Bombay was first officially recognized. Great alarm was caused in Marseilles last Saturday by the occurrence of nine sudden deaths in one street, which rumor attributed to the plague, but which the authorities asserted were due to pneumonia. There was also a report, which was later shown to be false, that a plague ship had arrived at Hamburg.

Obituary Notes.—Dr. William S. Roland, of York, Pa., died on January 23d, at the age of eighty-three years. He was a graduate of the medical department of the University of Pennsylvania in the class of 1835.—Dr. Ellen C. Leggett, the wife of Dr. Charles P. Leggett, of Flushing, L. I., died on January 17th. She was graduated from the Woman's Medical College of the New York Infirmary in 1873.—Sir Isaac Pitman, who arranged the system of shorthand writing in nearly universal use, died in London on January 24th, at the age of eighty-four years.—Dr. Richard J. Hall, formerly of this city, died in Santa Barbara, Cal., on January 23d, after a brief illness. His death was the result of a surgical operation for appendicitis. He was born in County Armagh, Ireland, forty-one years ago. He was graduated from Princeton University in 1875, and from the College of Physicians and Surgeons, New York, in 1878. He was house surgeon at Roosevelt Hospital, and then studied at Vienna. On his return he began the practice of surgery in this city, being associated with the late Dr. Sands. Ten years ago he lost his health through lung trouble, and went to the Pacific coast. There he almost entirely recovered, and built up a large practice in Santa Barbara. A widow and two children survive him.—Dr. Frederick M. Turnbull died at Boston, on January 16th, after a protracted illness. He was graduated from Jefferson Medical College, and had devoted himself to neurology.—Dr. Olive Dewey Aldrich, a graduate of the Woman's Medical College, died of pneumonia at her home in Philadelphia, on January 11th.—Dr. Jacob Reed, formerly of Philadelphia, died of pneumonia, on December 15th, at Colorado Springs, Col., whither he had gone twenty-three years ago on account of pulmonary tuberculosis. He was the founder of the El Paso County Medical Society and a member of the Colorado State Medical Society.—Dr. Joseph S. Brewer died on January 25th, at No. 270 West Ninety-sixth Street, of Bright's disease. He was forty-two years old. Dr. Brewer was born in Cortland, N. Y., and was a graduate of Cornell University and Bellevue Hospital Medical School. He was for several years house physician at the Vendome Hotel. In June last he married the actress, Mrs. Marion Singer-Atwood. Being in poor health, he devoted much time to travel. He is said to have left quite a large estate, much of which goes to a hospital in Cortland.

Dinner of the Alumni of Charity Hospital.—The seventh annual dinner of the Society of the Alumni of the Charity Hospital was given at the Hoffmann House, Wednesday evening, January 27th. The following gentlemen responded to the toasts of the occasion: Drs. George B. Fowler, R. W. Taylor, Hon. John W. Goff, Drs. W. L. Bauer, P. F. Mundé, George F. Shrady, E. D. Fisher, D. B. Delavan, and L. W. Hotchkiss.

Hebrew Sheltering Guardian Society of New York.—Prof. Carl Beck, president of the medical board of this institution, writes: "In your remarks upon the affairs of this institution in your valued issue of January 16th, you assume that the consulting medical board has 'meekly submitted to insult' from the board of managers. This is not the fact. The medical board, on tendering its resignation to the president of the board of managers, received an apology and the tender of absolute supervision and direction of all medical affairs of the institution. We disclaimed responsibility of the report in the medical press, mainly to show that we did not criticise our predecessors."

Action of the Health Board against Rear Tenements.—The referee appointed in an action brought by the board of health to compel the destruction of two rear tenements has filed a report sustaining the board in every particular. The testimony clearly proved that the tenements were unfit for human habitation, and that they were not reasonably capable of being made fit for human habitation. It also showed that the death rate was 45.87, against an average of 24 for the city. The defendants pleaded the unconstitutionality of the act, but the referee assumed the contrary, and the case was tried upon its merits. Should the act be sustained by the court when the referee's report comes up for approval, the board of health will proceed immediately against about fifty more rear tenements.

Following a Doubtful Example.—It is reported that Health Commissioner Starkloff, of St. Louis, will recommend to the board of health of that city that pulmonary tuberculosis be declared infectious.

An Epidemic of Measles is reported to exist at Shamokin, Pa., upward of two hundred cases having been reported up to January 19th, when the epidemic manifested no sign of abating.

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on January 13th in the upper hall of the College of Physicians, the president, Dr. J. C. Wilson, in the chair. Dr. T. S. K. Morton demonstrated an electric headlight, provided with a reflector and with an extremely simple and ingenious switch; and also a small light for introduction into cavities and the like, kept constantly cool by a current of water flowing around the glass bulb, which is in turn surrounded by a second glass bulb. Dr. Morton presented a woman from whom he had excised the head of the left radius for the correction of a dislocation of eight months' standing, with perfect return of mobility and restored function. He also presented a young man in whom skin-grafting after the method of Thiersch had been resorted to successfully to promote the healing of a large wound, extending from the malleoli to above the knee, and resulting from a burn with scalding water. Amputation was recommended, but the patient declined operation. The grafting extended over a period of almost a year. Dr. J. P. Mann read a paper upon the treatment of club foot, in which he spoke warmly of manipulative and mechanical treatment and tenotomy. In an experience dealing with some five hundred cases of club foot, he had seldom if ever found operation upon the bones necessary.

The Medical Students in Paris number no less than 5,445, of whom 1,280 are foreigners and 27 are women.

Competing Medical Meetings.—The meeting of the British Medical Association in Montreal in August next, besides drawing away from attendance at the International Congress in Moscow, will also, it is asserted, interfere with the Philadelphia meeting of the American Medical Association. The Chicago correspondent of the *British Medical Journal* writes that, while there will doubtless be a large attendance at Philadelphia, Montreal is certainly going to see many American practitioners at the time of the British meeting. "The visit to that city alone (which, by the way, is quite as easily and comfortably reached from the populous northern and western States as Philadelphia), the fact that a new body of professional brothers can be seen in working order, and can become known socially and measured intellectually, and that teaching from new sources may be obtained, and the knowledge that this is to be the first of its kind, and that it will to a very large extent take the place of the Moscow meeting, will turn much attention toward Montreal. Let it not be understood from this that there is any evident feeling of opposition to the Moscow congress, or that any sense of strife has been engendered. It is simply a question of, first, distance (in the one case a distinguished meeting is brought close to home, in the other it is carried far away); second, a common language; and third, the very fact that, although denominated the meeting of the British Medical Association, yet, after all, and in point of breadth and value, it will be regarded, as it will quite be in fact, as having the value and elements of an international assembly. Then there is another factor which will turn many toward Montreal, viz., the open hostility to the American Medical Association in Boston and New York. Of course, these gentlemen would not attend the Philadelphia meeting. They will, however, go to Montreal, and will very decidedly help to swell, not only the members from this side, but their individuality and reputation will lend much to the interest of the occasion, and their going will carry many others. In Chicago and vicinity we look for a division of interest and attendance."

Philadelphia Pediatric Society.—The first stated meeting of the recently organized Philadelphia Pediatric Society was held on January 12th and was largely attended. Dr. F. A. Packard exhibited a boy, of about thirteen years old, who presented marked dilatation of the stomach, probably of congenital origin. Dr. Alfred Stengel exhibited a child, about six years old, presenting weakness and wasting of the lower extremities, with defective station and steppage gait, without sensory involvement, but with increased knee jerks, in the sequence of arsenical treatment for the relief of chorea. The dose of the Fowler's solution used had been gradually increased from three to ten drops thrice daily. The case, though presenting elements of doubt, was concluded to be one of arsenical neuritis. Dr. Charles S. Potts demonstrated a case of progressive neural atrophy (peroneal type) in a young man about eighteen years of age. Dr. M. H. Fussell exhibited two cases of cretinism, one in a child of seven years and the other in a boy of twelve, in both of which marked general improvement and increase in stature had followed treatment with thyroid extract. Dr. H. B. Carpenter also exhibited a case of cretinism in a child, three and a half years old, in which a like result followed similar treatment. Dr. George Woodward presented a communication entitled "The Chemistry of Colostrum Milk." The new society has apparently entered upon a very prosperous career and promises to take a conspicuous place among the scientific bodies of the city.

Duty on Scientific Books.—Among the works in the English language which are admitted free of duty are "scientific books and periodicals devoted to original research," and there has been some doubt as to the interpretation of this clause. The treasury department has recently issued a circular to the collectors of customs in which it is said that certain books have been admitted under a too liberal construction of the law, and the customs officers are notified that the words "scientific books and periodicals devoted to original scientific research" relate to new discoveries in the field of science, and do not include text-books, compilations, and discussions of scientific subjects already understood. It is still uncertain how much original matter will entitle a book to free entry as one "devoted to original research," but a case which has come up recently in Philadelphia concerning the importation of a medical work has been appealed to the circuit court, and may bring about a settlement of the question.

A Strike of Doctors.—At Yarmouth, England, the physicians demanded higher fees from the benefit associations than they had been paid, and a limitation of the classes of patients to be attended at club rates. The physicians struck. The associations combined, and, finding that they provided $10,000 worth of business a year, established a central office of their own, hiring a doctor from out of town to manage it. The strike failed.

Memorial for a Permanent Census Service.—The Michigan State board of health, Dr. Henry B. Baker, secretary, has passed a resolution urging the passage by Congress of a bill, introduced by the Hon. Carroll D. Wright, for the establishment of a permanent census service, on the ground that great advantage would result therefrom to the sanitary interests of the country.

Dr. Cullingworth, who had such a disagreeable experience with a charity patient who sued him for malpractice, has received through subscriptions from his professional brethren a sum sufficient to cover fully all the expenses of his trial. He has furthermore been elected president of the London Obstetrical Society as a testimony of the esteem in which he is held by his associates.

Male versus Female Nurses.—The superintendent of the Kings County Hospital does not approve of male nurses, and proposes to discharge all in the hospital and place the male wards in the charge of women. He is reported to have said that there never was a man born fit to be a nurse, that men are not quiet and sympathetic but rough, and apt also to be untidy.

The Greater New York Health Board.—Health Commissioner Emery, of Brooklyn, has sent a communication to the Greater New York Commission with reference to the health-board provisions of the proposed charter, in which he enters emphatic protests, first, against making the head of the department of health a board composed of four members, and second, against the discrimination which is here made against the members of the medical profession by the provision that under no circumstances shall a physician become the president of such board. He also suggests that in the presence of great and imminent peril, such as is liable to arise from impending or existing pestilence, it is unwise to limit to $80,000 the extraordinary expenditures of the health department. He thinks the provisions of the charter enforcing a certain method of disposition of garbage, ashes, and street refuse are very unwise, for in this way the hands of the health board would be tied, and no matter what better and cheaper methods might be devised in years to come, they could not be adopted by the board until after an amendment to the charter had been obtained from the legislature.

Suit for Damages for Ante-Natal Injuries.—It is stated in the *Medical Standard* that a suit has been instituted against St. Luke's Hospital of Chicago by Thomas Edwin Allaire, through his mother, which is reported to be the first case of its nature in this country. In February, 1886, three days before the birth of the plaintiff, his mother, Ada A. Allaire, was injured in an elevator at the hospital. When the plaintiff was born, it was found that his left leg was drawn and the muscles were contracted. The limb is three inches shorter than the other one, and he will be always lame. For these injuries received before his birth the youth wants $50,000 damages.

The Adelaide Hospital.—The physicians in Adelaide who were ousted from the public hospital there, their places being filled by Dr. Leith Napier and another doctor from London, are no more than human, and doubtless, therefore, are not mourning over the trouble Dr. Napier has got himself into. Within a month after he commenced his duties in the hospital, he performed a Cæsarean section on a woman, who died in consequence. According to the testimony of the husband and relatives of the patient, no authorization for the operation had been granted, either by the woman or her husband, and it is sought to bring a charge of manslaughter against the operator. There has been so much said about the matter that the legislative council has appointed a special committee to investigate the management of the hospital under Dr. Napier and his colleague.

Montgomery County (Pa.) Medical Society.—The annual meeting of the Montgomery County Medical Society was held on January 13th, at Norristown, Pa. The following officers were elected for the ensuing year: Dr. J. W. Graff, of Harleysville, *President;* Drs. J. R. Care and C. H. Mann, *Vice-Presidents;* Dr. H. H. Whitcomb, *Recording Secretary;* Dr. J. K. Weaver, *Corresponding Secretary;* Dr. S. N. Wiley, *Treasurer;* Drs. C. H. Mann, J. D. Weaver, and J. O. Knipe, *Censors;* and Drs. D. H. Bergey, J. N. Hunsberger, and J. K. Weaver, *Examiners.* Delegates were also elected to the American Medical Association and the Medical Society of the State of Pennsylvania.

Spinal Meningitis in Horses.—It is reported that a fatal epidemic of spinal meningitis prevails among the horses in Phœnixville, Pa. When one animal is attacked the disease usually goes through the whole stable, and recovery is rare in those attacked. The veterinarians seem unable to check the inroads of the disease.

Philadelphia Medical Club.—At the annual meeting of the Philadelphia Medical Club, on January 13th, the following officers were elected for the ensuing year: *President,* Dr. John H. Musser; *First Vice-President,* Dr. Henry Beates; *Second Vice-President,* Dr. A. K. Minich; *Secretary,* Dr. Lemuel J. Deal; *Treasurer,* Dr. Wilson Buckby; *Board of Governors,* Drs. J. M. Barton, Frank Fisher, Charles K. Mills, A. H. Hulsizer, and W. E. Ashton; *Executive Committee,* Drs. J. H. W. Chestnut, L. Webster Fox, E. E. Montgomery, James Van Buskirk, and Guy Hinsdale.

Carrier Pigeons in Medical Practice.—Dr. Charles L. Lang, of Meridian, N. Y., writes: "I wish to call the attention of the medical profession, especially of the country doctors, to a means of messenger service that is at once inexpensive, effective, speedy,

and pleasant. I refer to the use of homing pigeons. For ten years past I have bred them and used them in my practice. When the condition of a patient is critical, especially if he lives at some little distance from the office, I can leave three or four birds with the nurse or some member of the family, who will release one at stated intervals, bearing a blank filled in with a detailed record of time, pulse, temperature, respiration, and remarks, etc., the whole enclosed in an aluminium capsule, made to clasp on to the leg (a recent invention), and away the bird speeds at the rate of from thirty to sixty miles an hour, in a beeline for his loft. When he enters the loft he passes through bolting wires that open inward into an enclosure about two feet square, where he is a prisoner till I remove his message, when he is turned loose with the other messenger boys to enjoy the society of his family till such time as he is needed again. Those who travel day after day over lonely country roads will appreciate any method of saving useless trips."

Scarlet Fever in East Orange is reported to have been spread by a milkman, who permitted his daughter, while convalescent, to cleanse the cans. It is said that twenty or thirty instances of the fever have occurred in families along his route.

New Treatment for Rabies.—Vapor baths combined with sudorifics is believed by Buisson, the discoverer of the method, and by others who have tried it, to be a cure for hydrophobia superior to that of Pasteur.

The War Against the Practising Physician.—There has been a disagreement among the officials of the Brownsville Dispensary in Brooklyn, and the seceding members of the dispensary staff have organized a new dispensary, under the name of the East New York Polytechnic Dispensary, and it has been opened in Osborn Street and Blake Avenue. It will be conducted on the basis of free medical attendance and ten-cent prescriptions, but the medicine will be furnished gratis to patients who are too poor to pay for it. And so the good work of pauperizing the poor and ruining the physicians goes merrily on.

Dr. J. F. Erdtman has been elected attending surgeon to the St. Mark's Hospital of this city.

Dr. L. Pierce Clark has been appointed first assistant physician at the Craig Colony for Epileptics, Sonyea, N. Y.

The International Language Question.—In the issue of the *Allegheny Literary Monthly* (Meadville, Pa.) for December, 1896, appeared an article, entitled "Modern Greek as the Universal Language," contributed by Dr. Franklin B. Stephenson, U.S.N.

Dr. Douglas Powell, physician extraordinary to the Queen and physician to the Middlesex Hospital, was created a baronet at New Year's.

The President of the Board of Health.—The New York Medico-Surgical Society has sent to the Greater New York commission a protest against the proposed clause in the charter providing that a non-medical member of the health board shall be president. The committee delegated to draw up the protest consisted of Drs. Fite, McEnroe, and Manges.

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on the evening of January 14th in the lower hall of the College of Physicians. Dr. D. J. McCarthy exhibited a ruptured aneurism of the cœliac axis. Dr. D. Riesman exhibited specimens of miliary sarcomatosis of the liver and spleen, and also papilloma of the bladder causing death by hemorrhage. Dr. D. L. Edsall reported a unique case of occlusion of the œsophagus by tuberculous deposit, in conjunction with carcinomatous infiltration, and exhibited stained sections. Dr. Joseph McFarland demonstrated a heart presenting malignant endocarditis following gonorrhœa. Gonococci were not found in smear preparations, and, owing to the unfavorable condition of the subject, the results of bacteriologic culture could not be depended upon. Dr. McFarland exhibited also a specimen of verrucose endocarditis of the aortic valve. Dr. J. Dutton Steele read an interesting communication upon "The Distribution and Etiology of Cardiac Hydrothorax." From his studies he found that pleural effusions are commoner upon the right side than upon the left, and when bilateral greater upon the right than upon the left. The conclusion was reached that this distribution is dependent, in part at least, upon dilatation of the auricles, the right suffering the more commonly and in the greater degree. The effusion was attributed, among other influences, to this pressure exerted by the auricles upon the veins and the lymphatics at the root of the lungs, upon low grades of inflammation of the pleura, and upon changes in the blood-vessels and in the blood. Drs. J. H. Lloyd and J. D. Steele exhibited a specimen of hypertrophic cervical pachymeningitis. Dr. William G. Spiller exhibited a brain from a boy with extensive porencephaly in the speech centre, but who was at least able to sing. The left pyramid was wanting, although considerable motor power was preserved upon the right side of the body, but the right pyramid was considerably enlarged. It was pointed out that the functions of the destroyed or undeveloped parts of the brain had probably been taken up by the corresponding parts in the opposite hemisphere. Dr. J. D. Steele exhibited a perforating duodenal ulcer from a case of pneumothorax in a tuberculous subject.

Vital Statistics of Philadelphia.—For the week ending January 9th there occurred in the city of Philadelphia 513 deaths, of which 142 were of children under the age of five years. This number exceeded that of the preceding week by 11 and that of the corresponding week of the previous year by 24. The individual causes of the largest number of deaths were: pneumonia, 87; pulmonary tuberculosis, 64; heart disease, 31; diphtheria, 24; bronchitis, 23. There were reported to the board of health during the week 92 cases of diphtheria, 57 of scarlet fever, and 55 of typhoid fever.

Father L. L. Conrady, who succeeded Father Damien in charge of the leper colony at Molokai, Hawaii, has come to this country intending, it is said, to fit himself more thoroughly for his task by studying medicine. Another Father Damien, a brother of the dead priest, is in charge of the colony during Father Conrady's absence. The latter was interviewed by the reporter of a San Francisco paper concerning leprosy, and gave it as his opinion, formed from long observation of lepers in Hawaii and Japan, that leprosy can be transmitted only by inoculation. He believed that a person who takes proper precautions as to cleanliness and never allows any part of his skin that may be in any way abraded or broken to come into contact with the person of a leper may go on for years living among them without contracting the disease. Father Damien, he said, contracted the disease through his unwillingness to refuse attendance on a boy who had been badly hurt in an acccident. "Father Damien was suffering from a badly bruised hand, but, binding the wound with antiseptics and trusting for the best, he dressed the boy's wounds. His precautions were useless. He had become inoculated and it was not long before the marks of a leper appeared upon him." There are at present in the leper colony at Molokai 1,200 patients, 17 of whom are white men, 2 white women, 25 Chinese, and 1,156 native Hawaiians.

A Medical President.—M. Adolphe Deucher, who has just been elected president of the Swiss Confederation for the ensuing year by an almost unanimous vote, is, the *British Medical Journal* notes, a member of the medical profession. He was born in 1831, and was actively engaged in medical practice till 1879, when he retired in order to devote himself entirely to political life. He had, however, for some twelve years before that been a member of the Swiss Parliament, in which, though a stanch Catholic, he played a conspicuous part as a radical.

The Rinderpest Bacillus.—Professor Koch, who has been sent to South Africa at the expense of the British government to study the rinderpest, has a very easy job on his hands, if a Calcutta correspondent of the *British Medical Journal* is correct in his statements. He says that if the rinderpest in Africa is the same as that going under the name of rinderpest in India, then Professor Koch is going to search for a bacillus which Dr. Simpson, the well-known medical officer of health of Calcutta, has had in his possession for two and a half years. The organism is a sporeless motile bacillus which can grow both with and without air, but gradually becomes attenuated by repeated growths in air. Dr. Simpson saw Professor Koch in Berlin last May, and communicated to him the nature of his discovery. He was unable to show his cultures, having left them in London with Professor Klein a few weeks before.

West Branch (Pa.) Medical Association.—The sixth annual meeting of the West Branch Medical Association, embracing the counties of Lycoming, Union, Clinton, Northumberland, Bedford, Center, Clearfield, Huntingdon, Cameron, and Elk, was held at Bellefonte, Pa., on January 12th, and the following officers were elected for the ensuing year: *President*, Dr. J. Y. Dale, of Lemont; *First Vice-President*, Dr. George R. Nutt, of Williamsport; *Second Vice-President*, Dr. W. R. Palmer, of Johnsonburg; *Secretary*, Dr. J. M. Carson, of Chatham's Run; *Treasurer*, Dr. Mary Wensck, of Sunbury; *Executive Committee*, Drs. Hibler, Armstrong, McCormick, Stewart, Kane, and Henderson. A resolution was adopted for the appointment of a member of the society to present at the next meeting of the State society a paper praying for the appointment of a committee to inquire into the merits and demerits of cases of prosecution for malpractice and to assist the defence as far as possible. Among the papers read were the following: "The Treatment of Cancer of the Rectum," by Dr. W. W. Kenn, of Philadelphia; "A Case of Right-sided Pneumonia, with Pleuro-Pneumonia of the Left Side," by S. C. Stewart, of Phillipsburg; "The Treatment of Retrodisplacements of the Uterus," by Dr. B. F. Baer, of Philadelphia; "Some Clinical Facts," by Dr. H. G. McCormick, of Williamsport. The retiring president, Dr. R. B. Watson, delivered the annual address.

Berks County (Pa.) Medical Society.—The annual meeting of the Berks County Medical Society was held at Reading, Pa., on January 12th. Dr. M. A. Rhoads was elected *President* for the ensuing year, Dr. James W. Keiser *Secretary*, and Dr. Daniel Longaker *Treasurer*. Dr. Charles W. Bachman delivered the president's address, and the meeting was followed by a banquet.

Additional State Hospitals in Pennsylvania.—The Pennsylvania State board of public charities in its report to the legislature points out the "pressing need for an additional State hospital for the insane," "which should be permanently under homœopathic control and be solely and exclusively for the homœopathic treatment of the insane." The demand is also noted for an institution for the exclusive treatment of epileptics and the epileptic insane, to be called the "State Hospital for Epileptics of Pennsylvania," for which a bill has been prepared. A recommendation is made for legislation for the care, treatment, and detention in a separate State institution, of persons addicted to the habitual use of opium, morphine, cocaine, and the like and similar treatment for dipsomaniacs and inebriates. A proposition is endorsed to construct upon the grounds of the Western Penitentiary a building to be used as a State hospital for the convict insane.

University of Pennsylvania. —According to official statistics, the total enrolment for the current year in all of the departments of the University of Pennsylvania is 2,811—an increase of 179 over last year. The total number of teachers is 242, as compared with 251 last year. The medical department alone includes 920 students, an increase of 47; the auxiliary department of medicine 48, an increase of 4; the laboratory of hygiene 29, an increase of 6; the department of dentistry 373, an increase of 50; the department of veterinary medicine 50, an increase of

11. The medical department has 82 officers of instruction, the auxiliary department of medicine 5, the laboratory of hygiene 4, the department of dentistry 35, and the department of veterinary medicine 17.

In Aid of the Wounded Cubans.—The editor of the *Cleveland Medical Gazette* gives notice that he is ready to collect in Cleveland and vicinity whatever may be donated to the Cuban cause by physicians or pharmacists, in the line of medicines, drugs, and dressings, or money for purchase of the same, and to forward them to the proper Cuban agents to be sent to the front.

The International Medical Congress.—The titles and abstracts of all papers to be read at the Moscow congress should be sent to the executive committee not later than June 1, 1897.

The Fremont Polytechnic School.—Some colored men have been obtaining subscriptions in this city in aid of an institution with the above title, which they say is located in Alexandria, Va., and is for the education of colored boys. Inquiries addressed to the persons to whom the solicitors of funds refer bring the information that nothing is known of the alleged school.

"The Albany Medical Annals" appears with the new volume in a new dress and under the editorial management of Drs. Andrew MacFarlane and J. Montgomery Mosher.

"The Fort Wayne Medical Journal-Magazine" is the title of a new publication, formed by the consolidation of the *Fort Wayne Medical Magazine* and the *Journal of the Medical Sciences*.

Sir Joseph Lister, now Lord Kinnear, is not the first medical man to be raised to the peerage, but he is the first to be so honored for medical achievements. Lord Playfair, a qualified physician, was made a peer for political reasons solely.

To Prepare against the Plague.—The president of the Philadelphia board of health, Dr. William H. Ford, has been appointed a committee of one to confer with the secretary of the State board of health and the quarantine physician on the subject of the bubonic plague, with a view to preventing its possible entrance into the port of Philadelphia.

The Founder of the Red Cross Society, M. Henri Durant, is in an almost penniless condition. A committee, therefore, has been started in Stuttgart, in order to raise a sufficient sum of money for the purpose of providing for him in his old age. Contributions may be forwarded to the "Henri Durant Fund," care of the burgomaster, Stuttgart.

A Victim of the Dispensaries and Their Rival.—A pitiful tale is told in the London *Daily Telegraph*, of the straits to which the humbler members of the medical profession in that metropolis are reduced by the multiplication of dispensaries and the growing evil of club practice. Among other instances it is related that "one fully qualified medical man, who is said to have passed his examinations with brilliancy, has descended to a lower depth than even the sixpenny doctor. He is settled in one of the poorest districts of St. George's-in-the-East, and outside his surgery is painted in bold Roman letters: 'Advice and Medicine, 4½*d*. Superior ditto, 6*d*.' Where the three-halfpennyworth of superiority lies is a puzzle to the more thoughtful inhabitants of the district." Commenting upon this case, the *Medical Times* says that "when a leading London daily paper draws attention to conduct of this kind on the part of members of an honorable profession, it affords convincing evidence of the degradation to which many of our poorer brethren have been reduced. It is not reasonable to suppose they can choose such work, and it can only be presumed it is the *res angusta domi* that forces them thus to drag in the dirt their professional dignity." The causes for this "degradation" enumerated by our contemporary are the old familiar ones of competition with lodge doctors, unqualified practitioners, dispensaries, and patent-medicine makers.

Ball for Medical Charities.—The seventeenth annual Charity Ball was held in the Academy of Music at Philadelphia, on January 21, 1897, and was eminently successful. The proceeds will be equally divided among the Maternity Hospital, Howard Hospital, the Polyclinic Hospital, the Gynecean Hospital, the Philadelphia Lying-in Charity and Nurse School, and the Rush Hospital for Consumptives.

"The Edinburgh Medical Journal" appears with the new year in a new dress, under new editorial management, and with a new publisher. The editor is Dr. George A. Gibson; the publisher, Young J. Pentland. The contents of the journal are of the high order characteristic of this excellent publication.

The Meeting of the British Medical Association.—The city council of Montreal has asked the Quebec legislature for permission to appropriate $3,000 to help defray the expenses of the meeting of the British Medical Association in that city in August next.

Dental Department of the Medico-Chirurgical College.—The matriculation books of the new dental department of the Medico-Chirurgical College of Philadelphia were opened on January 25th for the registration of students. The course of instruction will begin next October, and will cover a period of three years. The professors of anatomy, physiology, and chemistry will be the same as those in the medical department of the college.

Franklin County (Pa.) Medical Society.—The quarterly meeting of the Franklin County Medical Society was held at Chambersburg, Pa., on January 19th. Delegates were elected to the American Medical Association and to the Medical Society of the State of Pennsylvania.

Dr. G. Sims Woodhead, director of the research laboratory of the conjoint board of the Royal Colleges of Physicians and Surgeons, has been elected president of the British Medical Temperance Association, in place of the late Sir Benjamin Ward Richardson.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-First Annual Meeting, Held at Albany, January 26, 27, and 28, 1897.

JAMES D. SPENCER, M.D., OF WATERTOWN, PRESIDENT.

Tuesday, January 26th.

President's Inaugural Address.—DR. SPENCER, of Watertown, read a brief inaugural address. It was a matter for congratulation that we had the most active State medical organization in the United States. In obtaining medical legislation in certain important directions the society had been ably seconded by the homœopathic and eclectic State societies. The loss by death included a number of well-known members. The State board of health should be given absolute control of the water supplies of the State, with a view to prevention of their contamination. A larger appropriation should be made for carrying out the law for the destruction of tuberculous cattle. Offensive trades should be more thoroughly under the control of the health board. It was recommended that a committee of five or ten be appointed to meet committees from other State societies and consider the question of establishing a national confederation of committees of legislation of State medical societies. There had been an increase in the number of medical and law students in the State in spite of the lengthened term. The proportion of medical students in New York State was seventeen per cent. of the whole number in the United States. Before the State board of medical examiners 733 candidates had taken the examination; 552 were successful, 181 unsuccessful. Before the homœopathic board 52 were examined; 40 of them were successful. Before the eclectic board, 20; 18 of them were successful.

Report of State Board of Medical Examiners.—DR. MORRIS J. LEWI read the report. The number of candidates was essentially as stated above. Since the establishment of the board the students in the State had increased instead of decreased. The property of the medical colleges had increased over one hundred per cent. The State board of Pennsylvania no longer recognized a license from the New York State board, because the latter did not recognize a license from it. But the standard was too low in Pennsylvania to permit the New York board accepting a license granted in that State. Since the board had been established there had been 2,832 applicants, of whom 927 had been rejected, or 29.2 per cent.

Report of Legislative Committee.—DR. A. WALTER SUITER read the report. Its work had been to oppose certain bills and introduce others. The bills which were favored or opposed related to exemption of certain persons from taking the State examination, to vivisection, alcoholic education, midwifery license, optic society bill, chiropodist bill, reorganization of coroners. The report was adopted.

Report of Treasurer.—DR. PORTER, of Albany, reported as expenditures, $5,349; balance, $2,778.

DR. F. C. CURTIS read the report of the committee on publication, which was approved.

Report of Committee on Legislation.—DR. HOPKINS, of Buffalo, read the report. Nine-tenths of the deaths in the State were unnecessary, and must be taken as a measure of our inefficiency. The principles and practical rules of hygiene must be discovered and initiated and public opinion must be created to appreciate such principles and support such action. The committee thought the society should advise the formation of local societies in which doctors and the public should inform themselves on matters of hygiene, particularly in connection with their own towns. They might report to the State society through its committee on hygiene. A motion was adopted recommending that steps be taken to organize local sanitary societies, as suggested in the report.

Committee on Vivisection.—DR. W. O. STILLMAN, of Albany, moved that a committee of three be appointed in compliance with a request from the Humane Society to confer with a similar committee from that society to consider legislation bearing on vivisection. The motion was adopted, and Drs. A. Jacobi and Albert Vander Veer were appointed as two of the committee.

Irregular Practitioners.—DR. WILDY called attention to the fact that there was a maximum punishment of $250 for irregular practitioners, but no minimum punishment was named. The consequence was usually an insufficient fine, especially by country justices. The matter was referred to the committee on legislation for consideration.

Length of College Course.—DR. DANIEL LEWIS moved that in view of the long course now required of students in medicine, the committee on legislation be directed to draft a bill to modify the present law and allow medical students, graduates of literary colleges, to be credited with the last year of study in such literary college. The motion was seconded by Dr. Roosa, who said that under the law, if not changed, one would not be ready to practise medicine before his thirtieth year. The requirements and duration of studies exceeded those in Germany. The resolution was adopted.

A Geographic and Arithmetic Lesson on Blindness in New York.—DR. LUCIEN HOWE, of Buffalo, read the paper. Twenty-one per cent. of all the blind in the asylums of this State had become so from ophthalmia neonatorum. There was an efficient preventive, the Credé method, or instillation of a solution of nitrate of silver into the eyes of the newly born. He favored a law requiring its use in all institutions, if not as well in private practice.

DRS. MOREL, BENDELL, and VAN FLEET approved of the Credé method, but did not believe it ought to be made obligatory upon the medical profession.

The Fitting of Glasses.—DR. M. L. FOSTER, of New York, read the paper. The author and those who discussed the paper, DRS. ROOSA and VAN FLEET, claimed that every graduate in medicine nowadays had sufficient knowledge of ophthalmology to fit glasses in most cases and decide whether any operation was necessary to correct reflex epilepsy, etc. But a knowledge of general medicine was essential, and they opposed the prescribing of glasses by opticians.

A Contribution to the Study of Cough Due to Irritation of the Upper Respiratory Tract.—DR. CHARLES N. COX, of Brooklyn, was the author of this paper. In his experience the most frequent sources of nasal cough were disease in (1) posterior part of inferior turbinated, posterior end of septum; (2) similar part of middle turbinated and of septum opposite. Another source of cough was in the pharynx. The author thought a good many cases of cough were caused by conditions above the larynx, although they were scarcely mentioned in text-books.

DR. JOHN O. ROE had found a number of cases of cough due to enlargement or disease of glands at the base of the tongue.

Practical Conclusions Drawn from a Study of Five Hundred Cases of Cardiac Disease.—DR. JAMES K. CROOK, of New York, read a paper giving practical conclusions drawn from a study of five hundred cases

of cardiac disease, with special reference to the comparative prognosis of the valvular lesions. Out of 6,000 patients examined at the hospital in a given period there had been 500 of disease, functional or organic, of the heart or vessels; 277 were functional, 226 were organic. The organic were subdivided into: mitral regurgitant, 60: mitral stenosis, 35; aortic regurgitant, 7; aortic stenosis, 36; tricuspid regurgitant, 36; pulmonic stenosis, 1; double aortic lesions, 19; double mitral, 12; aortic stenosis and mitral regurgitant, 4; also a few other combinations of lesions. There were more cases of organic lesion in males, more of functional cases in females. Aortic disease was more common in males, 51 cases to 29 in females. While mitral regurgitant was the most frequent of all valvular lesions, it was the most hopeful. They had kept many patients under observation many years, in whom there was no particular discomfort. In aortic inefficiency water-hammer pulse was as valuable a physical sign as murmur.

Dr. Richard Van Santvoord, of New York, called attention to the value of the sphygmograph in determining the amount of regurgitation. Hammer pulse might be due in some degree to want of elasticity in the arteries; but it was an unfavorable sign, whether due to this cause or to aortic inefficiency.

Dr. Long continued the discussion.

Some Diseases of the Alimentary Canal in the Light of Its Development and Ancestry.—Dr. Woods Hutchinson, of Buffalo, had time to read a part of a paper on this subject, and to make demonstrations. The development of the digestive tract was traced through amœba, hydra, anemone, molluse, worm, fish, sheep, dog, man. In the bearing of development upon diseases of the stomach, attention was called to the sacculations and distention of the organ, seen hardly ever in dogs, but frequently in the horse and ox, and more often in man than many believed.

Some Unusual Causes of Cough.—Dr. Emil Mayer, of New York, in this paper mentioned cases of disease in the naso-pharynx and pharynx as causes of reflex cough, among them one case of leptothrix pharyngeus. Signs of a reflex cough were spasmodic paroxysms without expectoration or rise of temperature; further, when there was absence of physical signs of pulmonary and bronchial disease; further, when there was persistent resistance of medication; also when the general health remained comparatively undisturbed.

Does the United States Pharmacopœia Keep Pace?—Dr. Eli H. Long, of Buffalo, in this paper referred to the initiation of the United States Pharmacopœia by this society in 1818. In its first revisions, 1840, 1850, there were more delegates from the medical profession than from the pharmaceutical. But the pharmacists had steadily increased since 1860 to 1890. He thought this society should take a more active part. There were two questions of interest, namely, (1) whether to introduce dosage; (2) whether to introduce certain synthetic preparations which might be proprietary. For some years almost our sole information regarding new remedies had come from the pharmaceutical chemists.

Dr. L. F. Bishop spoke of the deception of some manufacturers in passing as synthetic agents a combination of agents, especially some of the coal-tar series with bicarbonate of sodium, etc.

The Effects of Cigarette Smoking on the Respiratory Mucous Membrane.—Dr. C. C. Rice, of New York, in this paper referred briefly to the literature bearing upon the poisonous agents in cigarettes, the extent of their use, their greater use by the youth than cigars, their effect upon the nerves, etc. Dr. Rice thought it was sufficient to recognize nicotine as the poisonous agent, in condemning the use of cigarettes, although other injurious agents might also be present. It had been estimated that fifty cigarettes for every inhabitant were sold in this country. During the last few months the reader had seen five cases in young men addicted to excessive cigarette smoking of atrophic catarrh and congestion of the larynx and trachea, causing cough. The atrophic rhinitis was not of family type, and as it occurred in all five cases with the same symptoms he attributed it to the cigarette habit. In this habit the tobacco smoke penetrated nose and trachea usually, and it was to be expected it would cause irritation and drying up of the secretions. Dr. Rice approved of legislation against cigarette smoking.

Dr. Emil Mayer agreed as to the injurious effects of smoking, but questioned the advisability of restrictive legislation.

A Contribution to the Study of Amœbic Dysentery.—Dr. Charles E. Lockwood, of New York, read the paper and related a case of amœbic dysentery, in which for some time the cause of the dysentery was not recognized. Finally, repeated microscopic examinations of the stools revealed the amœba. The treatment was chiefly by rectal irrigation with solution of quinine, increasing in strength from 1 to 3,000 to 1 to 1,500, resulting in a cure in five days. The diagnosis should be made early if possible, that treatment might reach the amœbæ before they penetrated the submucous tissue, got beyond the reach of the medicinal agent, and finally caused abscesses in neighboring or somewhat distant organs.

Fancies and Facts in Our Work.—Dr. Joseph Eastman, of Indianapolis, in this paper took opportunity to express views on treatment of cancer of the uterus and some other pelvic diseases, on drainage (which he believed in under some circumstances), on sterilization, on appendicitis, etc. He did not believe in the French innovation of doing all hysterectomies by vagina. Regarding appendicitis and intestinal obstruction, the course of treatment should be early decided, whether medicinal or surgical, and the fatal compromise of operating only because medicinal treatment failed should be avoided.

Dr. Fowler, of Brooklyn, spoke of inversion of the appendix into the cæcum as extremely dangerous, and mentioned a fatal case. It should never be done.

Dr. Eastman did inversion of the appendix, which Dr. Fowler condemned, but would remember the danger and be more cautious. One should be cautious not to strangulate the circulation.

The Correction of Depressed and Saddleback Deformities of the Nose by Operations Performed Subcutaneously, without the Aid of Artificial Supports.—Dr. John O. Roe, of Rochester, read the paper. The deformities in question were natural or traumatic, and the presence of the bony support made it unnecessary to use a metallic or artificial one. When the bones were broken or destroyed by disease, the artificial support must be supplied. The operation varied with the case, but was always subcutaneous, the soft tissues of the nose when excessive being transplanted into the defective portion. Thus Dr. Roe had corrected pug nose, had lifted up the depressed end of the nose, etc. Extreme care in asepsis and antisepsis was required, and also in the after-treatment.

Dr. Mayer thought much credit was due to Dr. Roe for his original work and writings on correction of nasal deformities.

Gauze Drainage in Surgical Gynecology.—Dr. Willis E. Ford, of Utica, read the paper. He thought there was more danger of iodoform poisoning from iodoform gauze than some believed. The author used gauze drainage, sometimes with boric acid, sometimes with acetanilid solution.

Drs. Eastman, H. J. Collyer, A. P. Dudley, and W. B. Chase discussed the paper.

Absorbable Ligatures and Sutures in Pelvic and Abdominal Surgery.—Dr. Walter B. Chase, of Brooklyn, read the paper. He found catgut answered the conditions required when chromicized—those of sterility, pliability, strength, and endurance. It would last even as long as forty days.

Obstetrical Discussion.—Dr. W. W. Potter, of Buffalo, had arranged a discussion on obstetrics, and read the introductory paper on

Puerperal Eclampsia.—The microbic theory, Dr. Potter said, had not yet been demonstrated; the toxæmic theory offered the best working hypothesis. Treatment was preventive and curative. The preventive was medicinal and hygienic; the curative was medicinal and obstetric. Active convulsions should be controlled by chloroform. If convulsions were not thus promptly stopped, the uterus should be emptied. Rarely were deep incisions necessary. Cæsarean section should be done only in deformities or when the mother's condition was hopeless. Veratrum viride was dangerous and deceptive in action. Induction of labor and stimulation of excretions received consideration.

Indications for and Technique of the Induction of Premature Labor.—Dr. James P. Boyd, of Albany, read the paper. The indications were several; the method he preferred was the introduction of a solid flexible bougie into the uterus. Every step must be strictly aseptic.

Infection of the Puerpera.—Dr. A. B. Miller, of Syracuse, was the author. Puerperal fever was due to infection: usually the septic material was introduced through the parturient tract, especially at the cervix. The importance of aseptic technique in obstetrics and in treatment was dwelt upon. Attention should be directed to the cause rather than to the symptoms.

Obstetric Delivery by Abdominal Section: Indications and Method.—Dr. Willis G. Macdonald, of Albany, read this paper. Craniotomy on the living child was wholly out of place. It was more dangerous than hospital statistics would indicate. Symphyseotomy in the general practitioner's hands was also likely to give much less favorable results than statistics up to the present, contributed by experts, would indicate. The Porro operation, except in a few cases, was the proper one.

Present Treatment of Fibroids Associated with Pregnancy.—Dr. Albert Vander Veer, of Albany, was the author. Experience taught us that subperitoneal fibroids located in the upper portion of the uterus might remain without injury to mother or child, and perhaps disappear after pregnancy. Submucous fibroids sometimes became polypi and were removed without difficulty. In fibroids of long standing complicating pregnancy, Dr. Vander Veer advocated the Porro operation.

Dr. W. M. Polk opened the general discussion. For fibroids of the character referred to by Dr. Vander Veer, he recommended the Porro operation. In eclampsia with rigidity of cervix which could not be overcome, he made incisions, and preferred anterior to lateral or posterior incisions.

Drs. H. J. Boldt, Von Ramdohr, A. P. Dudley, Sears, and the readers of the papers continued the discussion.

Observations on Abdominal and Pelvic Surgery; Preparation, Operation, and Results.—Dr. W. Gill Wylie, of New York, read the paper which will appear in a future issue.

Causes of Death Following Abdominal Operations.—Dr. H. J. Boldt, in this paper, attributed most deaths in abdominal operations to peritonitis. This was the cause in many instances in which it may hardly have been suspected. Reduction of vitality by recent pneumonia, etc., probably favored the development of germs causing peritonitis, and therefore after acute diseases he postponed abdominal operations if possible. Dr. Boldt cautioned against the use of the Murphy button in anastomosis of the large intestine. Narcosis should be in the hands only of experienced men, and he favored a law to this effect.

The evening session on Tuesday was held in the new Bender laboratory, and was devoted to lantern exhibitions, first by Dr. R. H. Sayre, illustrating "Posture in Diagnosis of (Orthopædic) Disease;" second, "X-Ray Stereopticon Exhibition," by Dr. W. J. Morton, who also took an *x*-ray photograph of a fractured leg and showed other photographs. Dr. Hailes also exhibited photographs in three cases of fracture, and spoke of the value of the method in diagnosis.

The Bender laboratory is situated many blocks distant from the capitol and present college buildings, but in the course of time the medical college and hospitals will be on the ground about the laboratory.

Wednesday, January 27th.

Medical Examiners.—The committee to recommend candidates for medical examiners, three vacancies, reported the names of Drs. W. W. Potter, M. J. Lewi, W. S. Ely, A. W. Suiter, Daniel Lewis, R. W. Stoddard. The report was adopted.

Deficient Excretion from Kidneys not Originally Diseased, as Related to Some Diseases Peculiar to Women and Diseases of the Skin.—Dr. L. D. Bulkley, of New York, took for the title of his paper that of the address of Dr. Etheridge, read before the society last year, and stated that the importance of the subject led him again to call attention to it. Last year he alone discussed it, in connection with diseases of the skin. He had observed that in many cases of disease of the skin there was deficient elimination of urinary solids and that the urine was deficient in quantity, and on correcting these the skin affection was not alone improved or cured, but uterine compaints also disappeared.

Drs. Hopkins, Wilcox, Hutchinson, Bristow, and Walker generally agreed with Dr. Bulkley as to the importance of estimating the daily amount of urine and solids and the value of increasing elimination in the treatment of skin and other affections.

Too Many Papers.—Dr. L. D. Bulkley offered a resolution to limit the number of papers to be presented to the society to fifty as a maximum. This was to give more time for reading papers and for discussion.

The resolution was referred to the committee on bylaws.

Dr. Hun reported against awarding a prize this year.

Committee on Pharmacopœia.—Dr. Long moved to appoint a committee of three on revision of the pharmacopœia. Carried.

Sale of Alcoholics by Druggists.—Dr. Long offered a resolution, adopted by the State Pharmaceutical Society, asking the legislature to relax the law for the sale of alcoholics for medicinal purposes by druggists. It was referred to the committee on legislation, with power.

Dr. W. C. Wey's Illness.—A resolution of sympathy with Dr. Wey in his illness was adopted.

The Treatment of Heart Disease.—Dr. Thomas E. Satterthwaite, of New York, read the paper. It was his intention to speak of some modern methods of treating heart affection when there was inefficiency. The precise nature of the lesion was of subordinate importance. In diet he agreed with Grainger Stewart, that nitrogenous food should be increased, the hydrocarbons reduced and liberal potations of fluid given in

lithæmia and uric-acid secretion. It was not always safe to cut off alcohol abruptly; the daily amount should be reduced slowly. Next in importance was regulated exercise. This included chiefly modern systematic resistance movements associated with the name of Schott. Having briefly described such exercises, the speaker said the next point in treatment was baths—warm salt water which had been carbonated. The effects of these baths, in his opinion, were much like that of the exercises, but they were less efficient. Finally, Dr. Satterthwaite briefly reviewed medicinal remedies—digitalis, strophanthus, caffeine, nitroglycerin, etc. Arsenic and iron were valuable aids in many cases. Dr. Satterthwaite had treated seven cases by graduated exercises, with or without baths, all with improvement.

Dr. R. W. Wilcox thought Dr. Satterthwaite had presented the Schott and Bad Nauheim treatment impartially, and characterized some of the reports of English observers as absurdly exaggerating the value of such treatment.

Dr. Elsner spoke against the blind use or abuse of nitroglycerin and nitrite of amyl. They did harm in a state of soft dilatation of the vessels.

Dr. Russell spoke of harm from abuse of digitalis.

Practical Points Relating to the Diagnosis and Management of Syphilitic Brain Disease.—Dr. E. C. Spitzka, of New York, gave an outline of his paper. The general practitioner and even the specialist were liable to mistake syphilis of the brain, especially in its early stage, for melancholia. In melancholia there were true depression, suicidal tendency, insomnia; in syphilis of the brain the depression was variable, was apparently related to business trouble, the suicidal threat was seldom carried out, there was no insomnia, but there were hebetude and sleepiness. Another mistaken diagnosis was of neurasthenia, a convenient term to cover ignorance. Mention was also made of pupillary reflexes, of pneumogastric disturbances related to the stomach, etc. The importance of an early diagnosis was apparent by mention of monoplegia, apoplectiform attacks, dementia, which would result from syphilis if prompt and vigorous treatment were not resorted to. This consisted in the use of mercury and iodide of potassium.

Dr. F. R. Sturgis expressed greatest reliance on iodide of potassium in huge doses.

Dr. Bulkley placed more stress on mercurials.

Dr. Williams spoke of the value of subnormal temperature in diagnosticating syphilis of the brain.

Drs. Sherman and Hopkins also spoke.

The Treatment of Locomotor Ataxia.—Dr. Landon Carter Gray, of New York, was the author. In pathology the Charcot school had for years been dominant, and the system theory, referring lesions to tracts in the cord, was the one which had been largely accepted in relation to locomotor ataxia. This view of the pathology had led to rather a hopeless view in treatment. But lately some diseases which might have been regarded as incurable on the supposition that they belonged to the systemic class had been in some instances regarded as at least starting in the posterior ganglion cells or even in the peripheral nerves. Our knowledge of the pathology of locomotor ataxia and some of the other diseases referred to was not so complete as to justify a necessarily hopeless prognosis, although to prove absolute cure in cases of disappearance of the clinical symptoms was impossible in the absence of autopsy. Dr. Gray had seen almost startling improvement in some cases of locomotor ataxia under the treatment described. In all he had treated about seventy-seven cases, and could speak of the result as satisfactory, without claiming that the disease was eradicated. In order of importance the measures were: 1, Rest; 2, nutrition; 3, removal of reflex disturbances; 4, drugs directed against the lesion. Rest was governed by the stage of the disease and the result, sometimes being absolute for days or weeks, and always for ten or twelve hours a day at least, including hours of sleep. Regarding drugs, he was not one of those who believed that syphilis was always the cause of locomotor ataxia, yet in some cases antisyphilitic treatment was followed by striking improvement. Whenever there was a history of syphilis, such treatment should have a thorough trial.

A Case of Erythro-Melalgia.—Dr. Henry L. Elsner, of Syracuse, read the history of the case. It was in a washwoman, and began with headaches in 1893, also flushing of the face. Later there were burning sensations in the palms of the hands, then soon a maculo-papular erythema of the hands. With this the headaches disappeared. The painful sensations in the hands were extreme. Gradually dark discoloration appeared in the thumbs, terminating in some months in dry gangrene and falling off of the terminal phalanx of each thumb. Then the erythema and pain disappeared and the hands were well, with the loss of the two phalanges. This case was the forty-fourth of erythro-melalgia on record. The pathological explanation was regarded as long-continued hyperdistention of the vessels in the erythematous condition, resulting in final cutting off of the circulation and dry gangrene.

Strophanthus: a Clinical Study.—Dr. R. W. Wilcox, of New York, was the author. There were four distinct varieties of strophanthus. The value of all of these had not been determined clinically. Dr. Wilcox had studied Strophanthus Kombé clinically in numerous cases since 1885, and had taken a great many sphygmographic tracings. His conclusions were that this form of strophanthus increased the action of the heart by direct action on the heart muscle; it acted with a degree of rapidity not equalled by any other cardiac tonic; it had no effect on the size of the blood-vessels; it had an eliminative effect; it was not cumulative in action; it was far more powerful than digitalin, three hundred times by weight.

Discussion on the Relation of Impure Drinking-Water to Disease.—Several papers bearing on different phases of this question were read.

Diseases which can be Directly Traced to Contaminated Drinking-Water.—Dr. George Blumer, of Albany, read the first paper. There was certain proof that we may have cholera, typhoid, certain diarrhœas, and some forms of mineral poisoning carried by drinking-water. The conclusion was evident that without pure drinking-water we could not have a healthy community.

Dangers of Domestic Use, Other than Drinking, of Contaminated Water.—Dr. G. R. Freeman, of New York, was the author. The greatest danger was from milk contaminated by washing of cans in impure water, dilution, etc. Further, foods might be rendered dangerous, and he mentioned oysters as having been infected, and, probably, other shellfish. The germs most frequently carried by water not drinking-water were those of typhoid, cholera, and diphtheria.

Methods of Purification of Impure Water.—Dr. T. B. Carpenter, of Buffalo, gave an analytic study of methods of water purification practised in this country and Europe. The methods were the so-called natural and artificial. The latter was mechanical and chemical. The chemical included the use of electricity. The filtration method received considerable attention. In this country filtration through sand, etc., was used in Davenport, Knoxville, Atlanta, Chattanooga, and some other places. The diminished number of germs in the filtered water pointed to a certain and large value of the method.

Methods of Prevention of Pollution of Water.—Dr. E. K. Dunham, of New York, discussed this

question. The best method was putrefaction, exposure of the sewage near the surface of the soil accessible to the air, where the germs producing putrefaction could act and destroy the disease germs—a process described as mineralization.

Life History of the Typhoid Bacillus Outside of the Body.—Dr. F. C. Curtis, of Albany, read the paper. Under favorable conditions the typhoid bacillus retained its vitality a long time outside the body. It withstood cold, was destroyed by heat, was very susceptible to the attack of other germs, and was destroyed under other conditions.

The author dwelt most on the life history of the typhoid bacillus in the soil. In this connection the fact frequently observed was mentioned, of typhoid visiting simultaneously villages in a section separated by some distance, with different water supplies and no intercommunication.

Such occurrences pointed to deposit of the typhoid bacillus in the soil; its vitality was retained and the bacillus was carried into the drinking-water with the fall of rain. Aerial contamination could be practically excluded.

Bacteriological Diagnosis of Typhoid Fever.—Dr. J. S. Ely, of New York, said the bases of a bacteriological diagnosis were: (1) finding of the specific bacteria; (2) of their products; (3) of the specific toxins liberated by them in the body; (4) of certain substances liberated in the blood of the patient in the course of its reaction to the bacteria. The author pointed out difficulties connected with the first three methods. Time did not permit of reading more of the paper.

Typhoid Fever in Children.—Dr. W. P. Northrup, of New York, stated in this paper that during the fourteen years he had been connected with the New York Foundling Asylum he had not seen a case of typhoid in infants during the first two years of life, and Drs. Smith and O'Dwyer had seen none in a longer period in the same institution. In no autopsies had he found typhoid lesions in such subjects. Dr. Holt had seen none at the Infant Asylum, which had over seven thousand inmates. While infants were not easily infected, yet he had seen four such cases in the Stamford epidemic out of over four hundred cases of typhoid.

Importance and Practical Method of Disinfection of Excreta of Typhoid Patients.—Dr. W. Gilman Thompson, of New York, read an outline of his paper. Bichloride solution was strong and cheaper than most other disinfectants, but was not applicable in city closets; there carbolic acid, 1 to 10, was used. Tidewater rendered the typhoid sewage harmless. In the country, bichloride from 1:500 to 1:2,000 should be used in vessels, etc. The disinfected fæces should be buried four feet deep. Disinfection of hands, of nurse, of door-knobs, etc., should be insisted on. The clothing should be boiled after disinfection. The perineum and anus of patients should be disinfected after each passage. The urine should be disinfected like fæces. Quicklime and formalin were mentioned.

Prof. W. T. Sedgwick, of Massachussetts, in discussing the paper, said mechanical purification had rendered the water of the town of Lawrence as free from typhoid germs as that of other cities, whereas previously the death rate from typhoid there had been considerable.

Double Murphy Button Anastomosis.—Dr. J. H. Glass, of Utica, related a case of intestinal obstruction from sarcoma of the colon. Seven inches of colon and four inches of ileum were removed, and anastomosis with double Murphy button was performed, the largest button for the colon, the next in size in the ileum. The latter passed last, after twenty-six days, and probably was meanwhile the cause of colic. The patient was doing well nine months after operation.

Some Clinical Cases of Diseases of the Testicle.—Dr. L. B. Bangs read the histories of five cases bearing on difficulties of diagnosis and treatment. In one, of hard painful tumor in an aged man, in which there was reason to suspect malignant disease, the tumor proved to be benign, with pus between the testicle and dense tunica. In the case of a young man the tumor was soft, not painful; there was reason to believe it was benign, but it proved to be malignant.

Drs. Sturgis and B. F. Curtis discussed the paper.

A Rare Complication of Acute Rheumatism.—Dr. Eugene Beach read the history of a man who, after sleeping in a damp bed, had painful swelling of the testicle; a few days later there was pain in the outer side of both thighs (the subject thought it to be sciatica); after two weeks a mild cystitis; then a slight urethritis, with exacerbation of inflammation in the testicle. This gave place in five days to acute articular rheumatism, which continued three weeks, and subacute swelling longer. Dr. Beach thought the case belonged among the rare ones of acute rheumatism among whose first or later manifestations were orchitis, cystitis, and urethritis.

Notes of Cases of Suggestive Therapeutics (Hypnotism).—Dr. H. S. Drayton, of New York, thought hypnotism, or suggestive therapeutics, was one of those remedial agents whose value this country had been much slower to recognize than it should. In Europe many hospitals were devoted to its application. Among cases which he briefly narrated was one of epilepsy of years' duration; over four hundred dollars' worth of ordinary remedies had been taken. Hypnotic suggestion as to the diet, etc., stopped the attacks and caused remarkable general improvement, as well as improvement in mind.

Dr. W. J. Morton had seen much of hypnotism and had employed it, but believed that in all but exceptional cases it did harm by taking away from the will power or moral power of the individual.

Rectal Discussion.—Dr. Joseph M. Matthews, of Louisville, Ky., opened this discussion with a paper on

Stricture of the Rectum; Its Etiology and Treatment.—Dr. Matthews expressed regrets at the absence of Dr. Kelsey, as his paper was an answer to criticisms by that writer on one of his papers. Dr. Matthews regarded syphilis as the cause in about sixty per cent. of the cases.

Surgical Treatment of Cancer of the Rectum.—Dr. Daniel Lewis was the author. Three facts were to be considered before resorting to operation: (1) the general condition of the patient; (2) had the disease been of rapid or slow growth; (3) choice of operation for complete removal. To indicate operation the disease should be, say, not more than four inches from the anus, with vagina, bladder, and peritoneum free and no glandular enlargements. He preferred the modified old Volkmann operation to Kraske's or others. In women he would operate per vaginam.

Proper Method of Treating Internal Hemorrhoids.—Dr. R. T. Morris, in the first part of his paper, considered the anatomical and pathological problems involved in the question of hemorrhoids and their treatment, and characterized ointments and other medicinal applications as only palliative. He had only reached the operative treatment when his ten minutes had expired.

Prolapsus of the Rectum.—Dr. George R. Fowler read a paper on this subject, and Drs. B. F. Curtis and J. P. Tuttle took part in the general discussion.

Acute Inflammation of the Gall Bladder.—Dr. Maurice H. Richardson, of Boston, in this paper gave the histories of six cases of acute inflammation of the gall bladder operated upon. In a number, the diagnosis between this affection and appendicitis was determined only at operation. These symptoms

were much alike in the two affections, and the location of the pain might not be diagnostic. In case of doubt he recommended midway incision, to be extended up or down, according to whether appendicitis or inflammation of the gall bladder were found. In acute inflammation of the gall bladder there was usually absence of duodenitis, of attacks of biliary colic; stones were present, however, and also micrococci in the distended bladder, which might be colon bacilli, typhoid bacilli, diplococci of pneumonia, etc. Operation was necessary.

Discussion by Drs. Vander Veer, Fowler, Macdonald, and Howard.

The President's Annual Address.—The President, Dr. James D. Spencer, chose for the subject of his address the country practitioner. The country doctor might theorize, but he must be practical. He must stand absolutely on his own merits. There was no hospital with its trained nurses to assist him, and no daily papers to herald his successes. It was better to study carefully and handle in a masterly manner a single case than to try to throw a cloud of doubt on many. We were traitors to our patients, to ourselves, and to society at large if we neglected to keep the most efficient ammunition that science provided for us. But the arduous life of the country doctor had its compensations. All knew how pain and fear vanished in the presence of the physician. The most intimate secrets were confided to his keeping. Wounds, not only of the body, but of the soul, were laid bare before him. The country doctor needed to be a man of many parts—a drudge, a hero, a martyr of time for the cause he represented.

On motion of Dr. Bendell, the president was extended a vote of thanks for his interesting and instructive address.

Thursday—January 28th.

Officers.—*President*, Seneca D. Powell, of New York; *Vice-President*, Lucien Howe, of Buffalo; *Secretary*, F. C. Curtis, of Albany; *Treasurer*, C. H. Porter, of Albany; *Committee of Arrangement*, W. J. Nelis, William Hailes, R. W. Wilcox; *Committee on By-laws*, H. D. Wey, E. B. Angell, F. C. Curtis; *Committee on Hygiene*, H. R. Hopkins, H. F. Hart, C. E. Bruce, A. Vander Veer, William Maddren, O. W. Peck, Ernest Wende; *Committee on Legislation*, A. W. Suiter, E. M. Morrell, W. G. Macdonald; *Committee on Ethics*, J. M. Winfield, Eugene Beach, Louis A. Weigel; *Committee on Prize Essays*, E. D. Fisher, Henry Hun, W. S. Cheeseman; *Committee on Publication*, F. C. Curtis, Daniel Lewis, W. W. Potter, C. H. Porter.

Surgical Suggestions.

Subpleural Pulmonary Abscess.—1. Closed pulmonary abscesses are abscesses of the connective tissue, of which the most favorable and the most common form is the subpleural abscess. 2. The subpleural abscess may attain a large size without causing a corresponding destruction of pulmonary tissue; for the individual pulmonary lobules, isolated by the suppurative process, retract before the pus in a manner analogous to the retraction of the lung as a whole in the presence of pleural effusion. 3. The frequency of the occurrence of subpleural abscess is probably greater than is commonly supposed; for this abscess simulates empyema so closely that it is generally mistaken for that disease. 4. The only trustworthy means of distinction between these two diseases is probably the microscopic examination of pus withdrawn by aspiration previous to rupture.—Bushnell, *American Journal of the Medical Sciences*, vol. cxii., No. 4.

Amputations at the Knee-Joint.—The first mention of the removal of the leg at the knee-joint dates back to 1581, when such an amputation was made by Fabricius Hildanus. The method then seems to have been lost until 1764, when it was again brought to light by Hoin and endorsed by Petit and Brasdor. It was not, however, until Velpeau popularized it in 1830 that it began to approach the place which it now holds in the domain of surgery. The first American operation by this method was that of Dr. Nathan Smith, in 1824. The advantages claimed for amputations at the knee are as follows: The medullary cavity is not opened, and there is less shock; the attachment of the muscles is less interfered with; there is less retraction, and therefore less liability of the formation of a conical stump; the muscles are not divided through the parts which are thick and vascular, but through their tendinous insertions; the stump is left longer than by a thigh amputation; the stump produced is capable of bearing the weight of the body upon its extremity.—Dr. Buechner, at the meeting of the American Academy of Railway Surgeons, September, 1895.

Dimensions of Bandages.—Bandage one inch wide, three yards in length, for bandages for the hand, fingers, and toes. Bandage two inches wide, six yards in length, for head bandages and for the extremities in children. Bandage two and one-half inches wide, seven yards in length, for bandages of the extremities in adults; a roller of this size is the one most generally used. Bandage three inches wide, nine yards in length, for bandages of the thigh, groin, and trunk. Bandage four inches wide, ten yards in length, for bandages of the trunk.—Henry R. Wharton, "*Minor Surgery and Bandaging*," p. 17.

Varicose Veins.—Trendelenburg's operation is modified by Dr. Moore (*Intercolonial Medical Journal of Australasia*) in the following way: 1. Site of ligature. As the operation aims at preventing reflux of blood into the saphena vein and its branches, this object is better attained by ligaturing above the junction of any of the branches belonging to the lower extremity. 2. Direction of the incision. This is almost transverse, in accordance with the lines of cleavage of the skin in that locality; the edges of the skin come into apposition more readily than do those of a longitudinal incision, and the vein is more easily found in an incision running across it. 3. Ligature material. Silk is more suitable than any animal ligature; only a fine thread is required, and it can be made aseptic with certainty. He adds that being more certainly made aseptic, and less liable to give way, silk is more suitable for out patients who go home at once. The latter proceeding he does not advocate, but is prepared to defend, as it enlarges the province of the out-patient surgeon, when beds are limited.

Hypnotic Anæsthesia.—Dr. Keyes (*American Journal of Obstetrics*, September, 1896) thinks the greatest application of hypnotic anæsthesia will be found: 1. In cases of inebriety and of organic disease in which chemical anæsthesia would be dangerous. 2. In parturition. 3. To relieve by hypnotic suggestion, at the time of an operation, the nervous disturbance and reflex neuroses caused by certain pathological conditions. 4. While performing minor operations upon children. 5. As an aid in the production of anæsthesia by chloroform and ether, as suggested by Davis (*Journal of the American Medical Association*, October 5, 1895), to allay the excitement occurring at the beginning of anæsthesia, and to obviate the necessity of holding the patient upon the table by force.—*Memphis Medical Monthly*, November.

Therapeutic Hints.

Advanced Stages of Pulmonary Tuberculosis.—

℞ Guaiacol	10
Eucalyptol	8
Carbolic acid	6
Menthol	4
Thymol	2
Oil of clove	1
Alcohol (90 per cent.)	170

Mix and dissolve.

With this liquid spray the atmosphere of the room plentifully and frequently.—*Revue de Thérapeutique.*

Hysteria in a girl of eight years was cured by suggestion and she was caused to walk after three days' treatment, though she had not done so for eleven months.—*Journ. de Clin. et de Thér. Inf.*, No. 11, 1896.

Diffuse Bronchitis in Children.—Whenever the rectal temperature, taken every three hours, reaches or passes 102° F., put the child in a bath at 101.5° F., leaving him in the water seven to eight minutes, keeping the head wet with water at the temperature of the room. When the child is over two years a little champagne or brandy and water is given in the middle of the bath, and he is wiped rapidly with hot towels.—Renaut.

Anal Pruritus in bicyclists is treated by alcoholic lotions, frequent change of linen, and in severe forms the application of caustic-potash solution.—Taylor.

Lepra.—Crocker has reported two cases which were greatly improved under hypodermic injections of perchloride of mercury. The remedy is not new in this affection.

Viburnum.—When pregnancy is once established in a uterus whose structures have at times been the seat of inflammatory processes, a prophylactic treatment in the interest of the child and the one which happily tends to ameliorate maternal suffering should be instituted at once. The medicament which most nearly fulfils all the requirements in such cases is found in the fluid extract of Viburnum prunifolium which is well suited for continuous administration. This remedy, although not an ideal one, is, nevertheless, capable of exercising a beneficent influence over the female generative system.—Basham.

Pilocarpine has been suggested and employed as a prophylactic in diphtheria by Shikai (*Wiener med. Presse*). He injects in infants less than a year of age, five drops of a one-per-cent. solution three times daily and ten drops in those of one year of age. These doses are well tolerated, he claims, when continued for two or three weeks. His observations tend to demonstrate the efficacy of the procedure in epidemics of the disease.

Suppuration of the Middle Ear.—A mixture of powdered resorcin and boric acid (1–20 or 1–10) has been used with brilliant results.—G. F. Butler.

Diabetes.—Dr. Moussé has come to the conclusion that antipyrin should not be prescribed for diabetes. Beer yeast was also of no avail in his hands. Loss of weight seemed to be retarded by the use of pancreas, but aside from this it had given him no good results. —*La Semaine Médicale.*

Actinomycosis of the skin, involving the left side of the face, was treated with doses of iodide of potassium, ranging in dose from four to fourteen grams per diem. The infiltrated areas began to disappear and small abscesses opened spontaneously and then quickly healed. Subsequently an otitis media developed with consecutive phlegmon of the face upon the same side. Under the iodide treatment administered per rectum in dose of two grams daily, cure resulted, with three small fistulous openings remaining when the patient passed from observation.—Kozerski, *Medycyna*, No. 24, 1896.

Elixir de Pepto-fer.—

℞ Chloro-peptonate of iron	100 gm.
Alcohol (90 per cent.)	150 "
Simple syrup	400 "
Distilled water	q. s. to make a litre.

Aromatize as desired.

—*Gaz. Hebdom*, No. 92.

Bronze Medal Cure of Cancer.—The daughter of the principal notary of Piacinza, Italy, was found to have in her stomach an accumulation of medals of a Madonna locally celebrated for powers of cure in cancer. She had swallowed a medal each day for a week on advice of her confessor.—*The Churchman.*

Musk is highly esteemed as a medicine in China. It was formerly in repute in many civilized lands, and is still somewhat employed here.

A Tartar Doctor, when he finds himself without his drugs and medicines, is not in the least embarrassed. He writes the names of the needed drugs on slips of paper, and these, being rolled up in little balls, are swallowed by the sick man. "To swallow the name of a remedy, or the remedy itself," say the Tartars, "comes to precisely the same thing."—Noah Brooks.

Sanguinarine Nitrate was the preparation meant in a recent "hint" instead of sanguinaria. It is unofficinal and the dose is given as from one-twelfth to one-eighth of a grain.

Emmenagogue (Dewees' Mixture).—

℞ Tr. guaiaci ammoniatæ	℥ vi.
Tr. ferri chloridi	℥ iss.
Tr. cantharidis	♏ xlviij.
Vini aloes	℥ vi.
Alcoholis	q. s. ad ℥ iij.

M. S. Teaspoonful in milk after meals.

The proportions of this formula must be modified for the individual case. The aloes should be increased or lessened, as may be required, until the patient has one or two softish stools each day. There is also much difference in the irritability of the bladder in relation to cantharides.

Stomachic Tonic.—

℞ Acidi nitro-hydrochlorici	℥ ij.
Aquæ	℥ iss.
Strychninæ sulph	gr. i.

Misce et adde

Tr. gentianæ comp.,	
Tr. cardamomi comp	āā q.s. ad ℥ vi.

S. Dessertspoonful in water after meals.

—Drs. Woods *and* Fitz.

Internal Balneation in typhoid is recommended by Duchesne, who gives inert liquids of various kinds to his patients in such quantities as they may be induced to drink. In thirty-one cases there were but two deaths.—*Gaz. Méd. de Liége.*

To Check Secretion of Milk.—

℞ Hydrochlorate of cocaine	5 gm.
Water,	
Glycerin	āā 50 gm.

Apply five or six times daily.

—Jorie.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE FELLOWS' MEETING AT THE COLLEGE OF SURGEONS—"THE TIMES" ON HOSPITAL REFORM, ETC.—THE PEERAGE OF LISTER—DISCUSSION ON THE PLAGUE AT THE EPIDEMIOLOGICAL SOCIETY—ADULTERATION ACT—FEEBLE-MINDED CHILDREN.

LONDON, January 8, 1897.

THE half-yearly meeting of the fellows of the College of Surgeons was held in the college on Thursday. Mr. Macnamara, vice-president, took the chair in the absence of the president, Sir William MacCormack, who is away from town to recruit after his severe illness. The meeting was a fiasco. After some preliminary business, Mr. Timothy Holmes moved a resolution, calling attention to the reports of the General Medical Council, and asking whether the representative of the college council had correctly construed his instructions respecting the case of Mr. R. B. Anderson. Mr. Holmes did not wish to find fault with the representative, Mr. Bryant, but could not agree with the observations of that gentleman when the matter came up, for he had said there could be "no further action in the law courts." Yet Mr. Bryant had been requested by resolution of the college council "to forward in every way feasible the objects of the civil-rights committee in the case of Mr. Anderson." But Mr. Bryant would surely not say his council had set themselves in opposition to the law. Mr. Anderson is still seeking aid to prosecute his appeal, and Mr. Bryant's course must be damaging to him, not helpful. Mr. Bryant, too, had assumed that the question at issue was not one of principle, and yet it is as such that Mr. Anderson has hitherto fought it and the civil-rights committee has endorsed it. Mr. Holmes appealed to Mr. Bryant as to whether his speech was in accordance with his instructions or could possibly help the cause he was to advocate. The chairman said Mr. Bryant had not been "instructed," but was "requested to forward the matter in every way which to him seemed feasible." You see how he did this. To me, it would have seemed quite feasible for him to hold his tongue rather than make so injurious a speech. The resolution was defeated by ten votes against to nine in its favor.

Mr. Rivington then moved a resolution asking the council of the college to sanction a grant in aid of the Anderson appeal, seconded by Mr. Holmes. Then rose Mr. Christopher Heath to oppose, and he began by asserting that he sympathized with Mr. Anderson, who had "got into bad hands" and they used him as "a convenient stick to beat the council of the college." He maintained that a grant would be illegal, and "nothing would induce him as a treasurer to sign a check for such a purpose." This and more to the same effect he stated, and expressed astonishment that "Mr. Holmes, who as treasurer of a hospital knew what it was to deal with public money, should support such a resolution." Finally, he declared that "a ring was got up round Mr. Anderson against the council of the college, and the time had come for some one to speak plainly." Assuredly, bluff Chris may be trusted to do that, both in words and manner, when he is roused; but bluster is a poor weapon to meet the quiet manner and slight if satirical smile with which sarcastic Tim is apt to drive home his logic. Whether a grant would be legal or illegal would seem a question for counsel learned in the law, and the college might satisfy its members by obtaining such an opinion, instead of putting up the treasurer to throw out suggestions which, Mr. Holmes informed him, "were undeserved and ought not to have been made."

Here it was found that a quorum was not present, and so the meeting ended in a fiasco.

The Times has lately evinced more interest than usual in medical matters. Thus it has published letters about fees, one of which proposes two grades for consultants, a senior and a junior, and suggests such consultation to settle the diagnosis, after which the writer—Dr. B. Squire—thinks a general practitioner would be competent to treat the case. I fancy most general practitioners will exclaim: "Thank you for nothing, Dr. Squire;" or ask him if he wants to be a senior or junior. *The Times* has also spoken on hospital reform to this intent: "Nothing is more curious than the way in which persons who would be ashamed either to ask for charity in any other form or to receive it, feel no compunction in entering a hospital where their board and lodging are paid for by the subscribers;" and further: "Of the out-patients a considerable number are earning good wages." This is capital, and it is to be hoped the newspapers generally will follow the good example of the leading journal.

A good deal of gush and nonsense is apt to signalize the creation of a new peerage, so I am inclined to excuse most of that which has followed the announcement of Sir Joseph Lister's. It may be well, however, to correct some of the most glaring errors. The present House of Lords is not composed of direct descendants of the Norman barons. In fact, half the members are the creation of modern premiers. There were only 50 feudal barons at the Tudor accession. At the death of Elizabeth there were 56. James I. increased the number to 105, and Charles I. to 135. The number increased through each reign until George I. left them at 216; George II., at 229; George III., 339; George IV., 396; William IV., 456; to which 266 have been added during the present reign. Of course, death and other changes have all the time been at work, so the present roll numbers only 577, and may really be said to be an assembly selected from various classes and for various reasons, among which political service stands first, and wealth is an essential qualification. A few, therefore, have really been selected on grounds of culture, *e.g.*, Tennyson, Thompson, Lister. The two last named have no issue, and the peerages consequently will fail with their lives.

It is only natural that the recent advance of the plague should be discussed at the Epidemiological Society. Accordingly, Dr. Cantlie brought the subject forward in a careful lecture, giving his experience in China. He began with remarks on the many names that have been applied to the disease, none of which he found satisfactory, and so he proposed to add one more, viz., "malignant polyadenitis." There is an objection to this clinically, as one gland only may be manifestly affected, although the majority if not all will be found enlarged at the post-mortem. It seems that cases of "pestis minor" or of "ambulant plague," which were generally considered as distinct, must in future be regarded as mild cases of true plague, as a bacillus, indistinguishable from Kitasato's except by its less virulent action, has been discovered in them. The disease affects animals, and the way in which rats die on its advent is familiar to the public. One family of rats, in fact, inhabits just those territories which are most subject to plague, and it becomes an interesting question how far they are responsible for its spread. The infectiousness of the disease would seem less than popular fear has assigned, and free ventilation with hygienic rules diminishes the danger of exposure; but Dr. Cantlie is still obliged to admit that this danger is considerable. But still greater is that of the dust arising during the cleansing of houses which have been occupied by plague patients.

In the discussion that followed, Dr. Lowson, whose experience extends over more than five thousand cases, said he had never found the bacillus in the soil, although a smaller one, which was always present, had perhaps been mistaken for it. The Chinese sold the clothes of those who died, without disinfecting them—a source of infection, as were some other of their customs. He did not think that the epidemic in rats preceded but accompanied the outbreak among men, only the rats died quicker. The serum of inoculated calves (which displayed some reaction, but in which no bacilli were found) seemed to have some effect on rabbits.

Dr. Manson said non-venereal buboes were very common in the East. In Japan they were seen in "river fever," which may perhaps turn out to be "pestis minor." The cases occurring at sea were probably due to infected clothes unpacked on the voyage. Dr. Washbourn pointed out that the bacilli resembled those of various forms of septicæmia in animals, and that infection might vary, as in anthrax, being sometimes by way of respiration, at others through the skin, or taken in food.

I hear that a bill is being prepared for government to submit to Parliament to amend the adulteration of food and drugs act.

The education department has appointed a committee to inquire into matters affecting epileptic and feeble-minded children.

OUR BERLIN LETTER.

(From our Special Correspondent.)

DEATH AND JUBILEE OF CELEBRATED MEN—TAXATION OF PHYSICIANS—PROPOSED TREATMENT OF UNIVERSITY PROFESSORS — INFLUENZA — HEMORRHAGE FROM NORMAL KIDNEYS—HUNGER CURE FOR CARDIAC DISEASE.

BERLIN, December 31, 1896.

THE old year closed with a sad echo. Du Bois-Raymond, the celebrated physiologist, has been snatched by unrelenting death from his labors. But death, though unrelenting, is not always cruel, and so with this great scientist, to whom the world owes so much, especially in the domain of animal electricity. The last months of his life were full of such suffering and pain that the end was a relief for him. He was a pupil of Johannes Müller, that giant among physicians, whose labors were so vast and of such great importance, and whose school, which numbered among its members such men as Virchow, Traube, and Du Bois-Raymond, has done much to further the science of medicine. Du Bois-Raymond was the first to hold the chair of physiology by itself, his predecessor, Johannes Müller, having been professor of anatomy as well as of physiology up to his death. During Du Bois-Raymond's thirty-six years of professorship, the Physiological Institute grew in importance as well as in usefulness, and has now become an independent and vast department.

It is well known that his entire career was the result of a change in professional calling, for he was at first determined for the theological profession. But after the first term he was so attracted and charmed by Johannes Müller's personality that he changed to medicine. Du Bois-Raymond was a popular professor, and his well-known lectures, "The Limits of Natural Philosophy" and "The Seven Problems of the World," made his name well known and liked by the public at large. In spite of his French name, he was a real German, having been born in Berlin; but the sprightliness of his discourses as well as his animated style of delivery reminded one strongly of his descent.

Yet another great scholar has been taken from us by death—Prof. Joseph v. Gerlach, of Erlangen, the nestor of German anatomists. His accomplishments are part of history. He it was who, late in the forties, following up Theodore Schwann's discovery of the animal cell, placed the study of microscopical anatomy upon a new basis, and opened up new fields for research in that department of medicine. The introduction of the technique of staining in histological work and of the injection of blood-vessels by Gerlach has opened up a new epoch in medicine. His labors have made his name immortal.

Professor von Bergmann has recently celebrated the sixtieth anniversary of his birthday. Although born in Russia, he is numbered to-day among the most celebrated of German surgeons. His reputation as an accurate diagnostician and a most skilful operator extends far beyond the field of his work. It would be superfluous to speak here of his scientific accomplishments; the large number of his present and former pupils which assembled in the auditorium of th University Surgical Klinik upon his birthday proves best that he has done much for surgery. Some of his pupils present upon that occasion were Professor Bramann, Professor Glück, and Professor Rotter, besides many others. Of his admirers who were there might be mentioned the names of Professor König and Prof. Julius Wolff. Von Bergmann spoke that day about brain surgery, a field in which he works with especial love. Before and at the conclusion of his lecture, addresses were held in his honor by former as well as present assistants of the professor, and together they presented him with his portrait painted by Lerbach. Von Bergmann wields a great influence here in medical circles, and knows well how to put in a good word for the rights of the profession. He has called a meeting of those physicians and surgeons who have private clinics. The department of taxes wishes to impose a business tax upon such, although physicians are otherwise exempt from business or professional taxes.

The administration of the Prussian universities contemplates the remuneration of the professors in a manner similar to that now in vogue in the United States. Hereafter, when a new professor shall be appointed, it is intended that he shall not as heretofore receive the entire fees, but he shall receive instead a fixed sum (in Berlin, 4,000 marks). All surplus moneys shall constitute a fund, one-half of which shall be devoted to the payment of the associate professors and other special workers. As this arrangement would naturally increase the power of the minister of education and would place the professors in a certain measure in a dependent position, it is hardly likely that the latter will acquiesce in the proposed scheme. It would very probably result in the well-attended medical lectures and courses proving of vast material benefit to the poorly attended theological ones. At present everything is to remain as it is.

Influenza was again prevalent in Berlin in December. In spite of the rather epidemic character of its present visit—or, rather, because of it, for it meant, of course, employment and fees for the physician—medical life and scientific work continued in a most animated way.

Not only is influenza the main topic for the medical circles, but other questions have also been brought forward for discussion. So, recently, Dr. Klemperer, assistant of Professor Leyden at the Verein für Innere Medicin, delivered an address upon "Hemorrhage from Normal Kidneys." He cited a number of cases from medical literature and from his own experience in which hemorrhage from the kidneys occurred, preceded as well as followed by complete health. In some cases bodily exercise, *e.g.*, riding and marching,

as well as exposure and cold, were given as causes; but at times no etiological factor could be discovered. These are not cases of "hæmophilia renalis," spoken of and described by Senator. The kidneys are just as healthy as, for instance, the normal uterus during menstruation. These hemorrhages take rather the type of hysterical hemorrhages. Klemperer was led to his idea because he found that some kidneys, removed on account of hemorrhage, were perfectly normal. In the course of his remarks he advised practitioners not in every case of renal hemorrhage to conclude immediately that malignant disease must necessarily be present, and therefore to place the kidney as soon as possible under the knife. Still more frequent is the association of hæmaturia with normal kidneys. In the discussion which followed his remarks, the only opponents were the surgeons present, who claimed that by the delay necessarily involved the proper and most favorable time for operation would be lost.

Hirschfeld's address upon the "Mechanical Treatment of Heart Disease" is also worthy of comment. Bodily exercises are indicated in heart disease only when this results from overnutrition, fatty degeneration. The heart dilates as a result of overexertion, and it is necessary through proper training to adapt and accustom the heart muscle to this dilatation. In the stage of broken compensation, "Inanition-therapie" (a pint and a half of milk a day as the entire nutrition), in combination with complete rest in bed, is very advantageous. It is of interest to note that the cardiac dulness of soldiers marching with heavy accoutrement, of wrestlers, etc., is increased. It is to be hoped that now we shall not starve our patients with heart disease, whom heretofore we feared we could not feed enough, for this advice is not to be followed literally in all cases.

DERMATITIS FROM ROENTGEN RAYS.

To the Editor of the Medical Record.

Sir: With regard to your interesting editorial on "Some of the Influences of *X*-, Solar, and Electric Rays upon the Skin" (Medical Record, December 19, 1896), I shall esteem it a favor if you will kindly allow me space to offer a few remarks on the subject.

It has long been known that the obscure heat waves of the electric light are more powerful than the light waves, and further, that they can be absorbed to a great extent by allowing them to pass through a clear solution of alum in water. I need not in this place refer at length to Tyndall's experiments in this direction ("The Forms of Water," eleventh edition, 1892, p. 14, *et seq.*).

I now come to the effects of the *x*-rays on the skin, and at the outset I would ask whether the cutaneous manifestations are really due to the actual *x*-rays themselves, or whether they may not be the result of the action of obscure heat waves developed in the Crookes tube. My experience of the *x*-rays is limited. It is for this reason that I put forward the suggestion in the form of a query. No doubt some of your correspondents familiar with the physics of the subject will favor me in your columns with their views of my hypothesis.

I think I am correct in saying that a certain amount of heat is developed in the Crookes tube before the *x*-rays become manifest; also that heat is developed during the whole of the time the sparks are produced.

In the recorded instances of dermatitis following exposure to the *x*-rays, the exposure of the parts affected was either prolonged, as in the case of skiagraphing the spine, etc., or it was repeated at frequent intervals, as in the case of those patients employed in demonstrating the Roentgen rays. The appearances in the one case I have seen, belonging to the former group, were those of a burn.

The question can perhaps be settled in the following way, viz.: By experimenting with a patient previously affected, with a solution of alum in water placed between him and the Crookes tube. In this way the obscure heat waves might be absorbed, without interfering with the *x*-rays, which Sir Gabriel Stokes and Lord Kelvin are inclined, I believe, to regard as a form of light.

These views are purely hypothetical, but I shall take the earliest opportunity of putting John Hunter's precept into execution, viz., trying it experimentally.

George Pernet, L.R.C.P. Lond., M.R.C.S. Eng.

London, December 31, 1896.

P.S. It would also be interesting to pass the *x*-rays through a solution of iodine, and note the result.

PUBLIC AND PRIVATE MEDICAL CHARITIES.

To the Editor of the Medical Record.

Sir: In reply to the letter of Dr. Sturgis in your last issue, I would call attention to the fact that the public purse is spared an enormous drain by a system of private benevolence to which only a minute proportion of our moneyed men contribute. As a tax-payer, Dr. Sturgis would be in a sorry plight if his line of argument were pushed to its legitimate conclusion. For if he complains that a tithe of the cost of maintaining certain charities falls upon the city, how would he feel if the entire cost were added to the annual budget!

It is estimated by those familiar with the subject that there are in this city only some four or five hundred persons to whom one could apply with any hope of success for any charitable object. The rest are perfectly willing to stand by and see these bear a burden of which they themselves will not voluntarily carry a straw's weight, however ready they may be to contribute lavishly to the ruling folly of the hour. By judicious appropriations of public money in aid of so-called private charities (private as to the givers, public as to the recipients), these people are made to do a small fraction of the duty they habitually shirk, and at the same time a vast amount of private aid is made available for the public good and the relief of the taxpayer.

Lest Dr. Sturgis elect to assume for the city the entire burden of the work done by the charities he assails, the intelligent taxpayer will prefer to encourage private benefactions by a relatively small amount of public aid, well knowing that the investment so made will save many times the amount to the public treasury.

Andrew H. Smith, M.D.

To the Editor of the Medical Record.

Sir: I wish to make a reply to a letter which appeared in your columns on the 16th of January, entitled "A Matter of Interest to Medical Taxpayers." I do not desire this for the purpose of entering upon any continued controversy with the author of the letter or with any other persons, but because I fear, judging from the tone of the leading article in your columns, entitled "Public Money for Private Uses," which appeared on January 2d, that there may be others besides the writer of this article and of the letter who do not correctly understand the matter in hand, and who, therefore, do not state the facts as they are believed to be by the directors of one, at least, of the so-called

"private medical charities" of this city reflected upon in these articles.

At the outset, I beg to state that it is a mistake to call the New York Post-Graduate Medical School and Hospital a private institution, unless various qualifications are made. We have a special charter, granted, after encountering much difficulty, by the legislature of the State of New York in 1886. We are under the supervision of the board of regents of the university, and are a part of that great body which includes all the public educational institutions of the commonwealth. Besides this, under the new constitution, we are also responsible to the State board of charities, to whom we make regular reports of our financial condition. To call us a private institution, in the sense that a boarding-school or a private hospital is one, or as the medical colleges of the State, with two or perhaps three exceptions, are, is certainly incorrect. We are not even a private institution in the sense that the New York Hospital or Roosevelt Hospital is. Their directors may be said to have supreme control over their own affairs, without any such supervision as that I have just indicated. Your correspondent objects to us because we are a "teaching body," and, consequently, become so much the less a charitable institution. With that view I take issue. The Post-Graduate Medical School and Hospital, as a teaching body, is in the highest sense a charitable organization. The professors and instructors of that body have never been organized into a stock company. Not only have they never received any dividends from the investment of their time and money, which have been freely contributed, but they have never supposed they would get any. At the present moment all the fees received from physicians are turned into the hospital. This action is in accordance with the spirit in which the institution was founded. This spirit involved the establishment in the city of New York, on a firm basis, of a college in which doctors of medicine might be further instructed in the knowledge they had acquired in undergraduate schools and in practice. The founders knew perfectly well that no enduring institution could be established if it were made a private or business affair—a stock company; hence the special charter; hence the voluntary placing of ourselves under the direction of the State authorities; hence the provision that a board of directors, not necessarily members of the faculty, should govern the whole institution, and that the professors should merely be engaged in teaching: hence the understanding that, until the institution was firmly founded, these teachers should not receive any salaries. When the college is firmly planted and amply endowed, no doubt the professors will receive salaries from the directors, just as they do in the College of Physicians and Surgeons and in other medical, scientific, and academic institutions which are not stock companies, but, like the Post-Graduate, public institutions of learning. This is a point that the Post-Graduate Medical School and Hospital has many times endeavored to make clear to the public and to the medical profession. But it now seems necessary to make another statement of the facts, although they have been many times printed and published far and wide. It is not true that this medical institution, "with a hospital attachment," is not primarily a benevolent or charitable institution. It is both primarily and secondarily so.

Now allow me to state the facts about the annual appropriation of $30,000, for which we shall continue to ask until the law allowing the board of estimate and apportionment at its discretion to give us that sum is repealed. The Post-Graduate Medical School and Hospital asked for nothing from the State until we had invested much more than half a million of dollars in a plant, land, and buildings, until we had spent twelve years in unremitting labor, encountering the most varied obstacles, during all of which time we had contributed all of the fees received for instruction to the establishment and maintenance of the dispensary and hospital. This thing of asking for State aid was not done in a corner. We went to the legislature of the State of New York in 1894, and asked for an appropriation of $30,000 a year, as has been said, to be given at the discretion of the city board of estimate and apportionment. A bill granting this passed the legislature, was commented on in the public press, went to the mayor of the city of New York, received his approval, without which it could not have been a law, and was finally, after full consideration, signed by the governor. It is remarkable that the "medical taxpayers" whom your correspondent desires to represent did not take advantage of any of these opportunities to oppose the bill. At the same time with the passage of the law allowing us $30,000 a year, there was one passed allowing the Society of the Lying-in Hospital of the City of New York $12,000 annually, and I think there were other institutions similarly favored. We then supposed, in view of the circumstances of the case, the work we had done for the city, for the State, and for the country, that we should have no difficulty in securing the allowance of the full amount of $30,000; but this was opposed, not by any body of the taxpayers, but by one member of the board of estimate, and consequently last year this sum to be granted was fixed at $15,000. The board of directors then determined that if this cutting down of the sum asked for were to be repeated this year, it should not be without a full statement of our claims and our needs being presented to the municipal authorities. We therefore were represented by several members of our board at the meeting graphically described by your correspondent, and succeeded in convincng the whole board that, under all the circumstances, we ought to receive at least $20,000. Even the two members who voted against us in the beginning finally concurred in this view, for, as I understand the matter, no appropriation by the board of estimate is valid unless it be made unanimously. It has been shown in another place[1] that these reflections upon institutions like our own are not in consonance with the spirit or letter of the new constitution of the State. It is manifestly impossible for the State to provide adequately for medical education and the care of the sick in New York without private aid. This is given to various hospitals and teaching bodies as well as our own, but it is notorious that, except in the Hospital Saturday and Sunday collections, there is no general giving by the public for the hospitals of the city. A few hundred of our fellow-citizens give all that is given for the support of these great institutions, without which New York City would be as cruel to the sick and disabled as if it were a barbarous community. The municipal and State aid is merely giving one dollar to supplement the hundred dollars or even more given to the same institutions by private charity. The legislative precedents are all in favor of the State aiding such a college and hospital as ours. The New York Hospital, after many liberal gifts from the State, received a share of the sum raised by taxes in the city of New York from 1806 to 1859—$12,000 a year; the University Medical College received a subsidy of, I think, $3,000 a year, for a certain number of years. Bellevue Hospital Medical College held its sessions, until the recent fire, in a building on the city grounds, for which they paid rent, erected for them by the commissioners of charities and correction. The public hospitals under the care of these commissioners are provided with ample arrangements for teaching medicine. If we turn to the State of Pennsylvania, we find that a

[1] Post-Graduate, January, 1897.

very different view of the claims for State aid of benevolent and charitable institutions exists there than obtains in the mind of your correspondent, and, perhaps, in that of the MEDICAL RECORD. That State has for years granted a subsidy to its medical colleges, and to all of them hospitals are attached. In so doing, I believe it has done a great service to the taxpayers. The matter of the propriety of State aid to worthy medical schools and hospitals is to me beyond argument. We have nothing to apologize for in asking for it.

If the directors of the Post-Graduate Medical School and Hospital, in applying for and accepting the money from the State to carry out their legitimate and beneficent objects, are "well-dressed mendicants," we did not become well dressed from dividends or salaries from our institution, and we are mendicants for a real charity, of which we are not ashamed. We believe we ought to be assisted until we are firmly established, and then, depend upon it, we shall not ask for aid. The money we receive is characterized by your correspondent as "plunder." This is a very harsh word. Plunder is money or valuables taken by force or by fraud from an enemy. I think your correspondent will ultimately regret that he applied such a term to the aid received by us from the State. I deny the existence of anything that would justify any such language being used with reference to our institution, and I am very much surprised that any member of the medical profession, with any knowledge of our methods and work, could so use it. I am also surprised that your great journal should publish, in a leading article, that which seems to invite such attacks upon us as the one which I have been criticising. The Post-Graduate Medical School and Hospital is doing much more for the city and State than they are doing for it. We have always been willing, as suggested in your leading article already referred to, to present and have presented our "special claims fairly and squarely before the public, as a proper preliminary" for our applications for money. We challenge the most careful scrutiny on the part of the most judicially minded members of the medical profession as to the aims and work of the school and hospital in every particular. In spite of the views of your correspondent, I am happy in the belief that we have the confidence of the mass of that profession from Canada to Texas. Very respectfully,

D. B. ST. JOHN ROOSA, M.D.,
President, New York Post-Graduate Medical School and Hospital.

January 23, 1897.

The Hamilton Decalogue.—The following terse sayings are attributed to the late Dr. Frank H. Hamilton: "1. The best thing for the insides of a man is the outside of a horse. 2. Blessed is he who invented sleep; but thrice blessed the man who will invent a cure for thinking. 3. Light gives a bronzed or tan color to the skin; but where it uproots the lily it plants the rose. 4. The lives of most men are in their own hands, and, as a rule, the just verdict after death would be—*felo de se*. 5. Health must be earned—it can seldom be bought. 6. A change of air is less valuable than a change of scene. The air is changed every time the wind is changed. 7. Mould and decaying vegetables in a cellar weave shrouds for the upper chambers. 8. Dirt, debauchery, disease, and death are successive links in the same chain. 9. Calisthenics may be very genteel, and romping very ungenteel, but one is the shadow, the other the substance, of healthful exercise. 10. Girls need health as much—nay, more than boys. They can only obtain it as boys do, by running, tumbling—by all sorts of innocent vagrancy. At least once a day girls should have their halters taken off, the bars be let down, and be turned loose like young colts."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 23, 1897:

	Cases.	Deaths.
Tuberculosis	165	98
Typhoid fever	11	6
Scarlet fever	164	13
Cerebro-spinal meningitis	5	7
Measles	118	5
Diphtheria	288	28
Laryngeal diphtheria (croup)	3	3
Chicken-pox	24	0
Leprosy	1	0

Albuminuria Minima is self-explanatory and less misleading than such names as intermittent, cyclic, and functional. The albumin is probably always present, but in such small amounts as to escape detection.—TALAMON.

Cold Bathing during menstruation is a beneficial measure, provided women become accustomed to it by bathing every day for eight days before. Hehzel holds that cold salt-water baths facilitate the menstrual flow, increase the duration of genital life, and increase fecundity.—DEPASSE.

The Physician's Own Health should be more carefully looked after by the doctor, according to Dr. Kortright in the *Brooklyn Medical Journal*, who finds that most physicians overwork and are prone to the development of arterio-sclerosis. Ambition should be curbed and contentment should come with a small or moderate practice. Plenty of walking and outdoor exercise are recommended and regular vacations.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

ARTIFICIAL ANÆSTHESIA. By Laurence Turnbull, M.D., 12mo, 550 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $2.50.

ABDOMINAL SURGERY. By J. Greig Smith. Fifth Edition. Two volumes. 8vo. Volume I., 588 pages; Volume II., 710 pages. Illustrated. J. and A. Churchill, London. Price, $10.00.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Tenth Session. Volume IX. 8vo, 279 pages. Illustrated.

LEPROSY AND THE CHARITY OF THE CHURCH. By Rev. L. W. Mulhane. 12mo, 155 pages. Illustrated. D. H. McBride & Co., Chicago, Ill. Price, 75 cents.

AUTOSCOPY OF THE LARYNX AND THE TRACHEA. By Alfred Kirstein, M.D. Translated by Max Thorner, M.D. 12mo, 68 pages. Illustrated. The F. A. Davis Company, Philadelphia, Pa. Price, 75 cents.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD FOR DIAGNOSTIC PURPOSES. By Richard C. Cabot, M.D. 8vo, 405 pages. Illustrated. William Wood and Company, New York. Price, $3.75.

THE DISEASES OF INFANCY AND CHILDHOOD. By L. Emmett Holt, M.D. 8vo, 1,117 pages. Illustrated. D. Appleton & Co., New York.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume XIV. Edited by De Forest Willard, M.D. 8vo, 724 pages. Illustrated.

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Original Articles.

CLINICAL OBSERVATIONS ON CONVULSIONS IN THE ADULT, WITH DIAGNOSIS AND TREATMENT.

BY WILLIAM H. McENROE, M.D.,

NEW YORK.

IT is not an easy task to classify the various forms of convulsive disorders occurring in the adult, for the reason that they are due to many different causes, some of which are local or general, acute or chronic, or even purely functional. Convulsive movements are usually associated with various changes in the brain and nervous system. They are caused by cerebral hemorrhage, intracranial tumors, traumatic injuries to the head, embolism, specific gummy tumor, chronic renal diseases, puerperal eclampsia, epilepsy, hysteria acute and chronic, insolation, and by the poisonous action of certain narcotic drugs. Convulsions are caused by some irritation of the motor tract, and this may be direct or indirect, as in the case of a reflex spasm. When the contraction lasts for a short time only, and is followed by relaxation, the condition is called clonic spasm. When the contractions are persistent, with continuous rigidity of the muscles, it is known as tonic spasm.

These conditions may be present in the same muscle or in a group of muscles, and may alternate with each other. When this alternate contraction and relaxation becomes very rapid and fine it is called tremor. This is an important symptom of many convulsive disorders. It may depend on organic lesions, such as tumors, sclerosis, and degenerative changes in the brain and cord. The senile tremor occurs with advanced age, but is rarely seen before seventy years. This tremor at first takes place during voluntary movement only. Later on it occurs at all times, even during sleep. The hysterical tremor may be either a coarse or a fine one. In the case of the former there is rhythmical contraction and relaxation having no relation to voluntary movement. In the latter case the tremor always occurs during movement, and is decidedly irregular. The toxic tremor is produced by the poisonous action of alcohol, tobacco, lead, mercury, opium, and chloral. Tremor is a constant symptom of paralysis agitans and chorea. Fibrillary twitching often accompanies general paresis, tetanus, strychnine poisoning, and acute meningitis of the brain and cord.

Motor paralysis exists in all degrees of intensity, from the slightest perceptible weakness to the total abolition of muscular power. When the loss of power is very slight, the word paresis is designated to express it. The term paralysis indicates total loss of muscular power. Hemiplegia or paralysis on one side of the body often accompanies convulsive diseases. It is a constant symptom of apoplexy and embolism and may be due to many other causes, some of which are purely functional. When hemiplegia is caused by cerebral hemorrhage, the lesion is usually found in the corpus striatum on the left side. This is accompanied by right hemiplegia with loss of speech. Lesions occurring in this particular portion of the brain cause special disturbances of speech, which are called collectively aphasia. It should be borne in mind that aphasia is not a paralysis of the muscles of articulation and phonation, but that it is due to the inability of the speech centre to select the correct word and cause the necessary muscular movements for its pronunciation. The muscles of articulation and phonation are perfectly intact, but the patient cannot speak at all, or he may be able to say a word or two. Very often there is agraphia or inability to write, and sometimes alexia or inability to read. If the lesion occurs in the centripetal path of the auditory nerve there will be word deafness or sensory aphasia. The hearing for sound is perfectly good, but the sense of differentiation of words is lost. Lesions of the supramarginal and angular convolutions produce a condition of mind blindness, known as apraxia, in which the patient, while he sees objects, fails to recognize their nature or shape by vision. In left-handed persons the speech centre is situated in the right side of the brain: therefore in these cases there is left hemiplegia with aphasia. Very often the muscles of the arm and leg are affected. If the face is involved, there will be retraction of one of the angles of the mouth, which is drawn toward the healthy side. When hemiplegia is uncomplicated, the diagnosis is easily made. If coma is present, the diagnosis is very difficult and sometimes impossible.

There is a number of symptoms that are invariably associated with convulsive diseases, which require a detailed description. These consist of certain sensations which some persons experience, preceding or at the moment of attack. This is notably so in epilepsy, in which the phenomenon is known as an aura. Strictly speaking, this term refers to the sensation of a draught of air blowing upon the surface of the body and gradually passing upward to the head. However, as this symptom is not a common one, the term is now used to indicate any feelings that may be experienced by the patient preceding the attack. This very often consists of a creeping or numb-like sensation, beginning in the fingers, or even in the toes, and rapidly passing upward. In other instances there is a marked disturbance of the vasomotor system. The arm or the leg may be pale in color and cold to the touch, and the sensibility of the skin greatly diminished. There are often profuse perspiration, with a great flow of saliva, and fibrillary twitching of the muscles of the face and eyes. There is perversion of one or more of the special senses, often taking the form of a very sweet or bitter taste in the mouth; even ocular illusions may occur. One of my patients invariably saw a white dog cross his path, immediately preceding the attack.

Epilepsy.—There are two well-known forms of epilepsy which may occur alone or even together in the same person. They are called epilepsia gravior or *le grand mal*, and epilepsia mitior, or *le petit mal*. The former is the most common, and its symptoms constitute what is known as an epileptic fit. It is usually ushered in by an agonizing cry, which at one time was supposed to be due to pain or to fright. It is now known, however, that this cry is due to the spasmodic action

of the laryngeal muscles, by which action the air is forcibly expelled through a constricted orifice. The cry itself is very diagnostic of epilepsy. Coincident with this, the jaws become suddenly clenched and the tongue is very often bitten. This is a very important sign, especially when the attacks take place during the night, of which the patient is quite unconscious, and thinks, perhaps, that he has had a fainting-spell. But whenever the tongue has been bitten, it indicates that there has been a severe attack of convulsive epilepsy. The face is generally pale at the onset, but on account of the violent contraction of the muscles of the neck, and the pressure exerted on the great veins, turgescence rapidly follows. Respiration for the same reason become gasping in character. The patient appears to be strangled. If he is standing he falls down. Unconsciousness is complete and the muscles are in a state of tonic contraction. The eyes roll around, the pupils are dilated, and the pulse is rapid. This condition lasts for about one-half a minute and is then followed by a state of clonic muscular spasm, by which the whole body is thrown into the most violent agitation. The eyes roll around wildly. Mucous foam mixed with blood collects in the mouth. Sometimes the sphincter muscles are relaxed, and there is incontinence of urine and fæces. This stage lasts for a few seconds to several minutes, when the convulsions begin gradually to subside, the muscles become relaxed, the patient returns to partial consciousness and may attempt to speak. Soon after, however, drowsiness and stupor supervene and may continue for several hours, the patient returning to a conscious state with a feeling of exhaustion, and usually with some expression of surprise. This constitutes the convulsive form of epilepsy, and is regarded by many as the only true form of that disease. But, unfortunately, this malady may occur without any convulsions whatever: therefore it is incorrect to define it as a convulsive disease. The other manifestation of epilepsy to which the name *le petit mal* is given differs from that form already described, as stated, by the absence of convulsive movements. There is slight pallor of the face. The patient rarely falls, never suddenly. The symptoms are all slight. The patient recovers quickly from the attack, a little depressed and with a tendency to excessive micturition. During conversation he may suddenly turn pale, stop for a second or two, and then resume again, without being aware of anything having happened. This is not a simple disease, as the name implies, but is far more destructive to the mental powers than in the violent convulsive form.

The above account gives a fair representation of the phenomena usually found in the two varieties of epilepsy, but I must confess that many cases exhibit symptoms that cannot be included in such an account. There is a form in which consciousness is not lost, and many actions are performed that would indicate voluntary movement, but these are to a limited extent only, and resemble the actions of a somnambulist. This form is known as co-ordinate epilepsy. In another variety the patient soon after the attack is suddenly seized with a homicidal mania, of which he subsequently remembers nothing. Epilepsy seems to exert no particular injury to the bodily health, and I have known cases of severe convulsions to be accompanied by a fair degree on bodily nutrition. It is quite different, however, in regard to its influence on the mind. There are many cases on record of epileptics having been suddenly seized with an irresistible desire to do bodily harm, or even to the commission of heinous crimes against themselves or others, so that powerful physical restraint is sometimes necessary to prevent them. This condition is known as epilepticus furor, and, strange to say, these attacks are more often associated with *le petit mal*.

Uræmia.—There is a convulsive disorder that so closely simulates an epileptic seizure that it is exceedingly difficult to distinguish one from the other. This condition is produced by the retention of poisonous products in the blood which under normal conditions are excreted by the kidneys. The primary cause here is the failure of the kidneys to perform their natural function of elimination. This may occur during the course of any disease in which renal suppression takes place, and therefore may occur as a complication in all the forms of Bright's disease, but it is more likely to take place in the acute form. It also occurs in the puerperal state, after operations on the urethra, in diseases of the bladder, and in malignant and suppurative renal diseases. A number of premonitory signs and symptoms precede an attack of uræmia. There is œdema in various parts of the body, notably in the face and underneath the eyes. The patient is drowsy and stupid, and may have headache, vomiting, diarrhœa, and black spots before his eyes. The pupils may be contracted, but not symmetrically so, or one may be contracted and the other dilated, or both may be dilated. There is one characteristic sign: the pupils will not react to light. The face is pale, waxy, and dingy in appearance, and the hands are very white. The pulse is changeable. It is accelerated during the spasm, but afterward falls to normal or even lower. It is also incompressible. If rigid arteries are present under these conditions, the diagnosis of uræmia is positive. The urine is diminished in quantity, of high color, and contains albumin, blood, and casts. The attack may consist of one paroxysm: more often there are several, following each other at intervals of a few minutes or many hours, the patient meanwhile lying in a condition of profound coma. The attack itself closely simulates an epileptic seizure, and great care must be exercised in making a diagnosis. The initial cry of epilepsy is wanting. The œdema and swelling are characteristic of uræmia. In many cases there is a strong odor of urine from the surface of the body. The temperature is generally elevated, sometimes as high as 107° F. A low temperature may occur, but usually in old persons. The patient may pass into coma, and this is always accompanied by stertorous breathing. This has a harsh hissing sound, resembling a whistle, which is caused by the expired air rushing against the hard palate and teeth. The respirations are increased at first, later on they are diminished and become very heavy and labored. The patient is absolutely comatose and cannot be roused. Unless the coma is very profound, there is usually twitching of the muscles of the face and hands. The respirations are always modified in chronic nephritis. There is paroxysmal dyspnœa, especially at night; Cheyne-Stokes respiration may continue even through the comatose state. I have never seen hemiplegia follow an attack of uræmia. In epilepsy reflex sensibility is constantly present and absent in uræmia. Following the paroxysm in uræmia the patient passes into profound coma. There is only a deep sleep after an epileptic fit, from which the patient can be roused. In epilepsy one side of the body is more violently convulsed than the other; both sides are equally affected in uræmia. Nystagmus is sometimes observed but occurs more often in puerperal eclampsia —a condition that will now be described. It occurs most frequently in young women, or in those who are pregnant for the first time. These convulsive movements are often started up by some local irritation and sometimes by mental depression and worry. Severe headache, usually confined to one side of the head, is a prominent symptom. Black spots before the eyes, amaurosis, and impairment of memory may occur. Œdema is always present, involving the subcutaneous cellular tissue of the face and upper extremity. Dur-

ing the attack the patient is absolutely unconscious, and reflex sensibility is totally suspended. These spasms usually occur before labor, during labor, or after labor. In all cases large quantities of albumin and casts are found in the urine, and sometimes the kidneys are acutely inflamed. The attack is sudden in its onset, and resembles in every respect a severe epileptic convulsion; even the involuntary muscles are affected, leading to temporary arrest of respiration, producing a partial asphyxia. The attacks are of short duration, as a rule. After the first attack, the patient regains consciousness but is confused and drowsy, and has no conception of what occurred. If the spasms are repeated, the patient goes into profound coma during the intervals, and death may take place at any time. During the convulsion the pulse is greatly accelerated, running up to 140 or 150 per minute. Now, in fevers this pulse is not necessarily fatal, but it is so here, because the pulse is not only strong and rapid but it is incompressible, and something must be done, for this condition is one of the greatest danger. We must not overlook the fact that a pregnant woman may be an epileptic, or she may have an hysterical convulsion, or even be stricken down with an apoplexy, all of which give rise to symptoms similar to those of eclampsia. This disease, however, has a definite history that is quite different from that of any one of those conditions mentioned, and with the albumin and casts in the urine of a pregnant woman the diagnosis is never doubtful.

Apoplexy.—Cerebral hemorrhage or apoplexy is in a large number of cases caused by degeneration of the walls of the arteries of the brain. In the majority of cases the hemorrhage is from the branches of the Sylvian artery, which are given off in the anterior perforated space and are distributed to the corpus striatum and the internal capsule. Periarteritis, leading to sclerosis and the production of miliary aneurisms, is one of the most frequent causes of intracranial hemorrhage. These little bodies are found involving the arterioles throughout the whole substance of the brain, but are more often found in the pons, the lenticular and caudate nuclei, the optic thalami, medulla, centrum ovale, and the cerebellum, and are always the principal cause of very large intracerebral hemorrhage.

Atheroma is another cause of hemorrhage, and leads to the formation of aneurisms of the medium-sized and larger arteries. Left ventricular hypertrophy with interstitial nephritis and arterial sclerosis are common causes of apoplexy. Embolism and syphilis, producing an affection of the cerebral arteries, often give rise to symptoms very similar to that of apoplexy. Age is a very important factor in these cases. Apoplexy more often occurs in persons over fifty years of age, and the younger the patient the more likely is syphilis or embolism.

Now, as regards the phenomenon of an apoplectic seizure. In the majority of cases the onset is sudden, the patient falling down and becoming quickly unconscious, with or without convulsions; as a rule, the pupils are irregular, there is almost always conjugate deviation of the eyes. The face is cyanosed, the pulse is generally of high tension. The respirations are diminished in frequency and stertorous in character. There is hemiplegia or paralysis on one side of the body. In other cases the symptoms are slow in their development, and for the time being the patient does not lose consciousness. There is paralysis and often complete relaxation of the extremities; this is followed by gradual loss of consciousness finally ending in deep coma.

I have found the arm more completely paralyzed than the leg, although in many cases the loss of power is complete in both. Very often the face and arm are affected and the leg escapes.

Coma.—This brings up the subject of coma which is a constant pathological element in many of the convulsive diseases. Coma may be defined as a condition of insensibility with symptoms of brain pressure. No real form of coma can exist unless some portion of the cerebrum is compressed, either directly or indirectly. Coma differs from sleep in that it is a pathological condition, from which the system derives no benefit. The prognosis, as a rule, is unfavorable in proportion to its degree and duration. There is a condition known as syncope, which is due to failure of the cerebral circulation caused by cardiac weakness. This can always be distinguished by the flickering pulse and the condition of the heart, and in no way resembles true coma. In the coma following cerebral hemorrhage the respirations are slow, often irregular, and sometimes rapid. The pulse is usually hard and incompressible. There are hemiplegia and often strabismus, with irregularity of the pupils. The patient is absolutely comatose, and cannot be roused. In the coma of opium poisoning there is symmetrical contraction of the pupils, in many cases down to a pin's head, and this is a very significant sign. The skin is wet with warm perspiration. The respirations are deep and stertorous, and are greatly diminished in frequency, sometimes down to five per minute. The pulse is strong, regular, large, and compressible. The patient can be partially roused and his answers are rational as far as he goes, but he does not finish. In the second stage there is a condition of collapse that usually precedes death. All the symptoms are of profound exhaustion of the respiratory and cardiac centres. In alcoholic coma the face is red and flushed. The respirations are regular and rapid. The pulse at first is strong and rapid, later on it becomes quick and weak. The patient is irritable and can be roused to a drunken consciousness. He is angry at interference and generally swears.

There is another form of coma that is due to concussion of the brain. It is of great importance to recognize this form, as it is often due to criminal assault. There is one very characteristic symptom of this kind of coma. The control of the brain over the spinal cord is withdrawn; therefore its reflexes are set free, and the least external impression leads to twitching, sometimes great enough to shake a whole limb. Therefore wherever there is jactitation it points to some injury of this kind, and should never be overlooked.

Hysteria.—The term hysteria is employed to indicate a large number of nervous phenomena, denoting an abnormal condition of the mind and nervous system. There is an exaggerated susceptibility to emotion, often occurring alternately—for instance, crying and laughing without adequate cause. The patient lays great stress on the various symptoms of disease, for the purpose of exciting sympathy. Hemianæsthesia is a common symptom. Along with this there is paralysis of one or more groups of muscles. Contracture alone, or with paralysis and anæsthesia, usually follows convulsions and may affect one side of the body—the arm or leg, or even the lower extremity. Tympanites is a common symptom and may in some cases simulate pregnancy or even peritonitis. There is rarely complete loss of consciousness. The patient may fall upon the bed or floor, but not in a way to cause injury. The legs and arms are thrown about in all directions. The patients struggle violently and often show prodigious strength. The attacks do not occur when the patient is alone. The respirations are tumultuous and noisy, but there is never danger of asphyxia. Muscular twitching of the eye is common, but there is no divergent strabismus. There is much foaming at the mouth, but the tongue is never bitten. In the minor form of the convulsive movement the contractions are

clonic and irregular, usually lasting for a very short time, and are almost always followed by an emotional attack. There is a sense of pain or fulness in the epigastrium, with the well-known globus hystericus in the throat, the spasm at first involving the muscles of the eye and often passing to the trunk and extremities. The eyes are often turned to persons or objects near by, and then rolled up again. These attacks last for an indefinite time, and are followed by much weakness, but never by stupor or coma.

Hystero-epilepsy is an exaggerated form of the above condition. These attacks are accompanied by the globus hystericus. There are clonic and tonic convulsions very closely simulating epilepsy. The duration, however, is much longer than in the case of epilepsy. After the convulsion the patient is violently emotional. Contortions occur and even catalepsy may be developed. During these severe attacks the patient is generally comatose, assuming various attitudes, but after a time consciousness is restored, often with delirium and hallucinations, the patient in some cases lying in a trance for several days. The convulsive movements may affect the feet and hands only, sometimes consisting of a coarse tremor or even fibrillary twitching. The tongue is never bitten as in epilepsy.

Catalepsy consists of intermittent attacks and suspension of voluntary power and sensation, without convulsions, and is always accompanied by general or partial muscular rigidity, so that the parts involved retain for an indefinite period the position in which they were placed at the beginning of the attack. The most common cause of catalepsy is strong mental emotion. It is sometimes very brief and sudden, and in some cases precedes true epilepsy. In itself it is not a dangerous disease.

Cerebral Tumor.—Convulsive movements are prominent symptoms of the various tumors of the brain, and in some instances closely simulate an epileptic seizure. I have never seen intracranial tumor without double optic neuritis and paralysis of one or more of the cranial nerves. Vomiting and intense headache are always present. The pain, which is exceedingly severe, is situated in the back of the head, with a tendency to radiate forward or to one side. With this there is nystagmus, and in almost every case pathological changes are found in the optic discs. The swelling of the papilla, known as choked disc, is a very diagnostic sign of tumor. The pupils are generally dilated and atrophic changes are almost always found in the optic nerve. Aphasia is sometimes present. This indicates some disturbance of the speech centre, the lesion involving the posterior portion of the third convolution of the left anterior lobe. Persistent vomiting is a very distressing symptom. This is generally caused by pressure or interference in some way with the semicircular canals. Hemiplegia and paraplegia are frequent symptoms of intracranial tumor. With our present knowledge of the motor areas in the cortex it is possible to differentiate the various tumors by a careful consideration of the extent and location of the convulsive movements. Tumors of the cerebellum cause an irregular or staggering gait, with a tendency to fall forward or to one side. It is not always easy to differentiate between tumor and abscess of the brain. If the affection is accompanied by an inflammation of the middle ear, or by caries or necrosis of the cranial bones, the presumption is in favor of abscess. Intracranial hemorrhage with softening of the brain, as the result of thrombosis and embolism, may be distinguished from tumor by the fact that in these cases paralysis occurs suddenly without premonition, whereas in the case of tumor there are premonitory symptoms for a greater or lesser time preceding the attack. With the hemiplegia following cerebral hemorrhage or softening of the brain the cranial nerves of special sense are hardly ever involved. With hemiplegia caused by tumor they are always involved.

Meningeal hemorrhage is often accompanied by convulsions, and especially so if the cause is a traumatic one. It is rarely complicated by hemiplegia, and if the effusion is very great death may take place speedily. The diagnosis rests to a great extent on traumatism as a cause. It may occur as the result of aneurisms of the middle cerebral or basilar arteries and sometimes by a thrombosis of the cerebral sinuses.

Tetanus is a disease characterized by continuous rigidity of the muscles of the neck and jaw and a large part of the voluntary muscular system of the body, with paroxysms of tonic convulsions, the intellect remaining intact. Rigidity of the muscles is continuous and persistent, spasmodic contraction occurring at intervals. In some cases the muscular rigidity is so great that the body is rendered immovable. Stiffness of the muscles of the neck and jaw is one of the earliest symptoms. This is called trismus. During the most violent convulsive movements the body is thrown into various contortions, and opisthotonos and other conditions are developed. The paroxysms vary in duration and are accompanied by severe pain. This resembles very much the symptoms of poisoning by strychnine. In strychnine poisoning the symptoms develop suddenly. The convulsions come on immediately after the poison has been taken, and the first one is generally the most severe. In tetanus the symptoms come on slowly. There is rigidity of the muscles of the neck and jaw, and trismus is established. In strychnine poisoning the muscles of the lower extremity are first involved. There is complete relaxation of the muscles between the convulsions and the mouth can be opened. In tetanus there is never complete muscular relaxation and the jaw cannot be opened.

Treatment.—Diet is of great importance in the treatment of epilepsy. The pyloric sphincter of the stomach is often greatly relaxed and the food passes rapidly into the small intestines, which are also relaxed. This causes the ravenous appetite of epileptics, so that they "bolt" their food down without proper mastication. Animal food aggravates this condition and should not be taken. The patient should take at least three-quarters of an hour for each meal. If meat is allowed at all, it should be taken in the morning and never at night. The bromides of potassium and sodium owe their efficacy to the fact that they paralyze those peripheral irritations which cause the convulsions and other manifestations of epilepsy. Great care must be exercised in the use of the bromides, for these drugs can diminish the normal reflex excitability of the body. If given in excess they impoverish the blood, producing a tendency to extravasations, and cause an acne-like eruption on the face. The patient becomes sluggish in his movements and has loss of memory. They should always be given largely diluted with water and always after taking food. Cod-liver oil is a powerful adjuvant in the treatment of epilepsy. It offsets the injurious effects of the bromides and may be combined with small doses of phosphorus, about one-one-hundredth grain for each dose. If the acne is very severe, I have found Fowler's solution of arsenic in five-drop doses very effective. Very good results are often obtained by combining chloral with the bromides. Alcohol, in the form of whiskey or brandy, intensifies the action of the bromides and chloral. This is especially useful when the attacks are nocturnal. The compound spirit of ether, in drachm doses, is also very useful when the attacks are always nocturnal. If this line of treatment is carried out for a period of from eighteen months to two years, a cure will be obtained in many cases, especially of *le grand mal*. The manifestations of the *le*

petit mal are not so readily controlled. Epilepsy is sometimes due to an intracranial cause manifested by fibrillary twitching of the facial muscles during the night. Corrosive sublimate in one-twenty-fourth grain doses should be given three times per day. The convulsive attack, if taken in time, can often be prevented by producing some powerful impression on the surface of the body, such as the application of a hot iron or by a sharp blow. The excessive irritability of the skin can be overcome by the use of red pepper, to be applied in the following manner: To two pints of boiling water add two drachms of powdered capsicum. When it is cool moisten a sheet in the decoction, and wrap the patient up for half an hour, or until the skin becomes very red. This diminishes at once the excessive excitability of the surface nerves.

In the treatment of uræmic convulsions with dropsy, hydragogue cathartics are much more reliable than diuretics, for in many cases the kidneys will not act. I prefer the compound jalap powder for this purpose and usually give twenty grains for the first dose. Elaterium is also a very useful drug. It can be given in doses of one-eighth grain every two hours until four doses are taken. A very good diuretic pill contains one grain of calomel, one grain of squill, and one grain of digitalis. If the pulse becomes intermittent, leave out the digitalis. If symptoms are very urgent, the diuretics digitalis and the bitartrate of potassium may be tried. Their action is greatly hastened by the hot-air bath or by hot air introduced underneath the bed clothes. Pilocarpine in one-eighth grain doses seems to act well. If there is very extensive dropsy, numerous small punctures can be made with an ordinary needle, but not deep enough to draw blood. I have great faith in hypodermatic injections of morphine in uræmic convulsions. Bloodletting is a powerful means of putting off the immediate danger in uræmia, but it is applicable only in acute sthenic cases. It should never be done in chronic cases. For the prolonged treatment of chronic Bright's disease a pill containing one-twenty-fourth grain of corrosive sublimate, one grain of digitalis, and one grain of squill is very useful. When the pulse becomes intermittent the digitalis must be left out. Saturation of the system with the muriated tincture of iron, combined with small doses of corrosive sublimate, is also very useful.

Inhalations of chloroform are of the greatest value in the treatment of puerperal eclampsia. Bloodletting is indicated here, but, if for any reason, venesection cannot be performed, large doses of veratrum viride should be given. Begin with twenty minims of the tincture and when the convulsion recurs give twenty minims more. It may be necessary to give twenty minims every twenty minutes until its effect is produced on the pulse. It slows the pulse, makes the heart beat less strongly, and by opening up the arteries makes the pulse compressible. Chloral in combination with potassium bromide is very useful, ten grains of the former and thirty grains of the latter. Hypodermatic injections of morphine are also of great service.

Apoplexy is generally fatal. In these cases it is always advisable to give an active cathartic. One drop of croton oil placed upon the tongue is very effective. The question of venesection in apoplexy is an open one. If the patient shows symptoms of increased arterial tension with a red face, and strong carotid pulsation, and if the action of the heart is unusually strong, under these circumstances bloodletting is beneficial, otherwise it is not.

In the coma produced by opium poisoning, the stomach should be washed out at the very start, providing the patient is seen immediately after taking the drug. Twenty minims of the tincture of belladonna should be given every twenty minutes until the pupils begin to dilate, or corresponding doses of atropine sulphate may be given hypodermatically, beginning with one-fiftieth of a grain. Strong coffee should be given and every effort used to keep the patient awake. Artificial respiration may be necessary. The application of the faradic battery is a powerful means of stimulating the diaphragm and sustaining the heart. During the second stage, the patient should be laid down. Cardiac stimulants with large doses of brandy and water should be given; hypodermatic injections of one-one-hundredth grain of nitroglycerin at each dose; hot beef tea by the mouth or rectum every fifteen minutes. In the treatment of hysterical convulsions I believe in the prolonged application of the cold douche to the head. The patient should be held over a tub and ice-cold water poured continuously on her head until she begs for relief. This measure is most invariably successful in restoring consciousness. The administration of valerian, asafœtida, etc., is always indicated.

The treatment of tetanus is by no means satisfactory. Inhalations of chloroform are often useful: so is morphine in large doses. Potassium bromide is recommended also in large doses. Alcohol given to the extent of causing intoxication has been recommended. Ice applied to the spine is a useful measure. In strychnine poisoning tannic acid should be given if the patient is seen immediately after having taken the poison. This is to be quickly followed by an emetic. I have found potassium bromide and chloral in large doses very effective. As much as two hundred grains of potassium bromide and fifteen grains of chloral should be given for the first dose. Smaller doses can be repeated every twenty minutes. Artificial respiration and the administration of ether, chloroform, or amyl nitrite should be resorted to.

RETROGRADE CATHETERIZATION IN IMPERMEABLE DEEP URETHRAL STRICTURES, ILLUSTRATED WITH FOUR CASES.[1]

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Sometimes while doing an external urethrotomy for the relief of impermeable urethral stricture we may have the misfortune to lose all traces of the urethral lumen, and we may fail to find it after a prolonged and careful search. Even pressure above the pubes and in the rectum, for the purpose of forcing urine out of the central end, which often serves an excellent purpose in locating the proximal urethral end in the perineal wound, may fail.

Impermeable strictures may follow crushing perineal injuries which lacerate the deep urethra and more or less extensively destroy the peri-urethral structures, and in cases of gonorrhœal origin, complicated by urethral and peri-urethral suppurative processes.

When anatomical lines have become obliterated as the result of extensive cicatricial formation and we are unable to find our way into the bladder, it may become necessary to open that organ above the pubes, introduce a sound or catheter in the vesical end of the urethra down to the point of obstruction, and do retro-catheterization—in order that we may have a guide upon which to continue our incision and thus complete the waterway.

Common experience has shown that retro-catheter-

[1] Read before the Missouri Valley Medical Society at Council Bluffs, September, 1896.

ization in impermeable stricture is seldom required. The vast majority of deep and narrow urethral constrictions can be divided through the perineal wound. Therefore the experience, as will be detailed in this paper, is unusual.

The failure to follow the urethral canal into the bladder in these cases cannot be due entirely to inexperience, or to want of care and patience, for the reason that we had previously operated, entirely through the perineal wound, on seven cases of small-calibre strictures, several of which would not admit the smallest whalebone bougie. In the cases herein reported a resort was had to all the expedients usually employed for the purpose of finding and keeping in sight the urethra, and since a suprapubic cystotomy does not add materially to the gravity of the operation, and is easily and quickly done, we did not hesitate to resort to this method.

Case I.—H. R. D——, farmer, aged forty-three years. Has never had gonorrhœa or any other venereal disease. In February, 1884, while shovelling cobs from an ordinary wagon, he slipped and fell astride one side of the box. He was taken home, where he passed blood per urethram in large quantities for about half an hour. About one hour after his accident he drove three and a half miles to consult a physician, who attempted to pass a sound but failed. The patient was sent home and ordered to go to bed. He remained in bed seven days and in the house two weeks. Shortly after he drove a distance of nearly one hundred miles in a wagon, which greatly aggravated his affection, necessitating rest in bed for several days, his urine dribbling away. Since his injury he has always experienced difficult urination after hard labor or dissipation. Nocturnal enuresis has existed to a greater or less degree since his accident. He could always void his urine with greater ease while in a recumbent position. Frequent attempts at sounding have been made from time to time, but always without success. He entered the Omaha Deaconesses' Hospital, January 31, 1896. On examination we found him well nourished, and in every way he seemed in good health, except for his great difficulty in passing water, which he succeeded in doing only with the greatest effort and while lying on his side. The urethra seemed normal in the pars pendula, but no instrument could be made to pass the membranous urethra. After long-continued but unsuccessful effort with almost every form and size of instrument, external urethrotomy was decided on and agreed to by the patient.

On February 1, 1896, after the usual preparations and antiseptic precautions, the urethra was opened at the seat of stricture over the point of a sound, but no amount of search for the central urethral end was of any avail. A suprapubic cystotomy was then made, an elastic bougie was passed from the bladder into the urethra, and the operation was completed, as will be described more in detail in connection with another case. Recovery followed without complications, except for a suprapubic leakage.

He was discharged March 27, 1896, with the suprapubic wound closed and a fistulous opening in the perineum, which is now healed. He was able to pass a No. 25 French sound.

Case II.—E. E. M——, aged forty-one years, American, married. Occupation, stationary engineer. Entered the Omaha Deaconesses' Hospital, February 2, 1896. He was of slight build, poorly nourished, very feeble; was not able to be out of bed; suffering from urinary retention. He stated that nearly twenty years ago he was afflicted with a severe attack of gonorrhœa, from which he supposed himself to have recovered after several months' treatment. About ten years ago he observed that the urine was expelled less forcibly and in a smaller stream, since which time urination had become gradually more difficult, and during the last year his bladder had constantly been overdistended, with more or less dribbling. On examination three constrictions, 20 ch. calibre, were encountered in the pendulous urethra. But no amount of effort or patience would induce any instrument to pass into the pars prostatica. The collected urine exhibited elements indicating vesical catarrh. External urethrotomy was advised and consented to.

February 8, 1896, the urethra was opened by perineal section by the usual method. It was found to be impossible to enter the bladder by this route, on account of the dense cicatricial tissue. The bladder was opened above the pubes. An elastic bougie was guided by the index finger into the vesical end of the urethra to the seat of stricture. The operation was completed by cutting through the cicatricial tissue, so as to enable a sound to pass through the penile urethra into the bladder. Recovery was uneventful except for a slight suprapubic leakage, and that the perineal tube was displaced three times, giving considerable trouble each time before reintroduction was effected.

The patient was discharged March 7, 1896; able to introduce a 25 ch. sound, but was still suffering somewhat from vesical catarrh, which has now disappeared.

The following case will be reported more in detail, partly to illustrate the method of procedure, and partly on account of some unusual features connected with it:

Case III.—N. B. C——, married, aged forty-nine years. Occupation, lodge organizer. Entered the Omaha Deaconesses' Hospital, February 10, 1896. He appeared very anæmic, poorly nourished, weighing about one hundred and thirty-five pounds. He complained of an inability to pass his water, a condition which had existed for several years, gradually growing worse. He stated that twelve years ago he had suffered from vesical calculus, which was removed by litholapaxy. His urethra was badly lacerated during the operation. His urinary difficulty dated from that time. Hemorrhage, which was very copious at first, ceased at the end of the week, followed by purulent discharge lasting several weeks. He observed an increasing difficulty in urination. The stream, while at first not diminished in size, was not expelled with that force to which he had been accustomed. A year later the stream gradually diminished in size, so that in the course of four or five years micturition became difficult, painful, and at times impossible. He had undergone many catheterizations, sometimes very forcible, for the relief of retention, sometimes successful and sometimes not. He had submitted to many courses of sounding, electrolysis, secret solvents, and widely vaunted stricture dissolvents, with the result that now he had almost constant dribbling from the urethra, with a bladder distended almost to the umbilicus. He denied ever having had venereal disease. Although he was much enfeebled by long suffering and loss of sleep, no marked disturbance could be found in any organ except his urethra and bladder, and a moderately prolapsed rectum from constipation. On examination an obstruction was found in the prostatic urethra, which could not be passed with steel or elastic sounds or filiform bougies. The urine contained triple phosphates, epithelium, leucocytes, etc. An external urethrotomy was advised and was consented to by the patient.

Operation, February 12, 1896. Patient was placed under chloroform and in lithotomy position. After a careful surface and urethral disinfection, a steel sound was passed to the seat of obstruction. An incision was made in the median line, exposing the point of the sound. The wound margins were separated with retractors, and an attempt was made to follow the con-

stricted urethra into the bladder. The urethral calibre had become so small and tortuous, and the perurethral cicatricial tissue so abundant and dense, that all traces of the urethra were soon lost, and in spite of a very prolonged search could not be found. The abdomen and pubes were then disinfected and shaved, and then prepared in the usual way. The bladder was opened above the pubes and the wound edges were caught with silk guys and held apart. The index finger was introduced for the purpose of finding the urethral opening, but without success. With the aid of reflected light the bladder opening was easily found. An elastic No. 20 French bougie was easily passed to the seat of constriction. The perineal wound was again separated with retractors, the bougie point, which could easily be felt, was cut down upon, and the bougie withdrawn. Another attempt was made to find the constricted urethral lumen, but this again failed. The intervening cicatricial mass was excised to the extent of one-half inch from the bulbous portion. No attempt was made to suture the divided ends of the urethra. After a copious irrigation, the suprapubic wound was closed by three tiers of sutures, the first two with catgut and the superficial with silkworm gut. A small gauze drain was left in the lower angle of the wound. A collodion dressing was then applied. A rubber drainage tube, one-fourth of an inch in calibre, was introduced with one end reaching just within the bladder and the other end extending four or five inches outside the perineal wound, and joined to a second tube, which was of sufficient length to extend into a vessel partly filled with water under the bed. This tube, by its siphonage, kept the bladder empty, giving it physiological rest, draining away the urine as fast as it trickled from the ureters, depriving microorganic life of its nourishment, and in that way placing the bladder in the best possible condition for recovery. The space around the tube in the perineum was packed with iodoform gauze; over this was a large pad of absorbent cotton, then a perineal band. The patient was then placed in bed. The perineal dressings were changed daily. After the fifth day the bladder was irrigated through the perineal tube every day with boric-acid solution. The suprapubic dressing was removed in one week. The wound was found to be united, except at the point of drainage, where a small leakage was found, which persisted for several weeks and then closed.

March 27th, the perineal tube was removed permanently. On account of existence of local sensitiveness, the first sound, No. 25 F., was passed into the bladder under the influence of an anæsthetic. On the succeeding twelve days the patient was instructed in the passing of the sound, which he succeeded in doing very successfully. The perineal wound gradually closed. The patient was discharged April 9, 1896, with instructions frequently to sound his urethra.

Case IV.—T. Z. G——, aged sixty-two years, American, shoemaker, married. Admitted to the Omaha Deaconesses' Hospital, March 3, 1896. He said that about two years ago he fell astride of a fence, severely bruising his perineum, and especially his urethra. Immediately after the accident he suffered from prolonged urethral hemorrhage, painful and difficult micturition. After the cessation of the hemorrhage, swelling, and pain, urination was not free, and slowly but gradually became more impeded, until within the past three or four years it became very difficult, and at the time of his admittance he could void his urine only in drops and with the greatest effort. We found him fairly well nourished and otherwise in fair health. Pulse, 102; temperature, 99.5° F. Examination of the collected urine showed it to be milky in appearance with considerable odor, and microscopically it contained the elements indicating chronic vesical catarrh. An effort to enter the bladder through the urethra by means of bougies and sounds proved futile after repeated and prolonged attempts. The constriction existed in the posterior urethra. External urethrotomy was urged and agreed to.

Operation, March 5, 1896. A perineal incision was made down to the point of a sound which rested against the urethral obstruction. All efforts to trace the urethra through its bulbous and membranous portions failed. The bladder was then opened above the pubic margin, as in the preceding case. An elastic bougie, guided by the index finger, was introduced into the vesical end of the urethra, down to the point of obstruction. The perineal incision was then extended to the point of the bougie. A careful search for the urethra from within outward revealed a very small and tortuous canal, from which opened a blind pocket, probably the result of forced catheterization, and into which had passed the end of every instrument introduced into the urethra. The constricted portion was laid open. The same suprapubic suture, drainage, and dressing were used as in the preceding case; also the same perineal drainage and dressing. Recovery was uneventful, except for a suprapubic leakage which gave us much trouble, but ceased in about five weeks. His highest temperature was 101° F. On account of great restlessness the perineal drainage tube slipped out several times, and required an anæsthetic for its reintroduction. The perineal tube was removed permanently, April 5, 1896. He was instructed in the passage of the sound, and was discharged, April 24, 1896, able to pass a No. 24 F. sound. The perineal fistula was not entirely healed, but closed seven weeks later, as I was informed by letter.

External urethrotomy in impermeable deep urethral stricture, completed by the aid of suprapubic cystotomy and retrograde catheterization, is not a new operation, having been done by Verguin, of Toulouse as early as 1757. Fortunately the cases requiring such extensive operative procedure are not of frequent occurrence, particularly in recent times. With increased experience and better manipulative skill on the part of the surgeon, the vast majority of cases are managed so successfully that even simple external urethrotomy has become less frequent, and retrograde catheterization very rare. And for one surgeon to have four such cases in the same hospital at the same time is a very unique experience.

The method of procedure in our cases did not differ from the plans usually followed, except that for retrograde sounding an elastic bougie was used in place of the metallic sound so often recommended, on account of the danger of making a false passage with the metallic instrument, an accident which can occur while the sound is being pressed downward by the assistant in order that the point may be readily felt in the perineal wound. Again, we used a tube of large calibre and more unyielding walls in place of the soft-rubber catheter so often employed, on account of the freer drainage, the less liability of the tube to collapse, and the greater dilatation of the vesical sphincter, thereby more speedily relieving the spastic and irritated condition of the sphincter. The large free opening in the end of the tube gives freer exit to the tough tenacious mucus from the bas fond, keeping the bladder empty and giving it that physiological rest so important in the treatment of inflammatory conditions.

The most unpleasant feature in the management of these cases is the suprapubic leakage that is liable to occur in many of them. As soon as this occurs the siphonage through the perineal tube becomes imperfect, the tube is liable to clog, and frequent irrigations through the tube, in order to dislodge tenacious mucus and pus, become necessary. Frequent change of

dressing of the suprapubic wound is required. The integument of the lower abdomen becomes irritated and excoriations are liable to occur. The closest attention of a skilled nurse is almost indispensable. The wound as well as the surrounding skin must be frequently disinfected, covered with zinc-oxide ointment, and dressed with antiseptic hygroscopic dressings. These suprapubic fistulæ have, in my experience, all closed in a comparatively short time. The reason leakage so often occurs, even after the most accurate tier suture, is due to the infection from septic contents of the bladder, which exists in nearly every case. And until we shall have more perfect means for immediate disinfection of a catarrhal bladder we are liable to have this complication. The perineal fistulæ have given us more trouble. In several instances we have resorted to repeated currettings before closure was effected. In one case of simple perineal section for chronic vesical catarrh, without urethral stricture, the fistula existed nearly one year.

In Case III. we extirpated the entire cicatricial mass involved in the stricture without any attempt to coaptate the resected urethral ends. When we consider for a moment that it is impossible to maintain an aseptic condition of the urethra under ordinary circumstances, and certainly less so in diseased conditions, we know that any attempt at suturing, or transplantation of mucous membrane must be a failure. The sutures become infected and cut through the tissues. Repair must be by granulation and cicatricial contraction.

The remaining cases were not treated so on account of our having had no personal experience with this method. But I am convinced from further reflection, as well as by a study of the pathology and a consultation of current literature, that the proper procedure in every case is to extirpate all of the cicatricial tissue involved in the stricture.

We have practically a fibrous cord extending from the distal to the proximal urethra. This cord has lost all the elements of a urethra. No matter how carefully we split along its narrow and tortuous calibre, all attempts to transform the resultant groove into a urethral wall will fail, because it is denuded of its epithelium and subepithelial tissues, which are so necessary to its elasticity.

In our soundings, however carefully done, this cicatricial cord is pushed to one side, the defect heals by granulation, and we have again a long cicatricial tube. If we excise the strictured urethra, the granulation process proceeds to its ultimate cicatricial formation, and contraction takes place, we find that the resected ends of the urethra are drawn toward each other, resulting in a thin, short annular cicatrix, which in time and with proper care will almost entirely disappear; while in the other case the remaining thick cicatricial structures interfere with gradual approximation of the unaffected urethral ends, making the results unsatisfactory.

The question arises, how much of the urethra can be safely exsected? Eugene Fuller[1] reports two cases, in one of which he removed the "entire bulbous urethra, and an inch of the penile urethra anterior to the bulb, and the anterior half-inch of the membranous urethra," with success.

In all of our cases no instrument was placed in the anterior urethra, and no attempt at sounding was made until the perineal drainage tube was permanently removed, the tube being retained until the urine had become clear and free, or nearly so, of epithelium, triple phosphates, leucocytes, etc. Then a sound was passed into the bladder and retained for from five to ten minutes, and replaced daily with increasing sizes, until the full capacity of the urethra was attained. The patients were always instructed to do this themselves, and on leaving the hospital were provided with a proper sound and warned to continue sounding for a month every day, after a month each alternate day for two months, then making the time between the soundings longer, but to sound at least once a week for a period of two years, with the warning that all urethral strictures are liable to recur unless prevented by the regular passage of the largest possible instrument.

[1] Medical News, July 25, 1896.

CRANIAL SURGERY.[1]

By F. W. HIGGINS, M.D.,

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UNTIL the last decade or two the cranium has been the *noli me tangere* of surgery. Some time after the peritoneal cavity had ceased to affright the surgeon, the head remained a dark continent. The reasons for this are not far to seek.

Among these are the difficulty of making an opening into the cavity through the cranium, the shock of the operation, the profuse hemorrhage from the scalp, the small field of operation, and limited opportunity for observation after the opening is made—all in marked contrast to the abdomen, where the whole hand can be introduced, if necessary, to aid in the diagnosis; then there were the erysipelas, pyæmia, and septicæmia which in the pre-antiseptic days of surgery seemed more likely to follow head injuries than any other class. Even after the advent of antiseptics and aseptics the difficulty of carrying out the technique on the scalp seemed for a long time insuperable. Added to all these was the apparently insurmountable impossibility of making a correct diagnosis of an intracranial affection before operation or of localizing it, so that we can easily understand why cranial surgery was last to be developed.

Already to some extent have these barriers to brain surgery been overcome. With a conical thin-edged trephine an opening can be quickly and safely made through the bone. If a larger opening is necessary, a semicircular bone flap can be raised which can afterward be replaced.

We have learned how to manage hemorrhage with hæmostatic clamps during the operation. If he is supplied with a couple of dozen of these the bleeding does not delay the surgeon at all, and all necessity for resorting to the difficult process of ligaturing is dispensed with. Hemorrhage from a cerebral sinus, which sometimes pours out in such a torrent, is, after all, only venous, and is found to be easily controlled by pressure of a tampon of gauze.

Antisepsis cannot be used at all when the delicate structures of the brain are exposed. But recently asepsis is the motto of surgery, not antisepsis. All the instruments used are sterilized by boiling alone, and are then kept on a sterile towel. The head itself is shaved the day before the operation and scrubbed for an hour with green soap, then with ether, and then with a brush and bichloride. A cap wet with bichloride, 1 to 2,000, is then applied and worn over night, to be removed only at the table, where a last scrubbing is given.

To the diagnosis and localization, in which such great strides have been made in the last few years, I can only briefly allude, after I have given a report of a case operated on at the hospital, August 27th.

C. B——, aged twenty-three, a farmer, a well-built healthy young man, was thrown from a wagon, July 18, 1895. He struck his head upon some stones, causing a scalp wound just to the left of the median line near the vertex. No injury to the skull was apparent, and he

[1] Read before the Cortland County Medical Society, December 10, 1896.

went to work three days after it was dressed. In the afternoon of that day he had an epileptiform attack. He did not lose consciousness, but there were tonic and clonic convulsions. After that he complained of a constant heavy feeling in the head, and every month or two occurred an attack somewhat similar to the first one. During the month before I saw him he had two, the last being much more severe than any which had preceded. In this one he became unconscious. The description given by his wife of this atttack on August 19th is that he was sitting quietly by the stove, when he suddenly jumped and grabbed the stove-cover lifter and began to strike aimlessly with it; then he scattered the dishes from the table about the room, and threw over a chair; he then began to toss his arms about, to throw himself against the wall and then to roll on the floor; then he was seized by cramp. As she tried to give him something from a teacup he bit a piece out of the side of it. These performances continued about a quarter of an hour, and were followed by a stupor of an equal duration. After this he had cramp again, but became unconscious at six o'clock, about three hours from the beginning of the strange actions.

The examination of the patient did not reveal much more than the history had done. The optic nerve looked hazy, what is called woolly, but it could not properly be called choked disc. On measuring the distance from the inion to the glabella it was found to be just twelve inches. The posterior end of the scar was situated just half an inch in front of the point midway between the two; as the upper end of the fissure of Rolando is half an inch behind this point, the scar would evidently lie in the anterior border of the motor area. It was thought that while the symptoms were rather indefinite, still from the fact that they came on three days after the injury, and consisted of motor spasms due to some cortical irritation, an exploratory operation would be justifiable. The nature of it was fully explained to members of the family, who willingly consented to it, taking all the risks of non-success and of danger. Indeed, they were anxious to have it done, since all treatment had failed to control the attacks.

The aseptic precautions already detailed were carried out in every particular. Care was taken to locate the ends of the scar on the bone by a drill before the incision was made. The flap from the scalp was made horseshoe form, with the base down for its better nourishment. The first button of bone required some little time for its removal, since the skull proved to be very thick and necessitated frequently stopping and testing the groove in order to avoid the danger of injury to the cranial contents. The buttons were taken away, and the chisel was then used until a triangular opening with smooth sides was produced. Beyond the excessive thickening of bone nothing abnormal appeared. The dura was carefully opened, but, the inside of that looking healthy, no further search was made. Since the operation was done for the relief of pressure and irritation symptoms, the bone was not replaced, but the flap was sutured carefully in place. Recovery was entirely uneventful. At the first dressing one week later union was almost complete, and the stitches were removed. One week later the patient left the hospital.

Of course it is yet too soon to know what permanent benefit the patient will derive from what was done. During these four months, however, he has had no attack, and his head feels much clearer and better, and he is able to work, with nothing to show for his experience except a soft spot on the top of his head.

In another case in which I operated about a year ago for sarcoma of the parietal bone, that of a patient of Dr. White, the localization symptoms were much more definite than in the one just given, and very interesting. The first irritation symptom was an epileptic spasm before admission to the hospital. He was relieved by the removal of the growth, until it began to recur inside the dura mater, when one-sided spasm and one-sided paralyses began to appear which corresponded exactly to the motor centres about the fissure of Rolando that were diseased.

It is the mapping out of these motor centres during recent years that has given such an impetus to cerebral and cranial surgery. This is so important a subject, and at the same time so difficult to carry clearly in mind, that I make no apology for referring to the salient features of the cortical motor areas. I am aware that they are probably not unknown to any of my readers, but a short review of them can, I am sure, do us no harm.

The fissure of Rolando, about which cluster the most important cortical motor centres, is also called the central fissure. The simplest way to locate the upper end is to find the middle point between the glabella—that is, the point between the eyebrows above the root of the nose—and the inion, or the occipital protuberance. One-half inch behind this point is one end of the fissure. From here it extends downward and forward at an angle of 67½°. This angle, it will be noticed, is half-way between 45 and 90°. The length of it is three and three-eighths inches, which can be closely estimated upon the forefinger.

Around the lower end of this fissure clustre the face centres, at the middle the arm centres, at the upper end those of the lower extremities. Just in front of the face centre is the co-ordinating centre for speech, and just behind the arm centre is that for handwriting. While these centres can be more or less exactly separated into minor ones, these general landmarks alone will enable one to arrive at quite definite conclusions, always remembering that the lesion is on the opposite side from that of the paralysis or spasm. Paralysis, of course, may arise from a blood clot or solution of continuity in the basal ganglia, or subcortically anywhere along the tract of the nerve connections. But when spasm occurs, either alone or in connection with paresis, it is pathognomonic of a cortical lesion.

Choked disc, which can be so easily determined by the ophthalmoscope, is a very certain indication of some intracranial growth or localized inflammation. Its value in locating the tumor or abscess is, however, almost *nil*. To be sure, one may say, in a general way, that the symptom is almost always present in growths of the cerebellum, and is not so common in those of the cerebral cortex, but so many exceptions occur that the most one can say from the presence of papillitis alone is that there is probably present somewhere in the brain some new formation. Its connection with these growths is so frequent that in perhaps ninety per cent. of such cases choked disc may be found in some period of their history.

There are many other interesting eye symptoms which may assist in the effort to locate an intracranial lesion. Hemianopsia is present in many cases of basal lesion. In its usual homonymous form it indicates some affection of the optic tract behind the commissure. This may be in the optic tract itself, in the optic thalamus, or nearer the cortical centre, which we know to be in the occipital lobe. Paralysis of any of the ocular muscles may occur. The one most subject to attack is the external rectus supplied by the sixth nerve. This is due to its long course forward from its apparent origin at the posterior border of the pons. The cerebral centre for the oculomotor nerves has not been fully worked out, but is supposed to be somewhere in the parietal lobe. It is very difficult to explain the combination of paralysis and spasm present in cerebral apoplexies when we get

the eyes turned, as we generally do. But one empirical rule may be remembered that is very generally true. The eyes are turned to look toward the side on which the lesion occurred.

The variations in the size of the pupil are also to be noticed as assisting in localization.

Those cortical centres which have been most carefully mapped out are, perhaps, those whose disease produces the manifold forms of aphasia. At least five different centres are here concerned, situated in as many different parts of the cerebrum. The cortical centre for the auditory nerve, for instance, is situated in the temporal lobe, just above the ear. Total destruction of this centre would, of course, produce total deafness; but only such a part may be pressed upon that the condition of soul deafness arises. Noises and words are heard perfectly, but a word conveys to the mind no idea. The name of a thing is heard as a noise, but calls up no image of the thing itself. If you ask such a patient a question, you might as well have spoken in Choctaw as far as conveying any idea to his mind is concerned. Such a person may even retain his ability to speak, but can carry on no conversation with his friends, because the answers received mean nothing to him.

If, however, in such a person the occipital lobes should remain intact, communication with him may be opened up by means of writing. Written words convey a meaning to him, and he may answer a written question by the voice. Or the ability to write may be destroyed by an accident to that part of the cortex just behind the middle of the fissure of Rolando. Or that may occur which is perhaps most common—the ability to pronounce words may be wholly or partially lost, or the entire loss may be only partly recovered from. This centre is situated between the long and short arm of the fissure of Sylvius.

Not only may the centres themselves become diseased or injured, but the complicated system of nerve fibrillæ which binds them together, enabling them to work in harmony, may be disturbed in some part. If this should occur, for instance, to the fibres uniting the hearing centre to the motor centre for speech, while the centres themselves remained intact, then the patient could understand the spoken words or could express himself, but to repeat words that he had just heard would be impossible. The path between the point where the word is recognized and that where it is reproduced is destroyed. It is also very easy to see how impossible it is for all these complicated associations to be reformed in the right side of the brain if they are destroyed on the left after adult life has been attained.

The last speech centre to be mentioned is the most important of all. It is known as Broca's centre, situated in the inferior frontal convolution on the left side. Here the idea of speech seems to be located, however it may be expressed. Here the thought is clothed in words, and disturbance here is irremediable.

By the aid of the other symptoms which might be spoken of, such as the crossed paralysis originating in the pons, the vertigo from affection to the cerebellum, the mental hebetude and slow pulse that accompanies many cerebral growths, and so on, it will be acknowledged that the diagnosis and localization of intracranial lesions are becoming as certain as those of lesions in any other locality, although requiring, possibly, a little more time for study. It is from a consideration of these recent advances that we must admit that there is hope for cranial surgery, and that it has already a legitimate field.

Tincture of Aloes is suggested as an application to varicose ulcers.

CROOKES TUBES AND STATIC MACHINES.

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The Medical Record of November 28th reports the use of *x*-rays in detecting thoracic aneurism, and states, as evidence of the power of a Crookes tube: "The speaker had put a healthy young man, wearing all his clothes but his coat, between a tube of special construction and the fluoroscopic screen, and in twenty seconds he could clearly see not only the ribs, but the heart pulsating, and the latter was so distinct that it was possible to tell the ventricles from the auricles." Probably no physician who has read this paragraph has failed to recognize the possible value of such an aid to diagnosis, or to wish to procure an equally efficient tube for himself. There yet exists, however, great diversity in Crookes tubes. No standard size, shape, or degree of vacuum can be determined unless a standard current also has been decided upon. Each means of electrical excitation demands a different adaptation to itself of the size and shape of the tube, the size and relation of the electrodes, and the degree of vacuum. This has led to much misunderstanding, to many conflicting and unfounded statements by different writers, and to many disappointments on the part of buyers of tubes, suited, perhaps, to other methods of excitation, but ineffective in their own hands. In the paper on Roentgen's discovery which I read before the Kings County Medical Society on April 21st of this year, I then said: "A powerful static machine with Leyden jars and transformer coils will do fairly good work, but far from the best."

This opinion was shared by all the leading workers in the field at that time. It was based upon the tubes then made, but it is no longer true. Until June my own observation and experience continued to confirm my belief in the superiority of the coil apparatus I described in April. During the past four months, however, I have made a large number of experiments to determine the actual facts in regard to tubes and exciting apparatus for physicians' use, so that the physician who has a choice between therapeutic and non-therapeutic electrical apparatus may employ the one that will serve him best and profitably.

There is a general confusion of ideas among makers as to what constitutes a "high efficiency tube." Some are satisfied with a display of the bones of the hand. Very few makers or expert operators really know the full capabilities of a superb tube, for few have seen them developed. Common tubes of ordinary vacuum are now plentiful. They will glow with coils giving from two to six inch sparks, and gratify the wayfaring man, who is amazed to see his own bones; or they will produce negatives of even the trunk of the body in the course of time. These ordinary effects are of but insignificant value in diagnosis. Tubes suited to larger coils, giving ten to twelve inch sparks, may also easily be obtained. Double-focus tubes and alternating currents are also available, and are often regarded as exceptionally efficient. When these tubes are purchased by physicians who have static machines and have read that they can be used to produce *x*-ray effects, the result is almost invariably disappointing.

To explain why this is so, and to enable medical users of Crookes tubes to employ their own apparatus successfully, are the objects of this paper.

When the bulb of a tube is of a proper convexity, it will throw rays upon a screen held at many feet—ten or even twenty—from the tube itself. Such a rounded convexity is required to make fluoroscopic examinations through thick bodies, for if the bulb is acutely

oval the rays will quickly converge and the maximum of efficiency fades at once within a very few inches of the tube. If the internal electrodes are too far apart or too near together, they impair the effect. The space between them best suited to the large Holtz machine is three inches, with a margin of one-half inch either way, according to the size of the tube. Very small or large tubes are unsuited to static machines, as a rule, although the construction and vacuum may be so well adapted to this current as to make exceptions of special tubes. Medium sizes have been the best that I have seen.

When the external terminals of a tube are connected directly to the prime conductors of a Holtz machine, we have an immediate and infallible test of the vacuum. What the correct vacuum should be cannot be stated in terms of fractions of an atmosphere, but the demonstration of its degree is as absolute as mathematics. If it is a very low vacuum, the electrical discharge will pass in a bluish stream between the electrodes, and no luminosity will glow in the tube. If it is a little higher vacuum, the visible blue stream will disappear, and in proportion as the vacuum rises the green glow will increase in brightness. At the same time the spark stream between the prime conductors is also indicating the vacuum to be very low, or some degree between very low and very high.

A current will pass through conductors in the direction of least resistance. If the vacuum is low its resistance may be so small that it may equal only a small fraction of an inch of air gap. A vacuum so high that a six-inch spark coil will send nothing through it, may demonstrate no more than a one-half-inch spark stream between static poles. A suitably high vacuum should force back by its resistance at least one and one-half to two inches of spark stream. The green glow in the tube will then be exceedingly bright, and *x*-rays can be developed of very high efficiency. No tube that does not furnish this demonstration is adapted to large static machines, and if physicians will ascertain the facts before buying tubes they can avoid both disappointment and expense.

The outer terminals of a proper static tube must be ten inches or more apart, and attachment to machine should be made with insulated wire of about No. 18 in size, as the fine wires so often employed sway too readily and leak off the current when the attraction of opposite polarities brings them near together.

I have kept a written history of the behavior of twenty-six tubes, tested in recent months, in my office. A tube of lower vacuum than it should possess for convective discharge excitation, will produce efficient *x*-rays when the oscillating static current is used with small Leyden jars. The maximum of steadiness and radiance can be found by short-circuiting the poles and then gradually drawing them several inches apart until the best effect is developed. The plates of the machine should revolve as rapidly as is consistent with safety. This method is open to objections. It is noisy and the oscillations try the eyes. It sets up some heat in the tube, but very little as compared with the street current. The convective method is preferable. When the vacuum is just right the terminals may be attached directly to the prime conductors of the static machine, without employing any jars, coil, or other device. Revolve the plates rapidly, and on drawing the poles apart the tube will instantly light up with the brilliant green phosphorescence so familiar now to all.

If the electrodes are in proper relation all the current will be focussed upon the anode, and the bulb will appear in twin diagonal hemispheres—one in eclipse and the other luminous as the sheen of a strong light. If, now, the hand is examined through the fluoroscope, the bones that were merely a black shadow with a tube of low efficiency will be nearly as white and transparent as the soft parts. The beautiful mechanism of the wrist-joint will appear in clear detail. A group of metallic objects on the back of a pine board will show through a book of sixteen hundred pages, or a heavy brass tray, such as I use for a foot plate with my static machine. When a tube does this, I know it is a good tube. By further arts of management, such as all tubes require, efficiency can be still further developed, and demonstrate the ribs, the spinal vertebræ, the movements of the heart, and all other effects so far attained by any operator with any means.

The tube does not overheat, and there is no apparent tax upon it or limit to the time it may be run at full power. It does not break down under strain, and it cannot be overloaded. The convective current makes no noise. The glow of the tube is as steadfast and unwavering as moonlight in an unclouded sky.

This economy in the durability of tubes is a factor of great importance beyond the first cost of the tube, for a tube that has proven its high worth and exceptional capacity is priceless. Money alone will not replace it if it is injured or broken. Moreover, none of the alleged injurious effects of *x*-rays, reported hastily and with more or less sensation, are caused by the static current. It seems wellnigh impossible that alopecia and dermatitis should be attributed to *x*-rays by practical medical observers; but as they have been so attributed and no one has, to my knowledge, pointed out the error of this view, the simple fact may here be stated that these electrical or heat effects, which resemble sunburn, result from the action of heavy currents operating large coils and are not due to *x*-rays. Roentgen's classical report contained the statement, "The rays have no calorific effects;" and I am not aware that any one has yet shown Roentgen to be mistaken.

The advantages of safety, facility, life of tube, comfort in operating, absence of heat effects, and stability of the radiance are among those afforded the physician by the static machine. The questions of cost and availability are also to be considered. When no tube was made that would operate well with the static machine, the coil was obligatory; but the large coil outfit cannot be used by the physician in medical practice and is a useless luxury when not producing *x*-rays. The superior value of an office or hospital equipment, costing no more than an approximately effective coil outfit and capable of a wide range of therapeutic uses, is self-evident. Such an equipment is to be found in the improved Holtz machines now made. This type of electrical apparatus can be operated by the surgeon, or general practitioner, or specialist far more readily than can galvanic or faradic batteries in their therapeutic work. Instruction in its management can as readily be procured as instruction in the use of any medical or surgical apparatus. But its double advantage of value to the physician in two fields instead of the single utility possessed by the Ruhmkorff or Tesla coil would not suffice to displace the coil if the latter was much the most effective in *x*-ray work. The time is nearly at hand when leading hospitals and physicians throughout the country will be deemed behind the age if they are not prepared to employ this aid to diagnosis. It is therefore important to point out the satisfactory fact that electro-therapeutic and the maximum of *x*-ray efficiency are obtainable with the same apparatus—to wit, the static machine. I am aware that nearly all the weight of authoritative utterance up to this date is against this conclusion. Nevertheless, I have never failed to demonstrate its accuracy since I have been able to procure tubes made partly after my own suggestions and adapted to the static apparatus. The whole matter lies in adapting the tube to

the apparatus, and not the apparatus to the tube. When this is successfully done the demonstration of superior efficiency is complete.

I recently showed certain effects to an expert maker of Crookes tubes, and asked him what a coil would cost which would produce equal effects. His reply was emphatic that "no such coil could be bought at any price, not even for a thousand dollars." On another occasion another leading maker stood in open-eyed astonishment before a tube in my office, which was excited by my eight-plate thirty-inch Holtz machine. The plates were run at high speed by an electric motor, and the screen glowed as if striving to burst into incandescent light. He had seen the best effects produced in the laboratories of distinguished electricians, and he was an accurate judge of progressive advances in this field. He not only came to my office predisposed in favor of coils, but had been informed by world-renowned authorities that the static machine would break tubes and was inferior to the poorest coil. Without a word of argument on my part, he gazed at the to him marvellous radiance so easily and instantly produced in his own tube, which his own coil would not excite at all, and made the following remark in a deliberately impressive manner: "I now see that the best way to excite a Crookes tube is with the static machine. No coil will equal it."

It is my belief that with a special static tube I can demonstrate the truth of this conclusion to every competent observer. I have never broken a single tube in any of my experimental work with this apparatus, although I have at various times employed in tests between forty and fifty tubes of different makes and construction. I have never discovered any of the injurious heat effects reported by those using street currents of large amperage, and my tubes operate for hours at about blood temperature. Some experimenters early abandoned the static machine in *x*-ray work and turned again to the coil; others have seen demonstrations of all methods by some of the best experts in this country, and have relegated the static current to second or third place. There are several hundred physicians to-day who would eagerly employ Roentgen's wonderful discovery by the aid of apparatus they already possess, if they were aware that it could be done. To a hospital the advantage of utilizing a therapeutic machine already among the essentials of its equipments is manifest, for few hospitals can afford additional and costly luxuries for diagnosis alone. Moreover, any coil or tube which will do less than show the heart beat, or fail to produce a good negative of the trunk of the body of an adult with an exposure of five minutes, does not possess the high efficiency the medical man requires.

But three things are needed to place this degree of efficiency in the hands of all who desire:

1. A Holtz machine of the therapeutic type and size, operated by a motor.

2. A Crookes tube specially adapted to this form of high potential current.

3. A practical knowledge of technique.

I am sure that this will be welcome information to many physicians who hesitate at the extra expense of a good coil. Of the accuracy of the statements here made I have had the most convincing proof during a sufficient period to remove the uncertainties of hasty judgment. I have demonstrated the facts both to physicians attending my clinic and to manufacturers who have been previously sceptical. I am prepared to maintain: 1st. That no method now known, however costly, will surpass the efficiency of the Holtz machine with tubes suited to it. 2d. That the Holtz machine and tubes adapted to its maximum discharge will readily and economically equal or surpass the best *x*-ray effects producible by any or all other means of electrical excitation with any design of tubes that can now be obtained. In the interest of medical and surgical institutions and practitioners desiring to utilize *x*-rays, these facts should be made known.

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THE TREATMENT OF GOUT.

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In considering the treatment of gout, I shall confine myself to the methods of treatment, both medical and hygienic, which I have found to be of the greatest value in my own experience: and while in certain instances I may refer to those employed by other practitioners, but which I have not myself used, it will be simply to point out several methods of procedure which I believe may be of equal value. I do not wish to be understood as originating any special method or as making claims of superiority of treatment, but during the past ten years I have had the opportunity of seeing and treating a very much larger number of cases of gout than often falls to the lot of the general practitioner, and I have had during that time ample opportunity of trying many methods. I may be pardoned, then, for giving you briefly the result of my personal observations.

In order to facilitate the study of the subject, I shall consider the treatment under three heads, in the following order: 1. The treatment of the gouty diathesis. 2. The treatment of chronic gout. 3. The treatment of acute gout.

As will be readily understood, it is not possible to divide the subject in practice arbitrarily as I have done here, as many of the manifestations of the gouty diathesis may rightfully be considered phases of chronic gout, and exacerbations of chronic gout and an acute attack developing *de novo* are practically the same, so far as their treatment is concerned. For our purposes here, such a classification will undoubtedly aid us.

The Treatment of the Gouty Diathesis.—The treatment of the gouty diathesis may be subdivided into medicinal treatment and hygienic treatment. The use of drugs other than tonics and digestives in cases which are undoubtedly gouty, but in which none of the special manifestations of the disease exist, are of doubtful efficacy; in all these cases, however, the general condition of the system is, as a rule, below par, and there is always more or less anæmia.

In order to restore the general tone and to increase the standard of the red blood corpuscles, some form of iron, with or without the addition of arsenic and strychnine, is of undoubted service. In elderly subjects in whom the muscular system is markedly under tone, the addition of digitalis in small doses will be found of great value, not only through its specific effect upon the weakened heart muscle, but as an aid to the digestive power through the stimulation to the visceral circulation. The use of alkalies in large doses has never been of great value in my hands, and when used at all they must be used only in the robust. I know that many observers set great store by the use of these agents, and no less an authority than Burney Yeo maintains the efficacy of the alkaline treatment, in support of which he says:

"In spite of all the theoretical denunciation of the use of the sodium salts in gout, the gouty from all parts of the world flock to those very continental springs in which these salts are most predominant."

While it is true, as Yeo says, that many gouty people visit those springs and undoubtedly derive great benefit from the use of the waters, the value of them, to my mind, lies not in the alkali which they contain, but in the large amount of water which the patients drink in order to get the alkali. This is also true of the

various lithia waters, and, in fact, of very many waters which are on the market. I have very little faith in the value of lithia, whether in a natural water or in tablet form. I frequently prescribe lithia tablets, however, but for quite another reason. I find if I order six glasses of water to be taken at stated intervals during the day, I rarely find a patient who will conscientiously take it in full amounts; if, however, I order six lithia tablets to be taken, each dissolved in a glass of water, I have no difficulty whatsoever—in fact, the seventh may be asked for.

You may deduce from the foregoing that I believe in the ingestion of large quantities of water, which is indeed true. It is sometimes of advantage to prescribe some of the water hot. This is particularly the case with those who suffer much from indigestion. In those cases, if three of the six glasses are taken hot, one before each meal, not less than an hour before, the stomach is thereby better prepared for the meal which is to follow, and in many instances the discomfort after eating is quite removed. For the irregular action of the bowels which is of so frequent occurrence in the gouty, some one of the hepatic stimulants will be found of great service. If the movements are loose, I am in the habit of giving calomel in small doses, for a day or two at a time, then withholding it; if constipation exists, small doses of calomel at night, followed by the sulphate of sodium in the morning, or it may be taken alone in smaller amounts dissolved in the hot water which precedes each meal. A very excellent preparation for a more active laxative in the gouty is a pill containing colchicum, colocynth, and calomel. One of these pills may be taken at bedtime: care must be exercised in their use, however, as it is not desirable to produce too free catharsis. While most authors speak of baths as a good remedial measure, many have little faith in their efficacy, I judge, from the faint praise accorded them; and this comes, I am sure, from either lack of experience with them or carelessness as to the detail of the bath procedure.

Medicated baths are of estimable service in the treatment of the gouty diathesis, and in fact I may say I believe the bath treatment properly conducted to be by far the most important method at our command for ridding our patients of this condition.

Medicated baths are of two general kinds—the artificial or prepared bath, and baths of the naturally mineralized waters. As to the comparative value of these baths, those consisting of the natural waters are in every way vastly superior. There is an element of virtue in the natural combination of the mineral water, which we are unable to obtain in combining the same chemical agents in an artificial bath. To this unknown element much of the efficacy of the medicated bath is due. No less an authority than Trousseau said of this influence: "Whatever may be said of them, mineral waters are not simple medicaments; whatever may be the predominant mineralizing agent as demonstrated by analysis, it acts not alone. Nature, in combining with the more or less notable elements which chemistry may isolate, other exceedingly variable ingredients which have not yet been discovered, has done for this mineralized agent that which we seek to imitate each day in our prescriptions, when we endeavor to reinforce or diminish the effect of a medicinal substance by associating others with it. Much pains is necessary, however, in the detail of applying the bath, not only to enable us to obtain desirable results, but to avoid doing harm; for injudicious bathing is productive of serious ills."

In this connection must be borne in mind the fact that results may be obtained from the hydrotherapic standpoint alone, irrespective of the mineral ingredients contained in the water. This may be seen in the tub bath, in the different effects produced by baths of different temperatures and of different duration; and in the douche, by the differences in temperature, duration, and force of impact of the stream used. As my experience with mineral baths has been especially in the use of sulphur waters, I naturally feel that this class of waters is unsurpassed in the treatment of the gouty diathesis, and I may be justified in my opinion by the most excellent results which I have obtained from their use—results which have not been surpassed at any springs, so far as I can learn. The form of bath which we are in the habit of using in this class of cases at Richfield, and which seems to answer the purpose best, is the immersion or tub bath. The dose of the bath, if I may be permitted the expression, is regulated by its temperature and duration. The temperature and duration will be found to vary with different subjects, from 96° to 108° F. for the former, and from five to fifteen minutes for the latter. The object sought in the application of the bath is to give such a bath as will produce to the fullest extent the physiological effect without exceeding it, for then depression will be sure to follow and harm may result.

In determining the proper dosage, much care must be exercised, for different patients vary very much in their reaction to the bath; and it will also be observed that the same individual will vary at different times.

A large experience, then, is necessary properly to conduct the bathing procedure, and careful and frequent observation of the patient must be had. We usually begin with a bath at a temperature of 98° F. and duration of eight minutes, followed by complete rest of an hour in bed. This bath is taken three days in succession and preferably in the forenoon, two and one-half hours after a light breakfast. After the third bath the patient reports, and we note carefully the effect of the bath, as seen by the sensations of the patient during and immediately after the bath—whether or not there is depression or fatigue, whether there is exhilaration, how long these sensations last after the bath, if after the rest in bed following the bath there is any fatigue or depression, if there is sensation of fulness in the head or oppression of breathing during the bath, excessive perspiration following the bath, etc.

From these subjective symptoms and careful physical examination of the patient we determine whether it is wise to increase or diminish the dosage or to continue it as we have begun. These observations must be made every three or four days throughout the entire course of treatment, in order to insure the best results.

It is the custom with some physicians, in all cases in which the baths are found to be depressing, to order the bath every second or third day instead of modifying it. To my mind this is very bad practice. If a bath is so depressing that a patient can take it only once in three days without ill effects following, it is never a proper bath for that patient. The bath should be modified by lowering the temperature and shortening its duration, and it is exceedingly rare that a bath cannot be properly adapted by these means. A bath at 96° F. for five minutes or even less will often accomplish everything desired, although to some it may hardly seem to be worth the while.

It will be found that nearly all patients taking a course of baths will suffer from a general systemic disturbance, usually within the first week. The symptoms manifested in this condition are those of general malaise, headache, anorexia, with coated tongue and either constipation or a slight diarrhœa.

This is the condition described by writers on balneology as the "bath fever," and shows to the most sceptical that the medicinal bath is not a simple washing process, but is capable of producing as marked systemic effects as the ingestion of a drug.

At this time I omit the bath for a day or two; this, together with the administration of a little calomel,

always suffices to correct the condition. From this time on, during the course of baths, it is rarely necessary again to interrupt the bath. The course of baths usually consists of twenty-one, but this number is purely arbitrary and frequently it is desirable to give more, though less than twenty-one is not enough to produce good results.

Exercise.—Next to the bath, regular and systematic exercise is of great importance in this condition. When it is possible, active exercise out-of-doors in gradual and increasing amount is to be ordered. The various forms in which exercise may be taken is a matter of choice with the individual, but let it be borne in mind that if, for instance, walking is the form chosen, a short, brisk walk of even five minutes is of far more value than a half-hour's slow and indifferent stroll. In conjunction with active exercise or without it, in those cases in which active exercise would entail too much fatigue, may be ordered passive exercise in the form of massage or Swedish movements.

Massage, to be of any value, must be properly and scientifically done. There are many people who pose as masseurs and masseuses who do not know the first thing about the subject, and these people must be avoided if one would not do his patient harm.

Diet.—In the matter of diet, various opinions are held by different writers upon the subject, but it is not the province of this paper to discuss the merits or demerits of any special plan or the reason for adopting it, but to give you briefly an outline of the diet which has answered best in my hands. It is my practice to allow red meats and all others, with the exception of veal and fresh pork, at least once a day, and twice if desired. I cut off potatoes and the vegetables that grow underground, and restrict the use of sweets, thus giving my patients a generous, nutritious diet, with possibly a relative excess in the form of nitrogenized food. This form of diet seems to me to be the best, as the fundamental principle in the treatment of this class of patients is to build up and invigorate the nerve centres, increase functional activity, and thus bring nearer to the standard of health the nutritive and metabolic changes. Of course, this is only a general outline of diet. In no other part of the treatment does individualism play so important a rôle as in the matter of diet, and the requirements and idiosyncrasies of each patient must be carefully considered.

The Treatment of Chronic Gout.—Under this caption we will consider the treatment of the disease in the interim between acute attacks, when there is usually present some subacute manifestation affecting one or more joints, or there may be only deformities, the result of a previous acute attack or exacerbation. For general treatment the most important therapeutic measure is the use of mineral baths with massage and exercise, as outlined above. In addition to this, internal medication by the use of drugs will be indicated when there is present a subacute affection of one or more joints. The latter treatment may be inaugurated by a full dose of calomel at night, followed by a saline cathartic. Then the iodide of potassium and wine of colchicum may be given and continued for some time, say several weeks. I usually give from eight to twelve grains of the former with from five to ten drops of the latter, three or four times a day. I have used various other remedies, as the salicyl compounds, salicylate of colchicum, Henry's tri-iodides, etc.; but nothing has given me the general satisfaction that the iodides of potassium and colchicum have. In this condition local treatment is of considerable value. Local massage, *i.e.*, applied directly to the affected joint, if the inflammation is of a low grade, will prove of great service; but the utmost care and judgment must be exercised, lest the manipulations set up a more acute process. If there is only deformity present, without inflammation, the massage may be more vigorous, and movements of the joints with stretching of the contracted ligaments should be frequently and systematically carried out. By this means the deformities, when they are due to contraction alone, may be entirely overcome and the full use of the joint restored. Of course, if there are chalky deposits within the joint, this will be impossible, and the deposits so frequently seen about the phalangeal joints can never be removed. The application to the joint of stimulating ointments and lotions is also of considerable value. For this purpose I am in the habit of using an ointment containing iodine and iodide of potassium; this is spread on a piece of lint and applied as a plaster, and is kept in place by a flannel roller bandage, not too firmly applied. Over this I put a layer of cotton wadding and cover the whole with oilsilk. The strength of the ointment will depend upon the sensitiveness of the skin. If there is much pain in the joint, ichthyol ointment, from thirty per cent. to fifty per cent. strength, may be used instead. Acute gout may be either an attack developing *de novo*, or an acute exacerbation in a joint previously affected by the subacute form. In either case our treatment will be the same. The joint will be acutely inflamed, swollen, and exquisitely painful and tender. There will be more or less constitutional disturbance, with loss of appetite, furred tongue, restlessness, irritability of temper, and fever. The bowels may be either loose or constipated. Our efforts in treatment here will be directed to cutting short or limiting the attack, and to relieving the pain. The attack, as a rule, comes on in the early morning, and on account of the pain caused by the slightest movement we usually find the patient in bed when we pay our first visit. The affected part should be somewhat elevated by means of soft cushions, so arranged that they will allow of considerable freedom of movement, for a continued stay in one position will prove most irksome, especially as these patients are, as a rule, more or less restless. The position may better be left to the patient himself, as he will soon learn that which is most comfortable; and the clothing may be kept from the joint by means of a roomy cradle. Free purgation at the beginning of our medicinal treatment is of the greatest importance, and this is best produced by a full dose of calomel; or, if the bowels are already loose, by smaller doses carefully administered. This will prepare the way for the use of colchicum (which is undoubtedly the very best remedy for acute gout at our command), and will enable us to use smaller initial doses of the latter drug than would be possible if we depended on it alone to relieve the engorged liver and stimulate the secretion of bile. The dose of colchicum will depend upon the age and general strength of the patient. With the preliminary purgation fifteen drops of the wine will ordinarily be sufficient to begin with, and this may be increased or diminished according to its effect. The first indications of its toxic effect will be evidenced by gastro-intestinal irritation, when the dose should be immediately cut down. Sometimes it may be advisable to combine a saline purgative with each dose of colchicum, after the manner suggested by Garrod, when a much smaller dose of colchicum may be used. Relief of pain, lowering of the temperature, and a quieting of the general restlessness will follow in a very short time after this treatment has been established. If the pain persists or is unusually severe, opium may be used to control it, and in these cases I prefer Dover's powder or codeine. There are various proprietary and patent mixtures, such as Lavilles' tincture, Reynolds' specific, Blair's pills, and others, which are held in high esteem by gouty patients and are frequently used by members of our own profession; but, as the amount of colchicum which they contain and

which is their active principle is unknown, they are unsafe to use, and if for no other reason should never be prescribed. As to local treatment, in addition to the posture which I have already mentioned, much comfort can be given by fomenting the joint with hot anodyne lotions. A very useful application is the extract of belladonna in glycerin, a drachm to an ounce. This may be smeared over the joint, which is then covered with cotton wadding and oilsilk. The diet should be low, and may consist of milk alone or with Vichy, gruels, light broths, and the like, which should be taken at regular intervals. This will usually suffice until the patient is up and about, when light foods of various kinds may be allowed.

In conclusion, I would like again to remind you that, in the consideration of this subject, I have confined myself to the description of methods which have proven of greatest service in my own experience. While in the treatment of acute gout and the general care of gouty patients I may not have told you anything especially new, I have endeavored to make more clear to those of you who have not had the opportunity of observing this form of treatment the *rationale* of the bath and the importance that the proper administration of medicinal baths has in the treatment of the gouty.

152 West Forty-Eighth Street.

Progress of Medical Science.

The Effects of Small-Calibre Bullets as Used in Military Arms.—From a study of the effects produced by small-calibre bullets as used in military arms, Dr. G. G. Davis (*Annals of Surgery*, January, 1897, p. 36) reaches the conclusion that the initial force of a bullet is an onward or penetrative one; that when penetration is impeded the onward force becomes transformed into a lateral one; that explosive effect is only another name for lateral action, *i.e.*, outside the track of the bullet; that lateral action is most marked in hard bones (the fragments being carried onward) and in organs containing water (bladder, brain, liver, etc.); that practically the rotation of the bullet on its axis does not materially affect the character of the injury; that the effect of gunshot wounds is not so severe upon the living body as upon the dead; that the destructive power of the small-calibre arm has been overestimated; that its stopping or disabling power is less than that of larger calibres; that wounds in future conflicts will be as a rule less severe and will heal more rapidly, with fewer complications, than has been the case in the past; that less radical treatment will be required and conservatism will be followed by most brilliant results.

New Operative Procedure for Prolapsus of the Rectum.—Dr. Nélaton (*La Médecine Moderne*, November 7, 1896) relates the case of a man, suffering from a prolapsus fifteen centimetres in length. As the ordinary operations are almost always followed by a recurrence, Dr. Nélaton determined to try another method. He resected the rectum and the sigmoid flexure in order to fix the remaining portion to the edge of the anus. He then resected twenty-five centimetres of the intestine. In the first operation he made a section of the mesocolon by laparotomy, fixing the sigmoid after ligature of the vessels. Dr. Felizet has performed ablation for prolapsus in children by resecting the whole of the prolapsed rectum. Dr. Nélaton applies this operation to cases in which the prolapsed mucous membrane is very much hypertrophied. He says that prolapsus in the child should not be confounded with that in the adult. The latter is generally due to a defect in the tonicity of all the tissues.

Clinical Significance of the Child's Fontanelle.—Dr. Abt (*Medicine*, vol. ii., No. 11) concludes his paper on the above subject as follows: 1. Involution of the fontanelle occurs normally from the fifteenth to the eighteenth month. From birth to the ninth month the fontanelle decreases gradually in area, and from this time till complete closure the decrease is more rapid. Retardation of normal involution indicates rachitis or hydrocephalus. 2. The fontanelle presents pulsatory and respiratory phenomena. The pulsation increases if the tension is slightly increased; diminishes or is lost if the tension be greatly increased. 3. A murmur over the fontanelle occurs in a certain number of children, most commonly in those who are anæmic or rachitic. It is not pathognomonic. 4. A slightly prominent and pulsating fontanelle indicates a cerebral hyperæmia, such as occurs in fevers. 5. A protuberant and tense fontanelle indicates a exudation or inflammation in the cranial cavity. 6. Retracted fontanelle indicates a condition of collapse, brought about by acute intestinal disease with profuse watery discharges, infantile atrophy from any cause, hemorrhage, effects of prolonged acute infectious disease, or marantic sinus thrombosis. 7. In acute infectious diseases with meningeal symptoms, examination of the fontanelle shows no protuberance or tension, whereas in true meningitis these conditions are marked. 8. In the so-called hydrocephaloid, a terminal condition of cholera infantum marked by the occurrence of striking meningeal symptoms, the fontanelle is retracted.

The Treatment of Burns.—In an article upon the employment of picric acid in the treatment of burns (*Gaz. Hebd. de Méd. et de Chir.*, No. 91, 1896) Dr. Beauxis-Lagrave concludes: 1. Cicatrization of burns is more rapid with the picric-acid dressing, 5–1,000, than with any other means of treatment. The rapidity of cicatrization does not depend upon previous disinfection, since the liquid employed is sufficiently antiseptic in itself. 2. The picric acid calms the pains almost instantly. 3. The slight discoloration which the drug leaves upon the hands of the operator after its employment is not of itself a sufficient reason for not using it. 4. Picric acid is a precious drug, by reason of its low price compared with the high price of iodoform gauze; this is a very considerable advantage, if we bear in mind that almost always the victims of these accidents are workingmen. Half a litre sufficed in one instance for the dressing of a limb burned from the toes to ten centimetres above the knee.

Urethritis Due to Bacterium Coli Commune.—Josipovice (*Centralbl. f. d. Krankh. der Harn- u. Sexualorgane*, B. vii., H. 10, p. 663) reports two cases of urethritis in which he found the bacterium coli commune in the urethral discharge. In one of the cases, which he relates in detail, he was able to establish the identity of the micro-organism by cultivation. Three days after sexual intercourse the patient noted a urethral discharge which he believed to be gonorrhœal. There was increased frequency of micturition, with burning, and also constitutional disturbances, with headache and anorexia. There was slight fever and the tongue was heavily coated. The entrance to the urethra was œdematous and reddened. On pressure a drop of dirty yellow viscid pus escaped. On irrigating the anterior urethra and then receiving the urine in two parts in separate vessels the wash water was found to contain an abundance of flaky pus and threads, while the urine in both receptacles contained no threads, but was turbid and deposited a considerable sediment on standing. Seven and a half minims of sandal-wood oil in capsules were prescribed thrice

daily, with rest in bed and a diet of milk and other bland food. On the second day, although the temperature remained high, no complication could be discovered. The discharge continued in abundance and the increased frequency of micturition was a source of distress. On the third day the patient appeared brighter, with improved appetite and without fever. The discharge persisted, but it had lost its dirty color and the burning in micturition was less. By the fifth day scarcely a drop of pus could be expressed from the urethra. The first portion of urine passed now was turbid and contained threads, while the second was practically clear and free from threads. The swelling about the orifice of the urethra having subsided, injections of zinc chloride (one grain to six drachms) were begun and the disease soon came to an end. Microscopic examination of the secretion on the first day of observation disclosed the presence of bacilli coli commune but not gonococci. The examination was repeated on the following day and with similar results. Cultivation of the bacilli confirmed their identity.

Rheumatism as a Cause of Chorea.—In five hundred and fifty-two cases of rheumatic fever and one hundred and fifty-seven cases of chorea, Dr. Churton drew the following conclusions: (1) The postulated toxin (*x*) being accepted as an essential element in the causation of rheumatism, depressing conditions (*y*) determined the first position or locus of the disorder; that is, what cells or tissues (*z*) the toxin should strike. (There is probably a quite separate and independent causation for (*x*).) In ninety-one cases of rheumatism in which the incidence of the chill, strain, etc., was recorded with precision, and also the joints or parts first affected, it was seen in every case—or with very few and doubtful exceptions—that the part receiving the impact of the conditioning cause was the first to become disordered by the toxin; for example, wetting of feet always caused arthritis first in the lower extremities; of shoulders in the upper extremities. (2) If (*x*) and (*y*) are given, the position of (*z*) can be stated within certain limits. (3) If (*y*) is a fright, shock, or intense excitement, (*z*) will be the nervous system; in the developing brain of a child the result is usually chorea; in adults it may be a delirium or coma, perhaps hyperpyrexia. (4) Arthritis or endocarditis may follow the nervous disorder, since the symptoms themselves may become causes of depression of tissues, and thence of multiplication of micro-organisms and toxins. (5) Similarly chorea may follow arthritis; but (6) arthritis is never the first result of fright; and (7) chorea is never the first result of chill unless fear or brain excitement accompanies the chill. (8) A man who, being rheumatic, and having no other known disease, is accidentally subjected to strong excitement—a quarrel—and in a few hours develops chorea, is an "experiment devised by nature" to prove that the essential cause of the two disorders is the same, and that only the conditioning (localizing) causes are different. In non-rheumatic persons, even young children, brain disturbance does not cause chorea.—*British Medical Journal*, September 19, 1896.

Castration for Enlarged Prostate.—Dr. A. T. Cabot (*Annals of Surgery*, September, 1896), in an exhaustive paper on this subject, reaches the following conclusions: 1. In the matter of mortality the operation of prostatectomy has a slight advantage over castration. It seems probable that, with later statistics reflecting the last improvements in the technique of prostatectomy, this advantage would be further increased. 2. Prostatectomy has the further advantage that it allows of a thorough examination of the bladder and of the discovery and correction of other conditions not before suspected. Stones are frequently removed in this way without adding to the gravity of the operation. In several reported cases of castration the absence of improvement has led to the subsequent discovery of stones which have required other operations for their removal. 3. Prostatectomy has, on the other hand, the disadvantages that it confines the patient for a longer time and that it is sometimes followed by a fistula. This occurred in one of the forty-two cases used in this paper. 4. It is too soon to know whether any permanent loss of vigor follows castration when done on old men. The nervous effects which sometimes immediately follow the operation suggest a suspicion that with the testes the system may lose some tonic effect exerted by those organs. 5. The functional results of the two operations seem, at present, to be as nearly equal as possible, and the tendency to relapse shows itself in about the same proportion of cases after either operation. 6. The reduction in the size of the prostate after castration is largely due to a diminution of congestion. Later a degeneration and absorption of considerable portions of the gland may occur. The glandular elements are particularly affected by this atrophy. 7. Castration would seem to be especially efficacious in cases of large and tense prostates when the obstruction is due to pressure of the lateral lobes upon the urethra. 8. Castration is of but little use in myomatous and fibrous prostates. 9. Prostatectomy has its especial field in the treatment of obstructive projections which act in a valvular way to close the urethra. There is, however, no form of prostatic obstruction which a skilful operator may not correct by prostatectomy. 10. Prostatectomy is, then, applicable to more cases than is castration, and is especially to be selected when an inflamed condition of the bladder makes drainage desirable.

A Simple Method of Distinguishing Diabetic from Non-Diabetic Blood.—R. T. Williamson, M.D., London, medical registrar, Manchester Royal Infirmary (*Medical Press*), describes a simple method of distinguishing diabetic from non-diabetic blood. He has found that diabetic blood is much more powerful than non-diabetic blood in removing the blue color from a solution of methyl blue. The reaction is so sensitive that the difference can be detected by the examination of a drop of blood obtained by pricking the finger. When certain proportions of blood and a warm alkaline solution of methyl blue are mixed together, the blue color is removed in the case of diabetic blood, but remains when non-diabetic blood is used. The following is the exact method employed: In a narrow test tube are placed forty cubic millimetres of water (the capillary tube of a Gowers hæmoglobinometer, which is marked for twenty centimetres, may be used for measuring the fluid), twenty cubic millimetres of blood are added, and then one cubic centimetre of a 1 in 6,000 watery solution of methyl-blue and afterward forty cubic millimetres of liquor potassæ. The tube is then placed in a capsule or vessel containing water which is kept boiling. At the end of four minutes the blue color disappears and the fluid becomes yellow if diabetic blood has been used, but in the case of non-diabetic blood the blue color remains. In over thirty examinations of diabetic blood (from five cases of diabetes mellitus), the methyl-blue solution was always decolorized; while normal blood and the blood from one hundred patients suffering from the most varied diseases never decolorized methyl blue when mixed in the above proportions. Hence, by this simple method, a drop of blood from a well-marked case of diabetes mellitus may be readily distinguished from non-diabetic blood.

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THE GENERAL PRACTITIONER.

It was rather a remarkable coincidence that two of the orators at the recent semi-centennial of the Academy of Medicine, in their efforts to touch upon subjects of vital interest to a general audience, should speak of the present and much-neglected claims of the general practitioner. President Cleveland, in sounding the praises of the old-school doctor who met all the emergencies of treatment in the last generation, implied a personal feeling of regret that the trustworthy and practical man, ready for every ordinary sickness, had virtually passed away with the times in which he had so usefully lived and had so prosperously thriven. Dr. Jacobi, in a more direct way, speaking for the actual needs of the medical practice of to-day and giving specialism its due meed of praise, expressed himself strongly in favor of reinstating the all-around man.

These ideas are not new; they have been presented often enough before, but hardly with such opportunities for wide dissemination in the daily press which the occasion of their deliverance would seem to demand. The general aspect of this question has been often enough discussed in these columns, but the present opportunity brings with it the usual temptation for a few more words on the pros and cons. No one doubts that specialism has helped very materially to advance scientific medicine and surgery, but all equally admit that it has been very much overdone. Especially has this been the case with the younger men in such lines, who take up the serious study of their particular branches of work immediately after leaving the medical school and commence at the smallest possible end of their opportunities for broad culture. Proper specialism is but a graft upon general knowledge and practice, and cannot consistently succeed under any other conditions of growth. It can never exceed the sources of real nourishment at the original root. Hence the most prosperous specialists are those who have grown into their work by the accidents or necessities of their surroundings. Such men do not magnify their office, and, while being specially fitted for the treatment of certain diseases requiring particular skill, are always ready and willing to view the body as a whole and the local difficulty as the necessary part.

There is, however, not so much need of this form of special work as for the more distributive kind of service which the general practitioner is abundantly qualified to render. It is in the treatment of the commoner diseases that the family physician finds his best opportunities for usefulness and his best prospect for continued progress. His skill is in generalizing and adapting, and this in the great majority of cases is all that is necessary to cure his patients. If he be a well-educated man, a careful observer, a progressive student, and a practical therapeutist, he safely pursues the even tenor of his way, and reaches a higher average of actual cure than many of those who so constantly preach to him of his shortcomings. It is quite true that there are a given number of cases requiring special skill, but these are not numerous enough seriously to hamper general practice. It is by no means impossible for the family physician to adapt himself to all the ordinary emergencies of a general practice, whether it be in the lines of medicine or surgery. The country practitioner does this everywhere, and is, unfortunately, the only type of what is fast becoming an extinct species of medicine man. His views of treatment must necessarily be broad and conservative. He is never a crank—a man with one idea. What is best to do in any case is always qualified by existing circumstances. In proportion as he is able to apply the latter, he is a safe man. Fortunately, the really necessary and usual work of the general practitioner is easily done. He has a comfort in knowing that most of the very rare diseases are not curable, that the commoner ones have well-recognized rules for treatment, and, best of all, that the rational adaptation of established methods are within easy reach of all. Therefore we say, in echoing the sentiments of the speakers, give the general practitioner a chance.

THE HEALTH BOARD AND PULMONARY CONSUMPTION.

Since we took occasion to comment on the ill-advised determination of the health board to assume an official control of phthisis patients, we have received a large number of letters endorsing our views and approving the course taken by us. It has left no doubt in our mind that the profession here and elsewhere is inclined to the belief that the actual necessities for the measure are very much exaggerated and out of all proportion to the good results that are promised. As an instance of the current of opinion we quote the following, received from a well-known medical gentleman of Chicago:

"It is with much satisfaction that I have read your editorial in last week's MEDICAL RECORD, in protest against the action of your board of health in the matter of pulmonary tuberculosis.

"It seems to me that our various boards of health are in great danger from the unscrupulous and ignorant political doctor on the one hand, and from the idiot savant on the other. In many of these organizations we find some clever bacteriologist, who is an expert with the microscope and test tube, but who has

not sufficient knowledge of human nature to secure a living outside of the laboratory in which he is employed. It is a real misfortune when these people are allowed full swing. If the boards of health be permitted to exercise such authority, the liberties of the medical profession will vanish into thin air, and we shall have to practise according to the dictates of some insignificant secretary, who has arrogated to himself the powers of a board of which he is not even an official member.

"I doubt not, if your board persists in its course, that it will soon be able to report an enormous reduction in the number of cases of pulmonary tuberculosis in New York. They will die all the same, but they will not die of tuberculosis—just as scarlet fever and diphtheria in Chicago have become infrequent, because only reported when it is safe to do so. In the mean time, what is to be said in favor of wholesale education of the medical profession into habits of evasion and contempt for sanitary authority? What will become of popular confidence in the inviolability of medical secrets, when the unfortunate victim of incipient tuberculosis finds himself under police surveillance as a consequence of asking counsel of his family physician?"

These are very pertinent questions at this time. If they in any degree pertain to motives actuating our own board, it may be prudent for it to wait and look before it is too late to jump back gracefully.

SHALL CLERGYMEN ADVERTISE?

In one of the denominational papers appeared the following:

"The rector of a small parish desires to obtain a larger field of labor in town or country. Young, active, and energetic, of sound churchmanship and good preaching ability. Highest credentials from present bishop and vestry. Address 'Clerical Craftsman,' — — office."

Although there has long been a natural desire on the part of ambitious clergymen to be the willing victims of larger fields of work and proportionately greater opportunities for usefulness, until lately such bids for worldly favor were charitably construed by unenvious brethren as evidences of a laudable desire to extend Christianity and occupy the earth. Now, however, the Episcopal Convention of Nashville, Tenn., has taken official notice of the scheme and it has been called by the harsh name of advertising. It is pleasing to note, in the report of the committee appointed to investigate the charge, that neither the legal nor the medical profession permits such doings. The report quite significantly says:

"In its lack of an ethical code the ministry suffers by comparison with the other learned professions. In the codes of the professions the restrictions upon advertising are important features. It is well known what a brand is placed upon a physician who advertises. What would be thought of the physician who advertised himself as unmarried, and, therefore, able to render his medical services cheaper than his married fellow-practitioners?"

We are glad to know that the profession of medicine, which is always said to be the second on the list of usefulness and respectability as compared with the clerical calling, has not yet descended to such straits. What would be good for an unmarried clergyman would not be advantageous for an unmarried doctor, so far as business patronage is concerned. In the former case the church would be full, and in the latter the office empty. Why not permit the struggling clergyman to advertise a sermon now and then, just as the surgical aspirant does with an equally sensational operation?

FOR THE PROTECTION OF HOSPITAL PATIENTS.

The failure of the London nurse who attempted to obtain damages from an operator for exceeding her wishes has resulted in the formation of a Society for the Protection of Hospital Patients. It has been claimed that the brutal doctors have had their way long enough, and that the time has arrived when the "clinical material" can talk back. With a becoming sense of his real importance, the hospital patient is beginning to assert his rights. He appreciates the fact that he is so necessary to the hospital man that the latter cannot do without him, and, in consideration of the favor of yielding himself to free treatment, he must have the right to call his benefactor to account. Thus he may dictate his treatment, question his doctor's ability, sue him for any supposed neglect, and claim damages even for skilful services conscientiously rendered in the name of charity. In order that the work of the attending physician or surgeon may be properly done, it will possibly be necessary for some walking delegate to accompany the doctor in his ward visits and regularly report to such of the patients as may be members of the union. What the members may save by free treatment can thus be used for prosecuting purposes. We can only congratulate ourselves that no similar organizations exist on this side of the water, as the free patients are much richer here and consequently more powerful.

Medical Practitioners in Germany.—According to Börner's Medical Directory, the number of registered medical practitioners in Germany is 24,000, an increase of nearly 1,000 during the past year and of nearly 8,000 during the past ten years. Of this number, 14,351 are in Prussia, 2,643 in Bavaria, 1,766 in Saxony, 934 in Baden, 800 in Würtemberg, and 722 in Alsace-Lorraine, the remainder being in the smaller states of the confederation. There were 2,289 medical men resident in Berlin at the end of last year, 523 in Munich, 487 in Hamburg, 447 in Breslau, 368 in Leipzig, 354 in Dresden, 292 in Frankfort, 257 in Cologne, 225 in Hanover, and 179 in Strassburg. The average number of practitioners is 4.59 for each 10,000 inhabitants, but this proportion varies very much according to the locality, being in Berlin 12.38.

News of the Week.

Ureteral Catheterization in Women.—In the issue of the MEDICAL RECORD for January 23d, there appeared a short item in which an injustice was inadvertently done Dr. Howard A. Kelly, of Baltimore, in the suggestion that the credit for his work in catheterization of the ureters might belong to Pawlik, of Prague. The question is one which has been under discussion in the gynecological journals for a year or more, but it may now be regarded as closed, for Dr. Kelly has most abundantly and conclusively proved his own claims to originality and disproved the charge of plagiarism brought by Pawlik. The latter did several years ago catheterize the ureters in women, but his method and his instruments were no more like Dr. Kelly's than a crowbar is like a diamond drill. Those interested in the subject may read the claims of both parties to the controversy in the *Centralblatt für Gynäkologie*, Nos. 19 and 50, 1896, and in the *American Journal of Obstetrics*, No. 3, vol. 33, and No. 2, vol. 34, 1896.

The Spread of Leprosy in Hawaii.—In a letter to Dr. Ashmead, of this city, Dr. Mouritz, of Molokai, says that that place is one of the best fields for observing the penalty the human race is paying for its apathy in dealing with leprosy. The lepers at Molokai number between eleven thousand and twelve thousand, chiefly natives; but within a year or two the disease has begun to make inroads upon the white population. The law of segregation was for a long time very loosely enforced, and, although the condition is better to-day, isolation is still far from thorough and effectual. The increase in the number of lepers in Colombia has been, Dr. Ashmead writes, from four hundred to twenty-seven thousand, not to twenty-seven hundred, as was incorrectly stated in his letter published in these columns on January 23d.

Obituary Notes.—DR. ALBERT W. KILBOURNE died, January 14th, at his home in Liberty, N. Y., of aneurism of the heart. He was born in Liberty in 1851, and was graduated from the medical department of the University of New York in 1874. He practised in Albany for twenty years. Three years ago his health began to fail, and he then returned to his old home in Liberty. He never married.—DR. FRANCIS M. LORETTO died at his home, 495 Third Street, Brooklyn, on Friday, aged eighty-four years. He was born in London. He had practised medicine for fifty years when he retired, ten years ago. Three daughters survive him.—DR. ZEDKAUER, who, the cable states, was the private physician of the Tsar, died in St. Petersburg on January 28th.—SIR THOMAS SPENCER WELLS died a few days ago at Antibes, France. He was born in 1818, and was educated at Trinity College, Dublin. He was president of the Royal College of Surgeons in 1882–83. He was surgeon to Her Majesty's household. At the third centenary of the University of Leyden and the eighth of the University of Bologna, he received the degree honorary of M.D. The University of Charkoff also conferred an M.D. upon him, and Dublin made him an LL.D. Queen Victoria, in April, 1883, conferred upon him a baronetcy in acknowledgment "of the distinguished services which he has rendered to the medical profession and to humanity." He was the author of several works on abdominal surgery. He made a brief stay in this city about a year ago, on his way home from a visit to Jamaica and Florida.—DR. SOLOMON DEUTSCH, whose "Letters for Self-Instruction in German" and "Medical German" have helped many physicians and others over the difficult beginnings of colloquial German, died in this city on January 29th. He was born in 1816, and came to this country in 1857. At first a rabbi, he abandoned his religious work many years ago on account of his liberal views.—DR. BENJAMIN B. ADAMS, of Washington, D. C., but formerly of Philadelphia, died suddenly on January 25th, at the age of forty-six years.—DR. FRANK A. BIRRIOLO, of Blossburg, Pa., died at Trenton, N. J., on January 21st, from cerebral hemorrhage, at the age of twenty-six years.—DR. JOHN KIRKER died at Allegheny City, Pa., on January 23d, at the age of about sixty-one years, as a result of an attack of erysipelas. He served as a surgeon in the United States army during the war of the rebellion.—DR. W. S. ROLAND died at York, Pa., on January 23d, at the age of eighty-three years. He had been for a number of years a member of the State board of agriculture.—DR. THOMAS G. ROWAND died at Camden, N. J., on January 25th, at the age of sixty-eight years. He was graduated from the Philadelphia Medical College in 1850, and was one of the physicians to the women's department of the Southwark Hospital during the prevalence of the scourge in 1849. He was elected coroner of Camden in 1854 and again in 1868. In 1857 he was commissioned deputy quartermaster-general of the Camden brigade, New Jersey militia. In 1859–60 he was professor of materia medica, pharmacy, and general therapeutics in the University of Pennsylvania. In 1862 he was commissioned assistant surgeon in the twenty-fourth regiment, New Jersey volunteers, remaining with his regiment until it was mustered out of the service. He was also detailed as a surgeon in the hospital of the third division of the second corps, at Potomac Creek, Va. In 1867–68 he served as president of the Camden board of education.

"New Yorker Medicinische Monatsschrift."—Dr. Otto G. T. Kiliani, who has for some years most ably conducted this journal, has retired from the editorship, being succeeded by Dr. Alfred Michel. The *Monatsschrift* is the official organ of the German Medical Society of New York.

The Plague.—According to the official report issued January 28th, there have been 4,396 cases of the plague in Bombay and 3,275 deaths from that disease. At Kurrachee, 694 cases and 644 deaths have been recorded. At Poonah there have been 65 cases and 60 deaths, and a few cases have occurred at Surat, Baroda, Ahmadabad, Kathiawar, and Cutch. Three deaths have also occurred at Goa, the capital of the Portuguese possessions in India. The plague has

broken out in the island of Formosa, recently acquired by the Japanese from China. The German government is about to send a special commission to Bombay to investigate the bubonic plague, with a view of adopting precautionary measures against the introduction of the disease into Europe. Dr. Koch has been summoned from South Africa, where he has been studying the rinderpest, to head the commission. As an instance of the alarm felt in Europe, it is said that an Englishman from Bombay, who arrived at Milan from Brindisi in a second-class railway carriage, was for a long time refused a permit to cross the frontier.

Death of Dr. Richard J. Hall.—Dr. Richard J. Hall, aged forty years, formerly of New York, son of Rev. John Hall, of New York, died at Santa Barbara, Cal., on the 24th inst., of tuberculous disease of the intestine. He was compelled to give up his practice in New York six years ago on account of failing health, and went to Santa Barbara, where he applied himself to the practice of surgery. He became the foremost citizen in Santa Barbara, and a most public-spirited man.

The State Medical Society.—The recent meeting of the Medical Society of the State of New York was the occasion for the usual rush of papers and the correspondingly limited time for their reading. It is a great pity that the different business committees cannot make better arrangements for a more deliberate and dignified discussion of the topics presented. There is such a desire to make a good showing in the number of subjects presented that everything appears to be managed on the ten-minute-refreshment plan. The consequence is that the man who goes to Albany to read a paper that has taken him a month to prepare has hardly time to introduce his argument before he is warned to stop and give place to the next on the anxious list. It is absurd to suppose that any real good can come of this method. In the effectual remedying of such a growing evil rests the future usefulness of the society as a leading scientific body.

Small-Pox in Pueblo.—There were two hundred and seventy deaths from small-pox in Pueblo, Mexico, during the first half of January. Most of the sufferers are among the poorest class of the Indians, and the spread of the disease is insured by the custom of carrying the dead to the cemetery in coffins on the heads of surviving friends.

Associated Health Authorities of Pennsylvania.—The fourth annual meeting of the Associated Health Authorities of Pennsylvania was held at Harrisburg on January 25th and 26th. An address of welcome was delivered by Governor Hastings, and the following communications were presented: "The Necessity of Physical Education in the Public Schools," by Randolph Faries, M.D.; "Unfiltered Water Always Unsafe for Town Supply," by Henry Leffmann, M.D.; "The Monetary Loss to Cities from Typhoid Fever," by Thomas Turnbull, M.D.; "Rendering Wall-Paper Impervious to Disease Germs;" "The Prevention of Certain Diseases of the Eye in Certain Classes of Children," by W. Campbell Posey, M.D.; "Some of the Trials of a Country Board of Health," by J. G. Shoemaker, M.D.; "The Registration of Midwives," by A. C. Wallace, M.D.; "Remarks on the New Disinfectant, Formaldehyde," by Benjamin Lee, M.D.; "Should the Erection of School Buildings be Regulated by Act of Assembly?" by A. M. Sloan.

The Physician's Responsibility for an Incorrect Diagnosis.—The question of the liability of physicians for the results of their unskilful or negligent treatment of patients has again been before the law courts in England. The correspondent of the *Sun* relates the following case: The children of a lawyer in Bangor fell ill of a disease which the family physician diagnosed as "malignant sore throat." The six-years-old boy died within a few days, and the six-months-old baby died later, according to the doctor, of laryngitis and bronchitis. Meantime, as the disease was not considered infectious or contagious, no precautions in the way of isolation were carried out, with the natural result that other members of the household fell ill, although the doctor repeatedly declared that no danger existed for anybody. When the anxious father had lost his two children he thought it about time to have additional advice, and the new doctors instantly diagnosed diphtheria as the cause of the trouble. The father brought an action for damages, and there was an array of experts on both sides. Dr. Lennox Brown pronounced the disease to be diphtheria. He had analyzed a portion of one little victim's membrane, and found the Klebs-Loeffler bacillus. But other experts were produced on the other side, the jury became hopelessly confused, and the trial ended in a judgment for the defendant.

St. Luke's Hospital, New York.—Dr. Pearce Bailey has been appointed consulting neurologist to St. Luke's Hospital.

The Association of Military Surgeons of the State of Ohio.—In response to a call of the surgeon-general of the State, the medical officers of the Ohio National Guard met in the State House, Thursday afternoon, December 17, 1896. A constitution and suitable bylaws were adopted, forming the Association of Military Surgeons of the State of Ohio, the active members consisting of the medical officers of the Ohio National Guard, and the associate members of ex-medical officers of the Ohio National Guard and ex-medical officers of the United States volunteer service; provision was also made for honorary members. The following officers were elected: *President*, Brig.-Gen. J. E. Lowes, Surgeon-General of Ohio, Dayton; *Vice-President*, Maj. L. T. Guerin, Surgeon Fourteenth Infantry, Columbus; *Secretary*, Maj. H. M. W. Moore, Surgeon First Light Artillery, Columbus; *Treasurer*, Maj. Frank Bain, Surgeon Second Infantry, Kenton; *Executive Committee*, the foregoing officers and Maj. E. C. Farquhar, Surgeon Eighth Infantry, Zanesville; Capt. Gilbert I. Cullen, Assistant Surgeon, First Infantry, Cincinnati; Lieut. (junior grade) C. W. Newton, Surgeon First Battalion, Naval Brigade, Toledo. Lieut.-Col. William E. Waters and Capt. James E. Pilcher, of the army, were elected honorary members.

The Health of the Tsar.—The report that von Bergmann had been summoned from Berlin to St. Petersburg to remove a bony growth from the head of the Tsar is now denied. The St. Petersburg correspondent of the London *Daily Telegraph* has had an interview with the Tsar's physician in ordinary, who said: "His Majesty has not even asked medical advice. But it is true that he feels every sudden change in temperature through the wound he received in Japan, mostly in the form of neuralgia, and he has even been known to swoon. But for the moment he is quite free from any nervous disorder or from the symptoms of any malady whatever."

A Bill to Regulate the Practice of Medicine in Colorado.—A new bill, or rather an amended bill, to regulate the practice of medicine in Colorado will be introduced in the legislature in a few days, by the legislative committee of the Colorado State Medical Society. The main features of the new bill will be the doing away of the ten-year clause and the requiring of all physicians to be graduates of reputable medical colleges before they can be admitted to the board for an examination for a license to practise medicine in this State.—*Denver Medical Times.*

Lord Lister is the title which Sir Joseph Lister has assumed, and not Lord Kinnear, as was announced by the cable at the time of his elevation to the peerage. We are glad that this is so, for the name of Lister has been made too noble by noble deeds to be laid aside for any other.

The Jenner Centenary in Russia, after several postponements, was finally celebrated in St. Petersburg on January 3d, by a meeting at which the Grand Duke Paul presided. The celebration was arranged by the National Health Society of Russia. Several eulogies of Jenner and speeches referring to the discovery of vaccination were delivered. The bust of Jenner was placed at the upper end of the hall in which the meeting was held. Upon the walls were diagrams and tables of statistics, and an exhibition of objects connected with vaccination was afterward opened.

"The Scottish Medical and Surgical Journal" is the name of a new monthly publication edited by Dr. William Russell, of Edinburgh, assisted by a staff of collaborators in other parts of Scotland.

Manhattan State Hospital.—Dr. Percy Bryant, of Buffalo, N. Y., has been appointed from the eligible list of the State civil service commission to the position of medical superintendent of the Manhattan State Hospital, with salary of $2,500 per annum. Dr. Bryant, who is now first assistant at the Buffalo State Hospital, was born in Cedar Falls, Iowa, in 1863, and graduated from the medical department of Columbia in the class of 1887.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending January 30, 1897. January 23d.—Assistant Surgeon C. E. Biggs detached from the *San Francisco* and ordered to the *Detroit.*

An Anti-Cigarette Bill has passed the lower house of the Tennessee legislature by a unanimous vote, and it is expected that it will also pass the Senate. It prohibits absolutely the sale of cigarettes and of cigarette papers in the State. The law is to come into effect May 1, 1897.

Skiagraphing the Brachial Artery.—It is reported in the papers that Superintendent Knoll, of the Hudson Street Hospital in this city, has obtained a clear skiagraph of the calcified brachial artery in a man eighty years of age.

Tri-State Medical Society.—The fifth annual meeting of the Tri-State Medical Society of Iowa, Illinois, and Missouri will be held in St. Louis, April 6, 7, and 8, 1897. A large number of valuable papers will be read. The officers are: *President*, Dr. A. H. Cordier, Kansas City; *First Vice-President*, Dr. Hugh T. Patrick, Chicago; *Second Vice-President*, Dr. H. C. Eschbach, Albia, Iowa; *Secretary*, Dr. G. W. Cale, 4403 Washington Boulevard, St Louis; *Treasurer*, Dr. C. S. Chase, Waterloo, Iowa.

A Tale of Quackery in Berlin.—The death of General v. Lippe, one of the personal aides-de-camp of the German emperor, which took place a few days ago in Dresden, closes a curious story of quackery versus the profession. In February last Herr v. Lippe, who suffered from an organic disease of the spine, entered the Augusta Hospital (Berlin), and put himself under the treatment of its directing physician, Professor Ewald. A consultation with Professor Jolly took place, and both doctors agreed entirely both as to diagnosis and prognosis. The progress of the disease was so clear that Professor Ewald spoke of its serious nature and probably fatal ending to the patient's wife, at the same time proposing another consultation with a recognized authority. But Frau v. Lippe declined this, and called in a "nature doctor," Goessel, from Dresden, a quack who is in the habit of diagnosing his patients' diseases from the stockings they have worn. Of course, Ewald declined to consult with him, and retired from the case, and it seems strange that under the circumstances Herr v. Lippe was not removed from the Augusta Hospital. Whether—as is said—feelings of humanity induced the hospital authorities to keep him where he was, or whether—as seems more likely—pressure was brought to bear on them from higher quarters, certain it is that Herr v. Lippe remained in the hospital, as if in private apartments, with an attendant of his own, with his food sent in from the royal kitchen, and with his own "nature doctor" in attendance. After some weeks of so-called "cure," he was said to be progressing toward recovery, and he left the hospital and Berlin, and settled down in Dresden to be near his "doctor." After a few months of ups and downs, the disease has now run its course and the sufferer has died. The moral of the story is, of course, that no amount of prohibitive legislation will be able to put down quackery as long as it is believed in and favored in the highest social circles.—*Berlin Correspondence, British Medical Journal.*

Reviews and Notices.

Medical Jurisprudence, Forensic Medicine, and Toxicology. By R. A. Witthaus, A.M., M.D., and Tracy C. Becker, A.B., LL.B., and a staff of collaborators. In four royal octavo volumes. Volume IV., Toxicology. New York: William Wood and Company. 1896.

The entire contents of this volume of almost nine hundred pages appear to have been written by Professor Witthaus himself—at least his is the only name which appears after the title page, which bears besides the name of Professor Becker, of the University of Buffalo, a long list of collaborators from the legal and medical professions. After a few pages of introduction and a long bibliographical list of ancient and modern works, comes the chapter on general toxicology, and in turn special toxicology, mineral poisons, vegetable poisons, animal poisons, and synthetic poisons. In no branch of medical science is accuracy of greater importance from the author's side, for here it is not a question of personal belief for which the writer may be excused for differing from his neighbor. Scientific facts which may be worked out in the laboratory and subjected to proving-tests are largely dealt in, and, being intended for an accurate guide in courts of law, must be most carefully stated. The volume before us bears upon every page those evidences of painstaking preparation which alone can make such a work valuable. Strangely enough, the words "toxin" and "antitoxin" do not appear in the index, though ptomains are mentioned a number of times. The chapter on poisoning from foods is shorter than the importance of the subject warrants, but this is made up for in part by generous bibliographic references. *Finis coronat opus*, and if we may judge of the three volumes which have already appeared by the one before us the authors of this "Forensic Medicine" have just cause for self-congratulation upon the completion of a worthy work.

The Diseases of the Male Urethra. By R. W. Stewart, M.D., M.R.C.S., Surgeon to Mercy Hospital, Pittsburg, Pa. New York: William Wood and Company. 1896.

Since the introduction in late years of improved instruments for the observation and investigation of the urethra, much has been learned that was formerly guessed at. The ultimate results have not always been so brilliant as the advances in methods would seem to call for; however, the surgeon of today may have the satisfaction of knowing that he is pursuing lines of treatment based upon sounder pathology, and hence more scientific, even if not invariably more successful. In the twenty-six chapters crowded into the two hundred and twenty pages of this work, which forms one of "The Medical Practitioner's Library" series, the author has kept well before him the aim of making a modern exposé of urethral diseases and their cure, omitting the really rare affections as belonging to the large works. Considerable attention has been paid to the relation of gleet to strictures in the canal. Such frequent advice is given "to the beginner" that one is led to believe that the author intended his treatise for the use of the student as well as for the actively engaged practitioner.

An American Text-Book of Physiology. Edited by William H. Howell, PhD., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Fully illustrated. Philadelphia: W. B. Saunders. 1896.

The contributors to this large work include the names of Bowditch, of Harvard; Curtis, of Columbia; Donaldson, of the University of Chicago; Lee, of Columbia; Lombard of the University of Michigan; Lusk, of the Yale School; Porter, of Harvard; Reichert, of the University of Pennsylvania; and Sewall, of the University of Denver. To those familiar with the work of the contributors we need say little in commendation of what they have here written. Those who have studied under Bowditch know that his contribution would be nothing if not good. Those who learned their physiology from John G. Curtis would feel confident that his chapter on the mechanics of the circulation of the blood and of the movements of the lymph would be worth reading, and so it is.

Professor Howell has not been the editor alone, but we are pleased to find chapters on secretion, chemistry of digestion, movements of the alimentary canal, of the bladder and ureter, and blood and lymph, all from his pen. There is no question that there are advantages in having certain large works produced by the collaboration of many writers. Indeed, a broad subject like this cannot be treated to such advantage by one author, within reasonable limits of time. The overlapping of topics is, however, a decided disadvantage to the student, who has no time to read views of two teachers upon the same subject which are, perhaps, opposite, and then decide for himself. Perhaps this is unavoidable, but in the present work it has happened in several instances.

Another disadvantage for the student is the size and weight of the volume. If published in two or even three volumes, the additional expense to the student would be money well invested. He could then take back and forth between his room and the college or laboratory the volume containing the subjects being studied. Most students would break down under the attempt with the volume as it now is.

Traité de Chirurgie Clinique et Opératoire. Publié sous la direction de MM. A. Le Dentu et Pierre Delbet. Tome premier: Pathologie Générale. Maladies de l'Appareil Tégumentaire. Par MM. Nimier, Ricard, Faure, Le Dentu, Lyot, Brodier, et Delbet. Paris: Librairie J.-B. Baillière et Fils. 1896.

This first of what promises to be an important work of some ten or more volumes is divided into two sections, one devoted to general surgical pathology covering nearly seven hundred pages, and one dealing with special surgical pathology, of which the diseases of the integument take up the remaining hundred or more pages. Sixty-four woodcut figures and engravings are scattered throughout the text. One of the editors, Dr. Delbet, has contributed a most praiseworthy chapter upon the difficult subject of neoplasms. It is the longest chapter in the volume. The diseases of the skin have received careful consideration from the pen of Dr. J. L. Faure, and especially in their surgical aspects. The contributors to this and subsequent volumes include the names of Albarran, Arron, Binaud, Brodier, Cahier, Castex, Chipault, Gangolphe, Pichevin, Ricard, Rieffel, Schwartz, and Villar. Dr. A. Le Dentu, who is likewise one of the editors, furnishes the present chapter on lesions by destruction of tissue, including injuries by burning and freezing. Interesting chapters on gangrene, ulcers, fistulæ, and cicatrices have been written by Dr. C. Lyot. The print is good, but the cover is of paper, as is usual in French works, and necessitates binding before any real use can be made of the book.

Premature Burial, and How It May Be Prevented. By William Gebb, F.R.G.S., and Col. Edward Perry Vollum, M.D., late Medical Inspector, U.S.A. London: Swan, Sonnenschein & Co., Ltd. 1896.

This work has special reference to trance states, catalepsy, and other forms of suspended animation. The major part is made up of the writings of authors of the past, but each of the present writers has personal experience of interest to relate, one of them having been himself "laid out for dead." The pages are replete with instructive though at times grewsome details, and the subject is one of such vast importance that it would be well for all medical men who are not already familiar with its literature to read the book and remember the lesson it teaches. Anything must be welcome which will tend to remove the senseless fear of the dead and prevent friends from deserting the bedside the moment life is supposed to be extinct, giving over the body to those who will immediately take steps to complete the extinction rather than to fan back into life any spark of vitality which may remain in a doubtful case.

A Treatise on Surgery by American Authors, for Students and Practitioners of Surgery and Medicine. Edited by Roswell Park, A.M., M.D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo, etc. Vols. I. and II. Philadelphia and New York: Lea Brothers and Company. 1896.

Volume I. treats of general surgery and is illustrated with three hundred and fifty-six engravings and twenty-one full-page plates in color and monochrome. The contributors to this volume include Belfield, Burrell, Eve, Fordyce, Gerrish, Hardaway, Hare, Holloway, Mudd, Nancrede, Park, Parmenter, Ransohoff, Smith, and Souchon.

Such advances are to be noted in the surgeon's work of late years that we find marked evidences of specialism in this department of medical science, and a work to claim anything approaching completeness must deal with many subjects from this exclusive side. In this way only is it possible to complete a large text-book within reasonable limits of time and present the material in a fresh form. When the editorship is assumed by a man of such recognized ability as in the present instance, we have warrant for an *a-priori* judgment that the work of all contributors has been satisfactorily accomplished. Volume II. treats of special or regional surgery. Besides several of the names already mentioned we find those of Bevan, Blake, Bradford, Bull, Delavan, Dennis, Etherbridge, Gerster, Kelsey, Lovett, Matas, Parker, and Richardson attached to the respective subjects with which they are more or less identified. Thus, Maurice Richardson writes upon the surgery of the abdomen, and in the task has had the assistance of Farrar Cobb. He also has a chapter upon hernia. Charles Kelsey contributes an article on diseases of the rectum and sigmoid flexure. William T. Belfield has genito-urinary surgery, Gerster plastic surgery, and so on. Roswell Park himself has written a number of chapters in each volume, and has shown excellent judgment in the selection of co-workers and the arrangement of the plan and scope of the whole work. The illustrations are for the most part excellent, and the publishers' part has been done in such a way as to make a very attractive production. Some over-lapping and separation of subjects, so that both volumes must be consulted in order to learn all that has been said upon a given topic, are a necessary outcome of this system of book-making which is here and there noticeable. Such chapters as those upon auto-intoxications and surgical pathology of the blood as well as the frequent references to modern bacteriology point to the advanced scientific thought which has permeated the work as a whole. The volumes may be procured separately, and have been prepared with the view of being independently useful.

Der Praktische Arzt als Augenarzt. Von Dr. Med. J. Hell, in Ulm. Ravensburg: Otto Maier. 1897.

A short useful handbook for practising physicians upon the common eye diseases.

The Physician's Visiting List for 1897. Forty-sixth Year of its Publication. Philadelphia: P. Blakiston, Son and Company.

This popular visiting list is again published, with all its well-known features of practicality and simplicity conspicuously retained. There is very little text to encumber its pages, which are meant to be filled up by the physician on his daily rounds.

Self-Instruction in the German Language. Deutsch's Letters; a Practical Method for Easy and Thorough Self-Instruction. By Solomon Deutsch, A.M., Ph.D., Author of "Medical German," "A Practical Hebrew Grammar," etc. Second and Revised Edition. New York: J. H. Vail and Company. 1896.

This work has been prepared with special regard to the close affinity existing between the English and German languages. The value of this work, which has been well received, has been increased in the second edition by the "Key to the German Exercises," which has been appended. The student can make use of this innovation to retranslate. Physicians studying German will find this an exceedingly useful work, and even those who know much of the language already will be interested in the many analogies with other languages and points of interesting importance which are referred to.

Reference-Book of Practical Therapeutics. By Various Authors. Edited by Frank P. Foster, M.D., Editor of the *New York Medical Journal* and of *Foster's Encyclopædic Medical Dictionary*. In Two Volumes. Vol. I. New York: D. Appleton and Company. 1896.

The plan of this work is one that will commend itself to the practitioner who desires to refresh his knowledge of the uses of the standard therapeutic agents, or to learn of those of the more recently introduced drugs, with the least expenditure of time and of labor. The arrangement of titles is alphabetical, and numerous cross-references direct the reader to the desired article without waste of time in a mental search for synonyms. All agents, ponderable and imponderable, which are employed in the treatment of disease are here included, with the exception of some of the most recently introduced synthetic products, the value of which is as yet undecided. Several of the drugs admitted to the book are proprietary articles of unknown composition, which are officially condemned by the American Medical Association and in daily use by many of its members. In the difficult task of deciding which of these is worthy of recognition the editor has, it seems to us, exercised good judgment in the main, although necessarily there will be differences of individual opinion in such a matter. The present volume carries the work through M. The second volume will contain an index of diseases, which will make the mass of useful information here contained of practical application.

A Monograph of Diseases of the Nose and Throat. By George H. Quay, M.D. Philadelphia: Boericke & Tafel. 1897.

This is a book of two hundred and fourteen pages, especially adapted to the needs of the student and general practitioner. In it one finds enough anatomy and physiology to enable the reader to comprehend the text, also the methods of examination. It is concise, well written, and certainly should meet the demands of the busy practitioner who has not the time to consult a more voluminous work on this subject.

The Sequels of Disease. Being the Lumleian Lectures delivered in the Royal College of Physicians, 1896. Together with Observations on Prognosis in Disease. By Sir Dyce Duckworth, M.D., LL.D., Fellow and Treasurer of the Royal College of Physicians; Physician and Lecturer on Medicine, St. Bartholomew's Hospital; Sometime President of the Clinical Society; Hon. Physician to H.R.H. the Prince of Wales. London: Longmans, Green and Company. 1896.

It is not often that we see a more interesting book on a purely medical subject than this. The author has a pleasing style which is a good setting for any subject, however dry, but here the subject is novel and could scarcely avoid being interesting, even in the hands of a poor writer. The author says that he was led to take up this subject by a remark of Dr. William Baly that one of the most useful books that might be written would be one on the diseases of convalescence. The importance of this subject is shown by the seeming paradox that persons rarely die of the disease from which they suffer, but of some secondary trouble, a sequel or a complication of the primary affection. The second and shorter section is on prognosis, being substantially the address delivered by Sir Dyce Duckworth before the British Medical Association in 1896. The book is handsomely printed on heavy paper with rough edges, and is a joy to the eye as well as a source of instruction and entertainment of the mind.

A System of Gynæcology. By Many Writers. Edited by Thomas Clifford Allbutt, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College, and W. S. Playfair, M.D., LL.D., F.R.C.P., Professor of Obstetric Medicine in King's College, and Obstetric Physician to King's College Hospital. New York: The Macmillan Company. 1896.

This treatise on gynæcology which forms the second volume of "A System of Medicine," edited by Dr. Allbutt, is the work of twenty-six authors, most of them well-known British gynæcologists. According to the publishers' prospectus, there are to be two volumes devoted to gynæcological subjects, but this one appears to cover the ground so completely that we cannot imagine where material can be found to fill a second volume, unless it is to be devoted to obstetrics. The articles are of varying merit, as is to be expected in a work of this sort, on which so many writers are engaged, and in some instances the doctrines advanced seem to us to be distinctly heterodox, or, at least, not such as are accepted by the most approved authorities. This is recognized by the editor, who refuses, in the preface, to be held answerable for the views advanced by the individual authors, limiting his responsibility to the selection of the writers. However, the articles are all readable and suggestive, and, with the reservations which every one must make in his reading, the work may be accepted as a satisfactory exponent of modern gynæcological teachings.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting, January 11, 1897.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Removal from Fourth Cervical Vertebra of Bullet Located by X-Ray.—DR. A. M. PHELPS showed an *x*-ray photograph and a bullet from a case of gunshot injury. The bullet, fired from a revolver, 38-calibre, struck the thyroid cartilage, passed through the neck and lodged at an unknown point. There was pain in one shoulder and down the back, and the opinion of some who saw the patient was that the bullet had glanced downward and lodged at a point lower than the entrance. An *x*-ray photograph taken by one party failed to reveal the bullet, but that taken by another photographer was more successful, showing a darker spot in the fourth cervical vertebra. Through a nearly closed wound the Girdner electric probe was introduced and verified the position of the bullet. The ball had struck the hard lamina of the vertebra and flattened, and had barely penetrated the canal. The fourth cervical nerve had been injured, but the numerous blood-vessels and nerves at this level in the neck had escaped. Recovery after removal of the bullet was uneventful; the patient was discharged on the tenth day.

Bullets in the Brain Revealed by X-Ray.—DR. WILLY MEYER presented a patient whose case he intended to report more fully on another occasion. The young man had attempted suicide by shooting himself in the right temporal region. He was taken to a hospital, where he was trephined and the depressed bone was raised. Motor symptoms manifested themselves in the left arm and leg, pointing to an injury of the motor area in the right hemisphere. Dr. Meyer saw him and attempted to have *x*-ray photographs taken, and succeeded, by using both side and front exposure, in revealing three spots on a line with one another, one of them on the left side of the brain, two of them supposed to be a divided bullet or two bullets, and the third a splinter of bone. Possibly the third was also lead. Their removal was regarded as impracticable and nothing further was done. An interesting feature in the case was the falling out of the hair on the left posterior fourth of the head as a result of exposure to the *x*-ray.

Femoral Hernia in Woman Aged Sixty-seven, Strangulated One Hundred and Five Hours; Operation, Recovery.—DR. JOHN B. WALKER presented the patient. The history will be published subsequently.

Resection of Knee.—DR. A. M. PHELPS presented a girl, thirteen years old, whom he had treated mechanically for knee-joint disease a year and a half with the assistance of her family physician, and then, as the disease progressed and the *x*-ray showed the joint broken down, he performed resection. The case illustrated two or more points in connection with progressive knee-joint disease: 1. That the operation could be done rapidly, in this instance requiring thirteen minutes; 2, that, thorough removal of the diseased tissue having been effected, the line of division of bones being made convex and concave, so that one fitted into the other, and then a plaster splint applied so as to allow drainage, the limb could be perfectly immobilized in a straight line, union would take place, and the patient could leave the hospital in six weeks. Fenwick's V-shaped incision could be used if the other failed, and thus lock the end of the femur to the end of the tibia. He had excised the knee in seventy-one cases, with no deaths; average duration of operation, fourteen and a half minutes. In the case presented, as in some others, a sinus had been present, extending up from the knee, which he ripped up and cleansed out.

DR. J. P. FISKE and DR. PHELPS also presented cases in illustration of papers read later.

Discussion on the several cases being in order, DR. CURTIS expressed the opinion that the electric probe must have been of considerable assistance in locating the bullet in Dr. Phelps' case, in addition to the *x*-ray photograph, since the latter appeared somewhat obscure. He had himself repeatedly turned up the needle in the flap in cases in which the *x*-ray had led him to suppose it lay deeper and to make a deeper incision.

DR. JOHN GIRDNER said there was no question but that the *x*-ray was of assistance in locating the bullet in some cases. The cases in which it had appeared to him most useful were those of old gunshot wound in which the tract had closed and prevented use of the electric probe. In other cases the probe alone was often sufficient, and was an aid even when the *x*-ray had located the foreign body more or less plainly. But the latter was not applicable on the battle-field, and he understood that in Dr. Meyer's case he was unable to say whether one piece was bone or lead. The probe would decide that point. The latter was not so valuable in locating such objects as needles. He was awaiting reports of the use of the probe in the war between Japan and China, and also in the war in Cuba, where, he was informed, it had proven of service under the command of Maceo, as he had been informed by letter from Maceo himself. Bullets penetrating the skull not infrequently divided into two, and sometimes into many pieces.

DRS. WHITMAN and MILLIKEN thought there would be some tendency to knock-knee in Dr. Phelps' case of resection, and they queried whether this would have occurred if more time had been given to the operation.

The Ambulatory Treatment of Fractures of the Leg.—DR. JAMES P. FISKE read a paper on the ambulatory treatment of fractures of the leg, with a consideration of some of their complications, and with illustrative cases. Since the discussion of the subject at Berlin, 1894, considerable interest had been awakened in the ambulatory treatment of fractures of the lower limb. The method of which he should speak had been in use for many years in Roosevelt Hospital, where it was introduced by Dr. John Woodbury. It possessed certain new principles. After the bones were in place, a plaster splint was applied from the toe to near the knee and the patient was allowed to walk upon the limb from the second or even the first day in some instances, but in a few was kept abed ten days. There was no padding beneath the splint, nothing but a roller bandage. Some starch was added to one of the three layers of plaster bandage, to give slight elasticity. The foot was at a right angle to the leg. Thus applied, the upper part of the cast supported the greater part of the weight of the body. While in some instances the patient was allowed to walk at once, the rule was to keep him in the horizontal position for twenty-four hours, and if at the end of that time there was no pain he was directed to walk. The same rule applied to compound fractures if there was no infection. The cast was renewed if it weakened. While time was not gained for bony union, yet the patient was up and attending to his duties, and the after-treatment was shorter. The average time of wearing the cast had been twenty-eight days, but in a few cases it had been six weeks. During the treatment the general condition of the patient was main-

tained, which was an important point. In fracture of the fibula one hundred and ten cases had been treated by the ambulatory method at Roosevelt, and in eighty-one the splint was applied from the first; also a large number of cases of fracture of the tibia, and in fourteen cases of fracture of both bones—tibia and fibula. A fact which spoke favorably for the result was that in no instance had there been a lawsuit. One of two patients presented, a man, had sustained a Potts' fracture in a fall a week ago. The leg was put up in a plaster splint next day; the following day he was instructed to walk about, and had been going about since. Dr. Fiske repeated again that no pad was put under the bandage. The second case was of a similar fracture. The splint was applied, and the patient walked about almost from the first. The ambulatory treatment was first introduced at the hospital to relieve the crowded wards and also to enable patients to go about their work.

Dr. John Woodbury opened the discussion. He said the ambulatory method was introduced through necessity. They had to put the poor man in a splint which would enable him to go about; also that vacancies might be made for new patients. The method had been under observation at Roosevelt for ten years, and in some form had been employed more or less before that at Bellevue under Dr. Wood. It was under the guidance of Dr. Sands that he had been enabled to carry it out at Roosevelt. The patient was given a solid limb in from six to eight weeks. In no instance had one returned with a serious deformity which required correction. The splint allowed of no motion in the fragments while the patient was walking about. Proper hygiene was permitted. There was less danger of alcoholic delirium under this treatment than under that of rest in bed.

Dr. Johnson said he had seen many of the cases treated by this method at Roosevelt since 1888, and could testify to its value. He had not had occasion to regret its employment in a single instance. It did not give entire assurance against the development of delirium tremens in alcoholism, for he had seen this occur.

Dr. Willy Meyer said his attention had been directed to the method at the discussion in Berlin, and he had employed it in some cases with satisfaction since. It enabled the business man to go to his office. In the beginning he was afraid of medico-legal complications, and deemed it wise to let the patient choose between the old method of rest in bed and the ambulatory method. He understood the latter was being used also in fractures of the femur, including fractures of the neck in old people, whose hygienic condition was thus better maintained. The danger of hypostatic pneumonia which existed during long confinement in bed was also avoided.

Dr. Howard Lilienthal spoke favorably of the method which he had employed in a few cases. He raised the heel by plaster bandage to avoid the limp.

Dr. George Woolsey viewed the ambulatory method from two standpoints, namely, that of the hospital and that of the patient. It was useful for the purpose of clearing out the wards. On the patient's side it was indicated for hygienic reasons and to enable him to attend to certain duties. But while it would permit a man to go down town to business, it would not enable the hodcarrier to ascend the ladder for five or six weeks at least. Therefore we might yet strive for some better treatment, especially since there was considerable stiffness in the limb when finally the plaster splint was discarded. He had employed the massage and ambulatory treatment with considerable satisfaction—the patient going about on a cane. He understood the massage treatment was recently being combined with the use of the plaster splint, massage being used when the splint was removed and the patient going about with the splint applied. The advantage was avoidance of deformity.

Dr. A. M. Phelps believed that in oblique fractures the ambulatory treatment with plaster splint would permit the bones to slip past each other and cause some shortening. This objection need not apply in transverse and serrated fractures. Following the practice of Dr. John Swinburn, he allowed the patient to go about on crutches, with the fractured limb done up in a form of hip-joint splint, traction being exerted to keep the fragments apart and splint and leg being put in plaster.

Dr. Fiske closed. He thought shortening might result if the splint were to break or spread, but he had not seen either accident happen. If it became loose or limber, he removed it and applied another. As stated before, in some cases the patient was not allowed to walk for ten days. Gross had suggested ambulatory treatment as long ago as twenty years.

Bone Grafting for Ununited Fractures.—Dr. A. M. Phelps read the second paper and presented an illustrative case. Among the causes of ununited fracture were lack of nutrition, foreign bodies between the fragments of bone, bad coaptation, and sclerosis. Different methods had been resorted to with more or less success for inducing union. Thomas, of Liverpool, had suggested hammering the fracture with a mallet, then putting the limb up in plaster and allowing the patient to walk, thus grinding the ends of the bone together. Senn had suggested putting in decalcified chips of bone between the ends of the fractured bone. Another method was to turn in periosteum and pin the bones. In the cases which he had to report in his paper, eleven in number, one or more of these methods had been tried unsuccessfully before he had attempted bone grafting. His first attempt at bone grafting, different from that which he now practised, occurred about 1890, at one of the city hospitals, and was the source of a good deal of newspaper notoriety. A portion of the forearm of a dog, still retaining its nutrient attachment to the dog, was grafted into the ununited bones of a child's limb, and the two were bound together with plaster. But the dog became restless, squirmed in its plaster jacket, and it was necessary to separate it about the tenth day. The graft did not unite. He then adopted the plan which had succeeded in the patient presented and in several others. It consisted in taking numerous chips of the forearm of a dog, preferably a pup, and grafting them into longitudinal splits of the periosteum covering the ends of the bone which had just been cut down upon and wired together. The chips of bone started centres of ossification which resulted in good bony union. They seemed to act not unlike skin grafts on the surface of the body. In the case of the young woman presented, who had had ununited fracture of the bones of the forearm, he had employed about fifty bone grafts. Subsequently about a dozen of them came to the surface and were removed, but the remainder "took." There was slight shortening of that arm, but its use and power seemed normal. In one of the successful cases the bone grafts into the arm were obtained from the knee of another patient, on whom he was doing excision. In the case of a man who had no use for his little toes because of the presence of corns, he utilized these for bone grafts into his ununited fracture. Out of the eleven cases two came to amputation, one resulted in fibro-osseous union, in eight there was perfect bony union. All were of the extremities, five of the leg. There were successes, there were failures. He gave the method for what it was worth. When other methods failed, he thought this one of bone grafting should be tried before resorting to amputation.

Dr. Phelps had given up silver wire for uniting the bones. It was too fragile. He used strong steel wire and attached it to screws put into the bones.

Dr. Curtis asked whether the grafts of bone themselves grew, or whether they simply stimulated growth from the ends of the bones and then disappeared, as seemed from microscopical examination to be the case when blood clot filled the intervening space. In the case of ununited fracture of the tibia he suggested that the gap might be filled by dividing and pushing in the fibula, and thus avoiding much shortening of the limb. He had used decalcified bone in a case of ununited fracture of the femur without success, and subsequently amputated.

Dr. Willy Meyer suggested the use of the method of Bardenheuer, turning a piece of the same bone with periosteal and muscle attachments over into the gap, as one would slide or transplant skin to fill a surface gap.

Officers.—Dr. Curtis declined a renomination as chairman. Dr. W. W. Van Arsdale was elected *Chairman*, and Dr. John B. Walker was re-elected *Secretary*.

SECTION ON GENERAL MEDICINE.

Stated Meeting, January 19, 1897.

R. W. Wilcox, M.D., Chairman.

The Serum Diagnosis of Typhoid Fever.—Dr. William H. Park read a paper on the serum diagnosis of typhoid fever and made microscopical demonstrations. After a brief review of the work of Pfeiffer, Widal, and some others, in the course of which he described what constituted the serum method of diagnosis in typhoid fever, the author passed to the analysis of the observations made by the health department since a few months ago. To state the method briefly, if one added to a culture of the typhoid bacillus an equal amount or even a fractional amount up to 1 to 10 or 1 to 100 of the blood serum of a patient who had typhoid fever or had recently recovered from that disease, the typhoid bacilli would cease to move about freely and singly in the fluid; their action would become inhibited according to the proportion of the serum added; then they would become agglutinated into groups with intervals of no bacteria; lastly, some of them would become deformed and break down. The three stages of the change were inhibition, agglutination, dissolution of the typhoid bacilli. As the bacilli became agglutinated into groups, they settled to the bottom of the fluid. Microscopical examination showed them in clumps on the slide. In marked cases there was instantaneous reaction on adding the serum to the culture. Instead of using the serum of the blood of the suspected subject, because of the difficulty of obtaining it, the board of health at first had given instructions for sending to the depots of the department, located at pharmacies throughout the city, dried blood which at the laboratory was diluted with water and made fluid. There should be at least two or three drops of the dried blood. While the dried blood had advantages, it also had disadvantages, one of them being that it required to be mixed with at least six times its amount of water, and then, when an equal amount of the culture was added, it made a dilution of 1 to 12. When one had serum he could use an amount equal to that of the culture, and it could be measured out more exactly and constitute a quantitative test. It being difficult to draw a sufficient amount of blood from which to obtain the serum, it was best to make use of a small flying blister. But the dried blood answered the purpose well enough in most cases. It was necessary, however, to get a reaction within fifteen or twenty minutes to be assured that it was due to typhoid, for if none occurred until after that period the appearance might be due to a pseudo-reaction by the bacilli becoming entangled in fibrin. Even with serum a quick reaction was more reliable, although a late one was less likely to deceive the examiner, since in serum fibrous clumps were absent. If the reaction were late, it was best to make a subsequent examination.

Before giving the results obtained by the health department, Dr. Park presented a table of results obtained by Widal, Achard, Haushalter, Gatrin, Grünbaum, Durham, Delepine, Greene, and Johnston, amounting in all to about 422 cases of possible typhoid fever. Most of these observers had obtained pretty uniformly successful results. Out of the 422 cases of supposed typhoid a positive result in accord with the clinical history was obtained in 312. In only 12 cases was the result wrong or apparently misleading.

In the laboratory of the health department of this city they had employed the serum method of diagnosis of typhoid fever in 350 cases of possible typhoid. In about 130 of these cases, as far as they could learn, the histories had been that of typhoid. In 101 of the 130 the reaction was obtained; in 30 it had not been obtained. In reference to the period of the disease at which the examination was made, in the first week there had been 70 per cent. of positive results; in the second week, 69 per cent.; in the third week, 75 per cent.; in the fourth week, 92 per cent. In no case having clear clinical typhoid history had there been throughout the entire course of the disease no reaction whatever, either by the dried blood or serum method.

As to whether other cases than typhoid would give the reaction, in 104 cases 92 gave no reaction. No healthy person's blood had given any reaction with a dilution of 1 to 10. In three colored people, one having pneumonia, one Bright's disease, and the third gangrene of the foot, there was a reaction with 1 to 10; but Dr. Park had doubt whether some typhoid infection might not have been present in these cases. They were the only ones which had given a reaction in a dilution above 1 to 10 among numerous cases without typhoid which had been submitted to the test. As to the duration of the reaction in typhoid, in some cases it had disappeared a week or ten days after recovery from the disease, but usually it remained from six to nine months, and very rarely two years. An attack of typhoid prior to one year could be excluded as the cause of the reaction. Dr. Park was of opinion, formed from studies thus far carried on, that if serum were used, and the reaction appeared with a dilution of 1 to 50, the case could be positively pronounced typhoid; if the reaction were present with a dilution of 1 to 25, about one per cent. of such cases would not be typhoid. The possibility of the disease not being typhoid when the reaction was obtained was somewhat greater the greater the quantity of serum required in proportion to the culture fluid. He thought this method would be of special value in distinguishing among cases hitherto classed doubtfully as malaria and typhoid. In one case the reaction was absent when blood drawn from the spleen proved the diagnosis of typhoid.

Dr. John W. Brannan opened the discussion. The reaction agent, whatever it was, evidently lay not in the fluid elements of the blood, for dried blood diluted with water was sufficient to produce the reaction. In some respects dried blood was preferable, especially if it was desired to retain it for subsequent use. It gave the reaction some time after the kept fluid blood or serum had lost that power. According to his observation the reaction diminished rapidly after the attack of typhoid, so that blood drawn six months afterward seldom gave any reaction. Most writers in this country had said that any practitioner could make the test for himself. But such a test could not be very reliable, since one with the experience of Dr. Park had found

the result doubtful in about one out of five cases. Dr. Brannan said that while the exact clinical value of the method had not yet been determined, he was of opinion that in about ninety-five per cent. of cases of typhoid the reaction would be obtained some time within the ninth day; and perhaps one case in one or two hundred of those not typhoid would give it. The fact that all three of the cases not typhoid, or supposed not to be typhoid, in which the health department had obtained the reaction, occurred in colored people, pointed rather to the view which some inquiry made by him seemed to confirm, that colored people possessed a certain degree of immunity to typhoid and had the elements in their blood to which the reaction commonly present only after typhoid was due.

Dr. H. M. Biggs said it had been the policy of the health department to extend its assistance in the diagnosis of infectious diseases as rapidly as possible, because of their danger to the public health. When the work of Widal and Pfeiffer became known, it was decided to try the method in the manner already mentioned. It seemed to him that Dr. Park's estimate of the value of the method was sufficiently conservative. Its value, he thought, would become even greater with experience. He quite agreed with Dr. Brannan, that to be of much value the test would have to be made by an experienced bacteriologist. It could not be made at the bedside by everybody, as had once been stated by Widal. In the opinion of the speaker, many cases not giving the typical clinical history of typhoid, but giving the reaction, would be found to be real typhoid. There was no reason to believe that typhus would give the reaction any more than other diseases besides typhoid, and if this were true he thought the test would be of decided aid to the sanitary department, which not infrequently encountered cases which presented many of the clinical features of typhus, when in reality they were typhoid.

Dr. Lambert, in considering the nature of the agglutinative substance, said it was not the bactericidal substance, and it was present in all of the serous fluids of the body when not secreted very rapidly. He thought this method of diagnosis was of value, but the difficulty with physicians was that they looked for an infallible test. In making a diagnosis from the clinical picture, they were compelled to be less exacting in their demands.

Thankful for Any Aid in Diagnosis.—Dr. F. W. Jackson thought all physicians were willing to reach out for any aid in diagnosis in a disease which presented so varied a clinical picture as did typhoid fever in New York. He could not say, however, that the test under discussion had been of much aid to him in diagnosis since he had resorted to it in September. The trouble had been that in the very cases in which its aid was most needed, those with a doubtful clinical diagnosis, the bacteriologist's report had been that the reaction was uncertain. Then there were the two cases (from Bellevue Hospital) in which the health department had returned a report of positive reaction when typhoid did not exist. Further, there was the typical case of typhoid fever in which the reaction was negative. In two other cases of typhoid the test became positive only after the patients had got out of bed. He wanted a diagnosis early in the disease, not after its cure. We should not praise the method too highly until its limitations had been defined. The Widal test was at present simply one of the aids in diagnosis of typhoid fever.

Dr. J. S. Thatcher said that at the Presbyterian Hospital they had employed the test in about one hundred cases. In only two cases of typhoid fever had they utterly failed to get any reaction after making repeated examinations. In one case the reaction appeared nicely, and at autopsy the following day no evidence was found of typhoid. Dr. Thatcher thought the test a valuable one in diagnosis of continued fever of uncertain nature.

Dr. Egbert Le Fevre had employed the method since November in 173 cases of different diseases. Clinically there were out of the 173 cases 15 of undoubted typhoid. These showed the typical reaction. In only 2 of the 15 was there at any time doubt about the clinical diagnosis. In one the symptoms were much like those of typhus fever; the blood tests were negative until the sixth day, when the reaction became typical. In this instance the value of repeated examinations was shown. Of the remaining 159 cases there were 9 of febrile disease which could not be classified after a week's observation. In only 3 cases not typhoid from among the 159 was the reaction obtained. One was a case of pneumonia; reaction absent the first day, present on the second day and after that until the eleventh, when it disappeared. This was a white man. The second case was one of cancer of the stomach; typical reaction; no history of typhoid. The third case was one of cardiac disease; reaction pretty clear. Dr. Le Fevre hoped that by the Widal test, the test for plasmodium of malaria, and other tests, we would finally become able definitely to classify certain fevers in which at present the diagnosis often remained uncertain.

Dr. Ellsberg had followed up about twenty cases of typhoid fever with daily observations at Mt. Sinai Hospital. He thought the test would come to be definite, but at present we ought not to be too positive. In the hospital they had obtained the reaction as early as the fourth and fifth day, but in the great majority of cases it was not obtained until from the eighth to the twelfth day. In one it was absent until the twenty-sixth day, in one until the twenty-eighth, and in one it had not yet appeared, the thirty-fifth day. It had not been obtained there in any case not typhoid. He thought it was an excellent method for distinguishing between the colon and the typhoid bacillus. In one case of external sore, typhoid not being suspected, the reaction was present; next day it was absent, and it did not return until the fourth day, then continued to be present. The patient did not begin to show symptoms of typhoid until two or more days after the first reaction. The speaker was unable to explain such a case.

Dr. Park closed. He suggested as an explanation of Dr. Ellsberg's case that there might at first have been a local typhoid infection; reaction showed itself, disappeared; then regular typhoid infection developed and the reaction became continuously present. He felt that in this test we had something of marked diagnostic value, although it was yet in the experimental stage.

By request of Dr. Bulkley, made because of the lateness of the hour, the reading of his paper, "Some General Considerations in Connection with Diseases of the Skin," was postponed until the next meeting.

Officers.—Dr. Wilcox declined a renomination as chairman, and on motion of Dr. Robinson he was authorized to appoint a chairman for the ensuing year. Dr. Wilcox appointed the secretary, Dr. L. F. Bishop, as chairman. The section then elected Dr. William N. Hubbard secretary.

Progressive Polyarthritis Deformans attacks both old and young. The only medicines which prove effectual are iodine and the iodides combined with arsenic, and taken in the middle of the two principal meals. The arsenical treatment may alternate with tincture of iodine (four to ten) drops in wine, sweetened water, or orange syrup. For the iodine the iodides of potassium and sodium in suitable dose may be substituted.—*Rev. Internat. de Méd. et de Chir.*

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 11, 1896.

JOHN SLADE ELY, M.D., PRESIDENT.

Tuberculosis.—DR. ROWLAND G. FREEMAN presented specimens from a colored child, three years and a half old, who died at the New York Foundling Asylum on April 25, 1896. A short time previously the child had had measles and pneumonia. There had been scattered râles over the chest, the spleen could be felt, and there was one enlarged lymph node on the right side of the neck. The clinical diagnosis had been tuberculosis. The autopsy had been performed immediately after death, and on opening the thorax a large mass of tumors had been found in the anterior mediastinum, and also a line of enlarged lymph nodes on the upper surface of the diaphragm. The largest ones were two inches in diameter. In some places they were hard; in others, there was miliary infiltration. The lungs were bound down by adhesions, and contained a very moderate amount of tuberculous infiltration. The bronchial nodes were much enlarged, and of the same character as those in the anterior mediastinum and along the diaphragm. The omentum showed very beautiful miliary tubercles. The capsule of the liver was studded with white tubercles, about one-sixteenth of an inch in diameter. The spleen showed the same appearance on the surface. The kidneys were pale. The mesenteric nodes just below the liver were enlarged. Adjacent to the caput coli was a node, one-half inch in diameter, and over this the mucous membrane presented an ulcer, about one-fourth of an inch in diameter. It was probable that this was the origin of the infection.

DR. HENRY POWER said that the case presented had suggested the question as to whether the tubercle bacilli could pass through the stomach without being destroyed. It seemed to him that they would not necessarily be destroyed, on account of the protection afforded by the mucus.

DR. FREEMAN said that he thought there was exceedingly good authority for believing that the tubercle bacilli were not destroyed in the stomach. Experiments had been made in this direction with artificial gastric juice, and also on animals; and these indicated that the bacilli were not destroyed. He had presented quite a similar specimen to the pædiatric section of the Academy of Medicine last spring.

DR. WILLIAM VISSMAN did not think that tubercle bacilli could pass through the perfectly healthy stomach and retain their vitality; however, as the stomach was rarely entirely healthy, it was probable that the tubercle bacilli often passed through safely. An argument in favor of this view was the occurrence of more extensive lesions above than below the stomach. He recalled the case of a young lady, a member of a markedly phthisical family, in whom both tuberculous peritonitis and enteritis occurred, yet there was no cough.

THE PRESIDENT thought there could be little question that tubercle bacilli often passed the stomach in a perfectly viable condition. This bacillus was known to be rather resistant to external influence, such as drying, and the slight exposure to the acid gastric juice would hardly seem sufficient to kill it. Tuberculosis had been very frequently produced experimentally by feeding animals with the tubercle bacilli. Again, as Dr. Vissman had said, the stomach in consumptives was frequently deranged and the degree of acidity lessened. He found it rather hard to believe that the very small ulcer in the caput coli, in the case presented, was the point of entrance of the large number of tubercle bacilli that must have been disseminated through this child's body in order to produce such extensive lesions in the glands. The ulcer appeared insignificant, there was but little infiltration in the wall of the intestine about it, and he was inclined to think that the ulceration was of recent development, quite possibly as a result of the extension of the process from the lymph nodes. He did not mean to say, however, that the case was not one of intestinal infection, for the evidence pointed strongly to such an origin; yet he felt that the bacilli were so generally inhaled in cases of tuberculosis in which the bronchial lymph nodes were so much enlarged that it was not at all unlikely that in this case both modes of infection had been in use.

DR. FREEMAN said that in tuberculosis the main lesion was often found at a considerable distance from the point of entrance. Thus, in tuberculous meningitis, a very considerable meningitis might be present, and yet no other marked lesion elsewhere could be detected.

General Tuberculosis.—DR. F. M. JEFFRIES presented specimens from a case. The patient was forty-four years of age, and died two days ago. There were small nodules over the pericardium. The pleural cavity was entirely obliterated, and the pleura contained small tubercles. In the liver were to be found here and there very small nodules, apparently tuberculous, but difficult of detection.

Dr. Jeffries also exhibited the lungs from another case of tuberculosis. In the upper lobes were cavities, and nodules were scattered throughout the organ. No clinical diagnosis of tuberculosis had been made, notwithstanding the advanced stage of the disease.

Dr. Jeffries also presented specimens taken from a woman who had been for two days in the alcoholic wards at Bellevue Hospital. On admission her temperature had been 100° F., but it had gradually risen, until just before death it had reached 104 F. No complete physical examination had been made. The autopsy showed marked general tuberculosis. The peritoneum was studded with tubercles; the diaphragm was adherent to the liver; the liver was enlarged and fatty; the kidneys showed tubercles, both in the cortex and in the pyramids. The suprarenal bodies were apparently not affected. All of the glands around the pancreas were greatly enlarged and apparently cheesy. The lungs were the seat of what appeared to be acute tuberculosis. There were a few tubercles in the spleen.

Photomicrographs of Bacteria.—DR. HENRY POWER exhibited a photomicrograph taken with an amplification of twenty-five hundred diameters, and showing the absence of the usual halo. He said that in looking at bacteria with a very high power, it was often difficult to determine whether or not a capsule was really present. This appearance, he believed, was due to a particular mode of illumination. His theory was that the appearance was produced by the bacteria having a high refractive index and acting as a lens. Acting upon this theory, he had used Dr. Piffard's new mounting-medium, and had found that this lens action had been destroyed and the difficulty alluded to had been completely obviated.

Tuberculosis of the Gum.—DR. J. S. ELY presented six microscopical specimens of tuberculosis of the gums. He said that this condition was rather an unusual one, or, at least, was not often recognized. The material from which the specimens had been prepared had been sent to him by Dr. R. H. M. Dawbarn for examination. The lesion had occurred in a young man, who had been apparently perfectly healthy, with the exception of a slight ulceration in the mouth on the side opposite to that at which the lesion had developed later. The ulceration had been treated with dilute acid. A portion of the tissue had been submitted to him for microscopical examination, and he had

found unmistakable evidence of tuberculosis. Dr. Dawbarn had since incised and scraped the part thoroughly, and the report was that at the present time the parts were apparently healing. Dr. Ely said that he had been able to find only one case of tuberculosis of the gum on record, and this had been reported by a Swede, in 1884. The case had been reviewed in Virchow's *Jahresbericht*. The patient, who was forty years of age, had severe pain in the mouth and radiating toward the left ear. On examination, an ulcer with undermined edges was found behind the lower left wisdom tooth and extending to the fauces, and later on to the soft palate. The base bled readily. At the same time small grayish nodules were found scattered over the pillars of the fauces and over the soft palate, when the nodules subsequently increased in size and finally became confluent ulcers. The microscopical examination had left no doubt whatever as to the tuberculous nature of the growth, and tubercle bacilli had also been found in the tissues and in a cavity of a wisdom tooth which was extracted. The patient ultimately died of his tuberculosis.

Dr. Ely said that this case had led him to study the subject of tuberculosis of the mouth, and he had been able to find but few cases on record. Attention had been first called to this condition by Ricord, prior to 1872. In 1872 a case of three tuberculous ulcers on the right edge of the tongue was reported by Reverdin, in a man, forty-six years of age, suffering from phthisis. In 1883 two cases had been reported. In one of these there was an ulcer of the lower lip, and in the other an ulcer of the tongue. Tubercle bacilli were found in both cases. There was also on record a case of "tuberculous angina," occurring in a phthisical patient, in which there were grayish ulcerating patches on the anterior pillars of the fauces and soft palate. The ulcers had undermined and indurated edges, and microscopical examination proved them to be tuberculous. He had found on record a case of lupus of the pharynx; and in 1887, at the Heidelberg clinic, twelve cases had been reported of lesions in different parts of the mouth, but principally upon the tongue and lips. In two of the cases, the lesion in the mouth was the only tuberculous lesion that could be detected; so that undoubtedly a lesion might exist as a purely local one, and be amenable to treatment. In about half of his cases he had succeeded in healing the ulcers. In 1887 Dr. Delavan had reported a case of tuberculosis of the tongue; and, later, Dr. Bull had published a report of the surgical treatment of that case by amputation of the tongue. There had been no recurrence in this instance.

Dr. W. H. Park remarked that in a large dispensary practice in throat diseases he had not come across a single case of tuberculosis of the gum. Such lesions in the pharynx were, however, fairly frequent.

Dr. Ely said that in studying the literature of the subject he had observed that the salivary glands seemed to be quite frequently affected.

Extra-Uterine Pregnancy.—Dr. F. M. Jeffries exhibited a specimen. He said that on examination nothing had been found but bloody fluid, the fœtus having been macerated, but sections from the walls showed placental tissue.

Atrophy of Left Lobe of the Liver.—Dr. Jeffries also exhibited a liver, showing almost complete atrophy of the left lobe. The liver had been removed from a man of forty years. There were no other features of interest at the autopsy.

Rupture of Aneurism into Pericardium. — Dr. Jeffries then presented specimens from a case of sudden death, due to hemorrhage into the pericardial sac from the rupture of a small aneurism of the arch of the aorta.

Dr. Martha Wollstein reported that examination of the specimens presented by her at the last meeting showed them to be non-tuberculous, and that the case was one of ordinary chronic cystitis with an ascending nephritis.

The society then went into executive session.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-First Annual Meeting, Held at Albany, January 26, 27, and 28, 1897.

James D. Spencer, M.D., of Watertown, President.

Thursday, January 28th—concluded.

The report of the nominating committee was read by Dr. Eugene Beach and confirmed by the society.

Would Abolish the Nominating Committee.—Dr. William James Morton, of New York, before offering an amendment to the bylaws, said he desired to add his hearty congratulations on the election of the new president. He had been interested in hearing the results of this election. After considerable experience in life, he thought he had not seen a sadder spectacle than that of the members of this great and honored society led up like sheep to the shamble and slaughtered at the dictates of machine politics. He offered as an amendment to the bylaws that hereafter the nominaton and election of officers, etc., take place at the end of the third day's session in open meeting.

The President ruled that under the bylaws this proposed amendment would have to go to the committee on bylaws. While he thought it was not strictly in order, several members made some remarks, among them Drs. Macdonald, Bendell, Beach, and others, in opposition to the amendment.

Place of Meeting.—Dr. O. F. Kinloch offered the following amendment to the bylaws: "The annual meetings of this society shall be held alternately in the cities of Albany, New York, and Buffalo." It was referred to the committee on bylaws.

Members of the Nominating Committee Must Not Nominate Themselves.— Dr. Hermann Bendell offered as an amendment to the bylaws that members of the nominating committee shall not be allowed to nominate one of their own number for officer or delegate. It was referred according to the rules.

For Information of Legislators.—Dr. F. C. Curtis called attention to the statement of Senator Brush at the annual dinner, that he had introduced a bill into the legislature to provide for the appointment of a commission to investigate the water supply for New York, Brooklyn, and the Hudson Valley cities. In view of this fact, he moved that the society purchase and distribute to the legislators a copy of the journal containing all of the papers read Wednesday on the pollution of water. Carried.

The Management of Club Foot. — Dr. A. M. Phelps, of New York, gave a brief outline of a paper on this subject on Wednesday. It was not until the fourth year of age that the cuneiform bones became ossified. Prior to that age the foot could be readily moulded into correct position, and the earlier the treatment was begun after birth the better. That treatment consisted in manipulation, carrying the foot with the aid of the hand as nearly around into position as possible, then fixing it with adhesive plaster, removing this next day, and repeating the treatment every succeeding day until the foot had been placed in a position of overcorrection. This could be effected by the third month, but the treatment must not be relaxed as long as there was any tendency to deformity.

If this method did not succeed, he divided subcutaneously the soft parts which offered opposition, but never went farther with cutting operations than was necessary. It was seldom that bones had to be cut or broken.

The Necessity of New Methods of Early Diagnosis in Tuberculous Disease for Curative Treatment.—Dr. J. B. Ransom, of Dannemora, in this paper, pointed out the fact that tuberculosis, while regarded by the public and many of the medical profession as a hopeless disease, was very amenable to treatment when this was instituted early. There was great need of new methods of early diagnosis, but he only desired to make clearer the advantages to be gained meanwhile by an intelligent application of such diagnostic methods as were well known to the profession in cases of cough and such symptoms as pointed to possible tuberculosis before auscultatory and percussion signs pointed to advanced changes. Tuberculin, which was so successful as a diagnostic means in cattle, was not considered safe in man. The great prevalence of tuberculosis in the State prisons was pointed out. Sunshine and dry air were exceedingly important in treatment and prevention.

Dr. E. F. Brush took exception to the assumption by the author and the medical profession generally that the tuberculin test was uniformly accepted by veterinarians as reliable.

Dr. Thornbury said he had looked upon the tuberculin test as absolute in cattle, and Simon, who was of the highest authority, had said it was reliable in ninety-nine out of one hundred cases.

Drs. Macdonald and F. C. Curtis made a few remarks.

Hernia of a Sarcomatous Ovary.—Dr. George Seymour, of Utica, read the history of a case which had come under his treatment, of inguinal hernia in a woman, forty-eight years of age, the tumor having first been noticed two years before. It had not been reduced for a year. On operating he found the tumor, in the inguinal canal and adherent to the round ligament, to be the ovary. It weighed five ounces, and was the seat of spindle-celled sarcomatous degeneration. It was removed and with it a considerable length of pedicle. Dr. Seymour had found this a rare condition, as far as he could learn from book reference.

Dr. Willis Macdonald had seen only one case in which a hernial sac contained an ovary. It was not sarcomatous.

On motion of Dr. Bendell, the president, Dr. Spencer, was tendered a vote of thanks. The society adjourned.

Diet in Bright's Disease.—It is agreed that the most rational diet is a mixed one. The estimate commonly given is that meat should constitute one-fourth and vegetable food three-fourths. This is often overstepped, and the proportion brought to two to four. Such indulgence throws into the circulation a large amount of nitrogenous waste, which it is the office of the kidneys to remove from the system. An increased amount of organic excretives, continually demanding removal, throws a considerable tax upon these organs, which is frequently rendered more severe by a hyperacid concentrated condition of the urine, as these subjects seldom drink an adequate amount of water. This irritation, if long continued, eventually leads to functional and finally organic impairment of the kidneys. To these sources of irritation must be added the deleterious effects upon the renal structure of the excretion of the byproducts of faulty gastric and intestinal digestion, frequently present from the dyspepsia so common among those who overindulge at table. —Dr. Elliott, *North American Practitioner.*

Therapeutic Hints.

Bronchial Hemorrhage.—In presenting a summary of my own treatment of bronchial hemorrhage no claim is made to anything new; but simply that it is based upon a well-defined principle, has a definite object in view, and that the measures form a harmonious whole without contraindications. It includes: 1st, rest; 2d, morphine; 3d, aconite or other vascular sedative; 4th, dry salt and a saline cathartic; 5th, counter-irritation; 6th, obstructed expiration. It excludes: 1st, astringents; 2d, ice externally; 3d, stimulants; and 4th, the vasoconstrictors.—Dr. Charles E. Quimby, *Transactions of the American Climatological Association*, vol. xii., p. 111.

Phthisis.—Dr. Foxwell, of Birmingham, who has had considerable experience in the internal administration of iodoform, regards it as almost a specific for phthisis. He gives it in one-grain pills, six times a day, and finds that it gives better results than any other drug or combination of drugs with which he is acquainted. It soothes the nervous system of erethistic subjects; lessens cough and expectoration; powerfully stimulates nutrition, and markedly improves the condition of physical signs. One of his patients took fifty grains a day without inconvenience, and another took from twenty to thirty grains a day, for two years and a half, with no detectable ill effect. It would appear from these obervations that iodoform exerts as marked an influence on phthisis as mercury does on syphilis. Dr. Foxwell did not meet with the comatose condition described by other writers as the result of the employment of large doses. It would seem probable that, in these cases, the drug acts as a pure antiseptic, and not by virtue of the iodide of sodium into which it must be converted in the blood. I have employed the iodoform treatment in a large number of cases, both in phthisis and winter cough, and although, in the main, I confirm Foxwell's treatment, I have met with several cases in which the employment of large doses had to be abandoned on account of the nausea and vomiting resulting from the administration of the drug, and the powerful odor it imparted to the breath. Iodoform is conveniently made into pills with sugar of milk and glycerin of tragacanth.—*Manual of Materia Medica and Therapeutics*, by William Murrell, M.D., p. 254.

Treatment of Affections of the Intestines by Insufflations of Boric Acid.—*La Médecine Moderne*, March 14, 1896, gives the following curious procedure for treating constipation which Dr. Flatau, of Berlin, has recommended since 1890. Dr. Cramer who has experimented with this method is convinced that it is indicated especially in cases in which constipation is accompanied by flatulency. Dr. Flatau proceeded as follows: After careful cleansing of the anus, boric acid was applied to the mucous membrane on the rectum and its absorption was facilitated by means of friction. Later he decided to employ an insufflator, by the aid of which he caused the boric acid to penetrate, in the form of a powder, into the inferior portion of the rectum. Dr. Cramer has also adopted the use of the insufflator. Dr. Merkel has published two papers which bear witness in favor of this method of treating constipation. The technique is as follows: The buttocks of the patient are held apart by an assistant; the cover of the insufflator, greased along its whole length, is introduced into the rectum. Then a quick and energetic pressure is exerted on the rubber bulb of the instrument. From two to four grams of boric acid are thus introduced into the large intes-

tine. It is requisite that the canal have a sufficiently large lumen (one to ten millimetres in diameter) and that the rubber bulb have a corresponding dimension. The effect of the insufflation manifests itself at an interval of from five minutes to three hours. It rarely fails. In order to obtain a lasting result, the insufflations should be continued for from four to six weeks. This treatment has been particularly efficacious with patients (principally men) who complain of a sensation of fulness and weight in the abdomen.

Massage in Gynecology.—We read in *La Médecine Moderne*, March 14, 1896, that M. Ponomareff has employed massage for different troubles of the pelvic organs of women. This method is indicated in the following maladies: Imperfect involution of the uterus after labor and especially after miscarriage. In this class of cases massage rapidly diminished the size of the uterus. It prevents hemorrhage as well as the development of chronic troubles. 2. Chronic metritis, before it reaches the point of sclerosis, but accompanied with endometritis and dysmenorrhœa. 3. Defective position of the uterus and ovaries. Massage acts favorably in these cases on the uterus and its ligaments, and thus permits a correction of the defective position of the pelvic organs. 4. Perimetritis and chronic parametritis are favorably influenced by massage; the exudates are reabsorbed, the adhesions become more pliable and very often disappear. 5. Gynecological massage is of great diagnostic value, as for instance, when the demarcation is not very clear between the uterus and a benign tumor. By diminishing the congestion of the uterus, massage permits of a more precise diagnosis. The following are the cases in which gynecological massage is contraindicated. (*a*) Pregnancy (normal and extra-uterine). (*b*) Malignant tumors of the pelvic organs. (*c*) All the diseases accompanied by suppuration, tubal blennorrhagia, and blennorrhagic perisalpingitis. (*d*) Acute febrile affections. The manual operation employed by the author was very simple; the finger, placed in the vagina or rectum, remains fixed and holds the diseased organ in place. With the hand placed on the abdomen friction of the affected organ is executed across the abdominal wall, which ought to be relaxed as much as possible. The patient is placed in the dorsal decubitus, with the knees flexed. The *séances* should take place every day or every other day for a period of from five to ten minutes.

Keratin.—A substance prepared from animal horns by treatment with pepsin and ammonia. It is used for coating pills that are desired to pass into the intestine unchanged, so that the action may be localized. It is insoluble in the acid gastric juice, but soluble in the alkaline liquid of the intestine.—*The Prescribers' Pharmacopœia*, p. 196.

Nasal Insufflations in whooping-cough made five times daily with the following powder, reduce the number and intensity of attacks and bring about rapid cure:

℞ Benzoin (pulv.) ..... 10 parts.
Salicylate of bismuth ..... 10 "
Quinine sulphate ..... 2 "
—Moizard.

Thyroid Therapy.—Dr. J. B. Herrick (*Medicine*, August, 1896) thinks he is justified in announcing the following conclusions concerning thyroid extract: 1. It is curative in myxœdema (idiopathic, cretinism, operative). 2. Many cases of obesity are cured by it. 3. Simple hyperplastic struma, particularly in the young, is frequently cured or improved. 4. In these instances just named the remedy must be continued for an indefinite length of time to prevent relapse. 5. It may prove of value in some cases of tetany. 6. In skin diseases it is of doubtful value, also in mental and nervous diseases. 7. It is contraindicated in exophthalmic goitre. 8. The results are practically the same whether fresh glands, extracts, or dried glands are used. This may also be true of the thyro-iodine of Baumann.

Acute Sore Throat of Non-Diphtheritic Type.—Dr. Lyon in the *Revue de Thérapeutique Médico-Chirurgicale*, May 15, 1896, recommends small doses of one of the following preparations:

℞ Antipyrin ..... gr. xv.–xlv.
Water ..... ʒ iiiss.
Syrup ..... ʒ i.
S. A teaspoonful three times a day.

Or:

℞ Neutral sulphate of quinine ..... gr. vij.–xv.
Syrup ..... ʒ vi.
Syrup of codeine ..... ʒ vi.
Distilled water ..... ʒ iiiss.
S. Teaspoonful every three or four hours.

Dr. Lyon recommends a large dose of salol when there is a rheumatic taint. It is claimed that this will relieve pain, reduce temperature, and exert a general anæsthetic influence which is of value. When there is marked systematic disturbance, particularly with disorder of the digestive tract, benzo-naphthol and a tonic, such as cinchona or alcohol, may be given. As local treatment he recommends either a small piece of ice allowed to melt in the mouth or a gargle as follows:

℞ Boric acid ..... ʒ ss.
Hydrochlorate of cocaine ..... gr. vij.
Glycerin ..... ʒ iss
Water ..... ʒ i.

If the tonsils are inflamed use:

℞ Hydrochlorate of cocaine ..... gr. iv.
Menthol ..... gr. xv.
Olive oil ..... ʒ i.

Hot compresses may be applied to the throat. Dr. Lyon thinks the following gargles most useful:

℞ Salicylic acid ..... ʒ ss.–i.
Borax ..... ʒ ss.–i.
Honey ..... ʒ i.
Distilled water ..... ʒ viij.

Or:

℞ Borax ..... ʒ iiss.
Hot water ..... ʒ vi.
After solution:
Tincture of myrrh ..... ʒ i.
Syrup of mulberries ..... ʒ i.

Painting with equal parts of glycerin and guaiacol may be carried out. After the patient is convalescent antiseptic gargles should be continued. For this purpose use:

℞ Crystalline carbolic acid ..... ʒ i.
Alcohol ..... ʒ vi.
Essence of peppermint ..... gr. xv.
S. Eight to ten drops in a glass of water.

Ether in Labor.—The *Northwestern Lancet*, November 1, 1896, recommends ether for the following reasons: 1. The inhalation of ether procures for the patient a more or less perfect immunity from the conscious pain and suffering attendant upon labor. 2. It does not, however, diminish the strength or regularity of the contractions of the uterus. 3. It sometimes increases them in strength and number. 4. The contraction of the uterus after delivery seemed perfect and healthy when it was administered. 5. Its employment not only saves the mother from pain in the last stage of labor, but also in some degree from the occurrence and consequences of the nervous shock attendant upon delivery. 6. Its exhibition does not seem to be injurious to the child.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

CHOLERA AT PLYMOUTH—DIPHTHERIA IN LONDON—PROFESSOR HUGHES' MUNIFICENCE—OVERCROWDING THE PROFESSION—CLINICAL SOCIETY—GUNSHOT WOUND OF EYE—TACHYCARDIA—FRACTURE OF AXIS—MEDICAL SOCIETY—WANDERING SPLEEN—PNEUMOTHORAX—HOSPITAL ABUSE—LORD LISTER.

London, January 15, 1897.

You have no doubt heard by cable of the arrival of a cholera-infected ship at Plymouth and the steps taken by the sanitary and military authorities, which so far have sufficed and once more show the superiority of our modern preventive measures. It seems a not altogether improbable contingency that a plague-infected vessel may appear at one of our ports, and a constant watch is being kept on the coast as to all such dangers. The subject is a common one of conversation, but no one seems to anticipate any serious invasion. We are more concerned about the mortality from diphtheria, which rose last week to 71, no less than 30 above the corrected average for the same week of the decade 1887–96. The numbers for the three preceding weeks were 58, 38, and 49.

I hear that measles is very prevalent in Dublin just now, and, although scarlatina has somewhat abated, the hospitals are all full.

Professor A. Hughes is obliged to relinquish his work at Cardiff on account of the health of his wife. That the University College may not suffer, he has offered to leave his very valuable anatomical collections, and in the event of his desiring in the future to take them away, he presents a sum of money to replace them. This is certainly a munificence that could never have been anticipated from the short time in which he has held the chair, but it signalizes the tenure of the first occupant as much as his remarkably successful teaching.

The overcrowded state of the profession is notorious, but the inrush continues. The new medical directory contains nine hundred and fifty-eight names more than that of the last yearly issue. The increase is above that of any year except 1894. Parents may well pause before deciding to educate their sons for an impoverished profession, in which the competition is ever increasing. The increase is not local, but obtains throughout the islands.

I wonder if a knowledge of this pressure has any influence in maintaining the obstinate refusal of the "military advisers" to do justice to medical officers. If so, they may yet be brought to reason. I hear that there are a couple of candidates for the next examination. Others may follow before the time, but scarcely in numbers to fill up vacancies, and the "military advisers" are at their wits' end.

On Friday at the Clinical Society Mr. Brudenell Carter gave an account of a gunshot wound of the eye received by a lad of fourteen from a gun, the muzzle of which was only three yards away. Most of the charge entered the mouth, doing much injury; but two of the pellets of snipe shot passed through the left lower lid and entered the eye, piercing the sclera below the cornea, one just to the nasal side of the vertical meridian, the other on the same horizontal line, four or five millimetres nearer the nose. On seeing the subject two days after the accident, Mr. Carter dilated the pupil and found that the retina had been wounded. The eye recovered; the retina and choroid disappeared from a considerable region, it was supposed by retraction, leaving the internal surface of the sclera exposed to view, and on the margin of this gap the two pellets are encapsuled. Vision now equals ten-twelfths of the normal, and the lad is well. In reply to questions, Mr. Carter said injuries by heated missiles acted as though sterilized, and therefore it was safe to wait before removing an eye unless the injury was such as to render recovery impossible. Sympathetic ophthalmia rarely begins before three weeks. He added that removal was an unsurgical proceeding, since Mule's operation permitted the fitting of a glass eye which moved almost as well as the sound one. He had a patient so fitted who would bet with persons that they could not tell which was the glass eye.

At the same society Dr. Herringham related a case of paroxysmal tachycardia in a child. He saw her when she was eleven years old, and the fits were said to have begun seven years earlier. They came on suddenly and lasted from thirty-six hours to thirteen days, usually passing off in sleep, so that the child with a beat of 240 to 260 at night would wake with 90 in the morning. Sudden efforts or movements seemed capable of exciting attacks. No valvular disease could be detected; there is no history of rheumatism or syphilis. The heart is now enlarged, and it was suggested that there might be adherent pericardium or that the myocardium might be unhealthy as the result of some former disease. These cases are rare, as observed by several speakers, especially in children. They are mostly associated with visceral disorder, general abdominal. The suggestion that they depend on irritation of the sympathetic is natural, but no experimental irritation will produce such rapidity. Even when the vagus is divided the rate is not so high, and it is, of course, constant, not paroxysmal. No kind of treatment has been found of any use, and no one was able to give therapeutic suggestions of any importance. Rosenfeld recently reported three cases treated by compression of the thorax and abdomen.

Mr. C. S. Wallace then reported a case of fracture of the axis in a man, aged forty-four years, from a fall of about nine feet. He was put to bed while unconscious. The next day he complained of stiffness, and the head was protruded and the chin nearly touched the sternum. A slight projection of the cervical spine was felt in the pharynx. The rigidity passed away and he seemed nearly well on the eighth day, but died suddenly. Post mortem it was found that fracture of the axis separated the superior articular parts from the odontoid process. No injury of the cord was found.

On Monday Mr. Bland Sutton brought forward at the Medical Society the subject of wandering spleen. This curious condition produces various effects on the organ itself and on neighboring viscera. On the former, engorgement or axial rotation causing atrophy is most common. As to other organs, the pancreas may be dragged out of place or the chief drag may be on the stomach, giving rise to dilatation, or again the intestines may be so dragged upon as to cause jaundice from obstruction to the escape of bile. The lengthened pedicle, too, may cause intestinal obstruction. Further, retroversion and prolapse of the uterus may be caused by pressure of the displaced spleen. Death has resulted in such cases from rupture of the stomach or duodenum, or of the spleen itself, or from splenic abscess or intestinal obstruction. Considering the practical impossibility of suturing the viscus and the good results of its removal, Mr. Sutton advises splenectomy. Mr. Ballance mentioned that he had met with cases in which after operation symptoms occurred such as have followed experimental removal in animals, viz., anorexia, emaciation, profound anæmia, enlargement of all the external glands.

Dr. Samuel West afterward read a paper on the "Prognosis of Pneumothorax." He found death might occur from the effects of the original disease, *e.g.*,

phthisis, or of the lesion itself, or from secondary empyema.

The Royal College of Physicians in Ireland has passed a resolution condemning the employment of unqualified assistants by any of its licentiates. Other boards please copy.

Hospital abuse was well illustrated in the high court on Tuesday. As reported in Wednesday's newspapers, the unfortunate owner of three public houses met with an accident, was treated at a hospital, and subsequently received attention as an out-patient for "some time." The poor fellow's takings fell off during his illness. Ultimately the impoverished publican had to sell his houses at the miserable price of £21,000. I wonder if either of his hospital doctors could realize so much from depreciated property.

Lister is not to be merged in another name. I am glad to hear that in accordance with precedents I quoted he will take for his title Lord Lister, so that the name he has made famous will still be familiar.

CATARRHAL SALPINGITIS.

To the Editor of the Medical Record.

Sir: Allowing that Dr. Vineberg in his article entitled "Acute Catarrhal Salpingitis—Its Resemblance to Appendicitis—Differential Diagnosis—Treatment" did not report Case III. as catarrhal salpingitis, I would still ask: "Did the woman live because of the operation or in spite of it? If she had received the same treatment before the operation that she did when her life was despaired of, would she not have escaped both the operation and the premature birth of her child? What benefit did she receive from the operation? Is it not a better illustration of the mania for operating than of 'general peritonitis in some obscure way depending upon the generative organs?'" I did say: "I saw nothing alarming in her condition as reported." I did not refer to her condition after the operation and the forced delivery of her child, but to her condition at the time of the operation. If Dr. Vineberg will look at his article he will see, I think, that the temperature did not rise to 104.8° F. and the pulse to 170 to 180 until after the operation and the birth of the child. There was little vomiting previous to the operation. After the operation I looked upon her condition as extremely serious, and my anxiety would have been more than "considerable."

Adelaide Lambert.

263 Orange Street, New Haven, Conn.

EMESIS AND INTUBATION.

To the Editor of the Medical Record.

Sir: A letter from Dr. J. O'Dwyer in the Medical Record concerning a certain modification of the intubation tube contains a statement which I think will bear criticism. I infer that Dr. O'Dwyer believes that emesis is possible while the tube is in the larynx.

Having observed that vomiting never occurred in any of my own cases, it called to mind the fact that closure of the glottis is a very important part of the physiological act of vomiting. Vigorous expiratory effort with closed glottis is the essential expelling force, and not contraction of the stomach itself.

I have also observed that as the dyspnœa of croup becomes extreme, emetics fail to act, because the approaching asphyxia prevents even momentary cessation of respiration. The little sufferer has barely time even to swallow. The fact that the disturbed respiration can prevent even heroic doses of emetics from acting emphasizes the importance of closure of the glottis as a factor in emesis.

Following the establishment of easy respiration by intubation, we can often observe all of the physiological actions of emetics except emesis. Prostration, a rapid pulse and salivary flow, and paleness about the mouth, followed by more or less colic and sometimes diarrhœa, are often caused by the accumulated emetics becoming gastro-intestinal irritants.

Dr. Charles L. Greene, of St. Paul, made a suggestion based upon these physiological facts for the treatment of certain forms of uncontrollable vomiting. He proposes to intubate, and, as I understand him, he bases his advice upon the physiological teaching that closure of the glottis is necessary to emesis rather than upon experience in intubation.

Dr. O'Dwyer's experience and practical studies on this question will surely enable him to affirm or deny the teachings of physiology on this point.

With reference to the modified tube, only time and experience can determine its merits. Whether or not the tube perfected by Dr. O'Dwyer be changed cannot detract from the honors which he has earned. He will ever be revered by our profession. His name, with Myers, of Copenhagen, will be prominent in this period of medical history as that of one of the great benefactors of the children of the poor.

Thomas Hubbard, M.D.

Toledo, Ohio, January 16, 1897.

"APPENDICITIS" VERSUS "SCOLECITIS."

To the Editor of the Medical Record.

Sir: The heading of Dr. Gerster's able letter in the last issue of the Medical Record, namely, "Let Us Abolish 'Appendicitis,'" must have carried joy and consternation to the hearts of the numerous but varied readers of your valuable weekly—joy to that timid band who, with the populace, share the perpetuate fear of getting into inflammatory relations with the organ of primitive utility but modern cussedness; and consternation to that formidable army whose gory hands are forever ready to attack it at the slightest provocation. However, the doctor's subsequent remarks dissipated the charming idea of his philanthropic motives, but rather stamps him as a genuine though belated "reformer."

Regarding the proposed change of the nomenclature expressing the pathological condition of the appendix vermiformis and its surgical therapeutics, the unsophisticated reader might be pardoned for repeating the poet's question: "What's in a name?" It is evident from daily experience that the appendix will be a nuisance under any name! And inasmuch as medical men all the world over fully appreciate the various abnormal processes that that relic of former anatomy is heir to, denominated and designated by the now familiar term "appendicitis," it would seem needless and useless at this late hour to find fault with it or to substitute for it some new and unfamiliar name, which may take years to popularize. A more profitable crusade would be this: Abolish that form of medical nomenclature which contains no suggestion of the pathology, clinical picture, or location of the disease thus characterized. It is rather named after the man "who first described it." The number of such diseases is legion. If Dr. Gerster would let his ponderous sledgehammer fall on this kind of unscientific nomenclature, this silly dilettantism, he will not only strengthen the respect but will gain the everlasting gratitude of an outraged profession.

The only excuse I can find for "abolishing" the "cacophonic 'appendicitis'" and adopting instead the "euphonic 'scolecitis,'" is a humane consideration for the frightened public. The word "appendicitis" bends the knees of the healthy, and strikes terror into the

hearts of the afflicted members of the community. "Scolecitis," therefore, being fresh from the mint and hence unknown to the general public, will be comparatively tame, mild, horrorless. Furthermore, a patient will more readily submit to "scolecotomy" and "scolecectomy" than to "appendectomy" and "appendicectomy," for the same reason, for example, that some of our wise laity exhibit a decided repugnance to mercury but cheerfully take hydrargyrum.

SCALPEL.

NEW YORK, January 25, 1897.

ON PALPATION IN INTERVAL APPENDICITIS CASES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Is my experience any different from that of other surgeons in the matter of accurate palpation of infected appendices? Probably not. A physician sends a case of suspected appendicitis to the office for examination. A diagnosis of empyema of the appendix or of incarcerated concretion is easily made out, and operation is advised. The patient is uneasy and goes to high authorities among general diagnosticians. After a while he returns and says that he wants an operation. He says that he paid the general diagnosticians from ten to twenty dollars apiece. They did not employ any method of examination which inspired his confidence. He knows that they did not feel of his appendix, and he says that he does not care to rely upon their opinions. Probably every surgeon who is much engaged in abdominal work will testify that this is a common experience, and the interesting part of the matter is the speculation as to how many such subjects are going about with easily discoverable lesions. One of my patients saw so many diagnosticians in so many cities that as a matter of curiosity I asked him to write out a list of opinions received, numbering the physicians but not giving their names, and dating from the time when the pain in the iliac region first started him off on his rounds in seeking relief.

Letter of J. W. J——, Springfield, Ohio, December 20, 1896.—"Dr. A, March, 1891. Diagnosis, catarrh of stomach and bowels. Advice, internal treatment by drugs.

"Dr. B, July, 1891. Diagnosis, malarial fever. Advice, internal treatment by drugs.

"Dr. C, May, 1892. Diagnosis, inaction of liver. Advice, internal treatment by drugs.

"Dr. D and son, June, 1892. Diagnosis, dyspepsia. Advice, internal treatment by drugs.

"Dr. E, January, 1893. Diagnosis, constipation and indigestion. Advice, treatment by drugs.

"Dr. F, May, 1893. Diagnosis, catarrh of bowels. Advice, treatment by drugs.

"Dr. G, June, 1893. Diagnosis, lung trouble; catarrh of stomach and rectal trouble; also lump in right side, which he could not diagnose. Advice, internal treatment by drugs; operation for rectal ulcers; 'let lump alone if it will let us alone.'

"Dr. H, August, 1893. Diagnosis, intestinal indigestion; afterward appendicitis. Advice, internal and external treatment by drugs and poultices till cold weather; then operation.

"Dr. I, August, 1893. Diagnosis, appendicitis. Advice, treatment by drugs till acute attack; then operation if necessary.

"Dr. J, August, 1893. Diagnosis, appendicitis. Advice, internal treatment by drugs, external by salt-water pack at night, and injections of olive oil; operation later if treatment failed.

"Dr. K, August, 1893. Diagnosis uncertain; no signs of appendicitis, but indications of small tumor pressing on bowel somewhere. Advice, internal treatment by drugs.

"Dr. L, September, 1893. Diagnosis, appendicitis. Advice, no operation.

"Dr. M, January, 1894. Diagnosis, catarrh of stomach and rectal ulcers. Advice, treatment by drugs; siphon for stomach.

"Dr. N, January, 1894. Diagnosis, dead and loose kidney. Advice, operation.

"Dr. O, January, 1894. Diagnosis, tumor. Advice, exploratory operation.

"Dr. P and son, February, 1894. Diagnosis, catarrhal condition of bowel, with inflammation and adhesions. Advice, internal treatment by drugs. Afterward they diagnosed appendicitis, and advised operation."

This patient had a colloid carcinoma of the appendix, which had advanced at the time of my operation to include a part of the cæcum. He has continued to engage in business, although I have had to resect intestine for him four times, whenever recurrent carcinoma appeared in other parts of the bowel. This could probably have been all avoided if an accurate palpation and a modern procedure had been the result of his first application for help.

Unless a physician has adopted one of the satisfactory methods for palpation of the appendix and is able to determine accurately the length, breadth, position, and condition of the average appendix that requires examination, he should be very cautious about expressing any opinion in the case, because that opinion is likely to be depended upon by a patient who puts confidence in his physician.

According to the estimates which I published in the MEDICAL RECORD for December 26, 1896, more than two hundred thousand new cases of appendicitis come into the hands of physicians of the United States annually; and if surgeons are to judge from what patients tell them about examinations that have been made, not many of these appendices are accurately palpated.

ROBERT T. MORRIS, M.D.

49 WEST THIRTY-NINTH STREET, NEW YORK,
January 22, 1897.

A FEW FACTS RELATING TO THE NON-CONTAGIOUSNESS OF PULMONARY CONSUMPTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your timely article on "The Health Board and Compulsory Reports" will, I am sure, be heartily approved, if not by the entire medical profession, at least by all who have had opportunities of observing cases of pulmonary consumption. To the large number of physicians engaged in active practice (not including, of course, those whose experience is limited to the four walls of the bacteriological laboratory), the action of the board of health in classing consumption with contagious diseases would appear ridiculous, were it not for the suffering and annoyance it will entail upon the many afflicted with that disease.

Without entering upon a discussion concerning the contagiousness of consumption, which I do not admit except to an extremely limited extent, I beg to call attention to a few facts bearing upon the question which I have collated. Knowing that there are more cases of pulmonary consumption at Colorado Springs, in proportion to its population, than in any other city or town in the United States and perhaps in the world, I wrote some time ago for information to Dr. S. E. Solly, of that city, well known as a writer on consumption and climatology, and whose experience in the treatment of that disease has been large and extends over a period of many years. In reply I received the following:

"The dangers of contagion from a consumptive are so easily controlled that it is by no means necessary

to separate consumptives from healthy persons. You ask me concerning my experience here. At least a third of our population are consumptives. The town, which contains some fifteen thousand people, has been established twenty years. An inquiry made by disinterested physicans into the number of cases of consumption that were known to have originated in the town resulted in a report of twenty in all. Although it is probable that our brilliant sunshine and dry air more quickly destroys the vitality of the bacilli than your Eastern atmosphere, yet in the poorer lodging-houses of the town there are many ill-ventilated rooms, inside or on the north side of the building, inhabited by consumptives and their families, where recklessness of expectoration and carelessness of ordinary cleanliness are marked features of their domestic *ménage*; yet cases of contagion do not average more than one a year."

At Colorado Springs the consumptives mingle with the other residents of the city on all occasions—at church service, theatre, concerts, and in the overheated and crowded rooms of private residences during social functions; they reside in the same hotels, boarding-houses, and private dwellings with those not afflicted with the disease, and no attempt at isolation has been made. Notwithstanding this apparent indifference on the part of the local authorities to the contagiousness of the disease, only twenty cases have originated in Colorado Springs in twenty years.

At Davos Platz in Switzerland, where I spent a winter a few years ago, a very large number of consumptives were staying. The hotels were crowded, and of the fifteen hundred strangers in the village, about one thousand were consumptives. At the hotel at which I stayed there were about one hundred and twenty guests, about eighty of whom were consumptives. At Davos, during the winter, the invalid's day for outing is limited to four and one-half hours; the remainder of the twenty-four hours is spent within doors. No one stood in dread of contracting the disease, and no cases occurred in which it was conveyed from person to person. No special precautions were taken by the physicians and local authorities to prevent contagion, other than good ventilation of the living and bed rooms. As in Colorado Springs, no cases of the disease originated at Davos.

It is almost impossible to estimate the suffering and annoyance that will follow the enforcement of the unjust and unwise order of our board of health. Smaller cities throughout the country are preparing to follow the example set them by New York. At health resorts, snobbish landlords, desiring to adopt the latest fad and to cater to notoriety, insert in their circulars soliciting patronage that cases of pulmonary consumption are not received. Let the order be enforced strictly, and consumptives will in time be avoided and shunned as is the leper or the victim of small-pox.

Consumption always has prevailed and always will prevail in New York, notwithstanding the efforts of a board of health, composed of four laymen and only two physicians, to prevent it.

If they honestly wish to lessen the number of cases, let them endeavor to cut off one of the most prolific sources of the disease—milk and beef. In tuberculin we have an infallible test for detecting tuberculosis in cattle. Let the board of health make frequent examinations and applications of that test, and have killed the cows that respond to it. It will cost the State a great deal of money, but it will be cheaper in the end than building and maintaining hospitals in a city that has even now more than it really needs. Enforcing its order against the filthy and disgusting habit of spitting in cars and public places will lessen the danger of contagion.

CLINTON WAGNER, M.D.

19 EAST THIRTY-EIGHTH STREET.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 30, 1897:

	Cases.	Deaths.
Tuberculosis	179	139
Typhoid fever	6	1
Scarlet fever	170	7
Cerebro-spinal meningitis	3	1
Measles	185	4
Diphtheria	268	34
Laryngeal diphtheria (croup)	12	5
Chicken-pox	27	0

Stomach Digestion.—As early as ten or fifteen minutes after taking food, the stomach contents obtained are acid, the acidity depending for the first half-hour upon the presence of lactic acid. For the next half-hour hydrochloric acid exists with the lactic acid; but after the first hour hydrochloric acid alone should be found. Lactic, acetic, and butyric acids are not secreted by the gastric glands, but are either swallowed with the food, or formed in the stomach from the non-nitrogenous part of the food by bacterial ferments.—MURDOCH.

The Medical Liar.—Plagiarism is a personal sin, and he who thus sins does but little harm to his fellows. But quite different is the medical liar. He sins not only against himself, but against his fellows. It makes little difference whether he lies with the direct and deliberate intention of deceiving, or from criminal negligence in ascertaining the truth. In either case he is a public nuisance and an enemy to the profession.—*Archives of Pediatrics.*

Phobias.—In a recent work of M. Gélineau on "Unhealthy Fear, or Phobiæ," the author gives a complete list of these morbid mental conditions. They are aichmophobia, or fear of sharp points, as of needles or pins; agoraphobia, or fear of open spaces, with a subvariety; thalassophobia, or dread of the ocean; astrophobia, or fear of the stars and celestial space; claustrophobia, or fear of enclosed spaces; mysophobia, or fear of filth; hæmatophobia, dread of blood; necrophobia, or horror of dead bodies; thanatophobia, or dread of death; anthropophobia, or fear of crowds; monophobia, a fear of being left in the solitude; bacillophobia, or fear of microbes; siderodromophobia, or dread of railways; pathophobia, or fear of disease, with many subdivisions, of which the most important and most frequent are anginophobia (fear of angina pectoris), ataxophobia, syphilophobia, lyssophobia (or fear of rabies), spermatophobia, and zoöphobia (or fear of animals), which in its turn has subdivisions for cats, dogs, horses, mice, etc., *ad totum catalogum animalium.* Further, we find in the same list kleptophobia, fear of becoming a kleptomaniac; pyrophobia, fear of matches; stasophobia, dread of standing upright; aerophobia, or dread of draughts of air; acrophobia, fear of high places; toxicophobia, a fear of poisons; demonophobia, a dread of the devil (this is rather rare). There are also a great number of phobiæ peculiar to certain professional persons, as physicians, artists, merchants, which have yet to be Hellenized and classified. The culminating fear, however, the quintessence of dread, is the fear of having a fear, the dread of a dread, or phobophobia. The study of these phobiæ opens up a large subject, and the long names will be hailed with delight by some unscrupulous members of our profession. In calming (or humbugging?) hysterical patients some of them would be invaluable, for that useful and elastic term

"neurasthenia" is getting a bit played out among the laity. The hypochondriac old lady who tells her sympathetic medical attendant that even to think of "travelling by a horrid railway train sets her all of a tremble" will be greatly calmed and edified when Dr. Wosky gravely replies that such a statement does not surprise him, as she is suffering from that curious and interesting complaint called siderodromophobia!—*Medical Times and Hospital Gazette.*

What is in the Appendix?—An exchange in the *Northwestern Lancet*, December 15, 1896, makes the following interesting statement: "Autopsies upon 400 persons dying of various diseases showed fæcal concretions in the appendix in ten per cent., while in Renvier's collection of 454 autopsies after appendicitis there were found 179 concretions and 16 foreign bodies in this organ. Hawkins examined 60 fatal cases of appendicitis and found no foreign body whatever. Fitz analyzed 300 cases and found concretions in five per cent.

The Differential Diagnosis of Vascular and Muscular Tinnitus Aurium.—One variety is caused by the flow of blood through the irregular-calibred blood-vessels of the internal ear and those in the neighborhood, producing vibrations by the passage of the blood. This I have named vascular tinnitus aurium. The other variety is produced by the action of diseased muscles of the middle ear, producing vibrations by alternate contractions and relaxations. This I have named muscular tinnitus aurium. Many persons who are partially deaf and experience excessive noise in their ears, will hear a conversation in a moving railroad coach better than in a quiet room. This is positive proof that all such persons are afflicted with muscular tinnitus aurium. The sound or sounds that are formed in the internal ear and its neighborhood, *i.e.*, vascular tinnitus aurium, will not be decreased in any degree by extrinsic noises of any kind. It is often of the utmost importance to be able to differentiate between the two kinds of tinnitus, for a treatment or procedure that would be of great value to a patient suffering from the muscular variety would be decidedly injurious, if not disastrous, to one suffering from the vascular variety, and *vice versa*.—Dr. Rumbold, *St. Louis Medical and Surgical Journal.*

Saltness of Sea Air.—Dr. Chaix, wishing to find out whether in calm weather the air of the seashore contains an appreciable quantity of sea salt, has made a series of experiments. In each experiment he caused by means of an aspirator a thousand litres of air to pass through a solution of nitrate of silver. In every case there was not the least cloudiness of the solution, proving that the air contained no salt. This is not at all surprising. It is well known that the air contains salt only when the wind carries off mechanically salt spray from the wave crests; the salt of sea water cannot evaporate into the atmosphere. The evident conclusion is that to obtain the beneficial action of sea air we must go where the air is sufficiently agitated by the wind continually to hold sea water in suspension. It is not enough, then, for the invalid to go to Brittany or some such calm shore; we should prefer rather somewhat more windy coasts, as those of Picardy and Normandy, where the air is almost always charged with saline particles raised from the sea by the wind. Such localities are infinitely more beneficial and active.—*Revue Scientifique*, January 11th.

The Abuse of Nervous Stimulants.—The *Therapeutic Gazette*, November 16, 1896, in an editorial, calls attention to the fact that both the medical profession and the laity have been accustomed to the abuse of alcohol as a nervous stimulant. This excessive use has hardened some to its evil effects, while others go to the opposite extreme in condemning it. There is an ever-increasing number of substitutes for alcohol thrown upon the market, such as coca, kola, etc. Many of these substitutes contain a large quantity of alcohol, and the consumers of them become addicted to the alcoholic habit without being aware of the fact. The temporary changes for the better which the consumer notes after a dose of his favorite remedy are usually due to the alcohol that it contains. We are accustomed to consider the widespread use of nerve stimulants to the rush and pressure of modern life, but history shows that for many hundreds of years nerve stimulants have been used and abused much as they are to-day. The abuse of these remedies by the profession is rather the result of carelessness than of ignorance. They should be used only as temporary makeshifts, as in the vast majority of cases they materially increase the discomfort and ill health of the patient. All the so-called "strengthening remedies," which enable a man to accomplish more work when he is under their influence, do this, not by adding units of force to his body, but by utilizing those units which he has already obtained and stored away as reserve force. The result will be the same as in the case of a banker who draws upon his capital or reserve funds to supplement the money with which he could properly carry on his business. The result is in the latter case a pecuniary, and in the former a nervous bankrupt.

Death Eighteen Hours after the Introduction of a Bougie into the Urethra.—Dr. Muller, according to a statement published in the *Medical News*, has reported the case of a man, aged thirty-eight years, with a history of gonorrhœa in youth, who came under observation on account of some difficulty in micturition. He had previously been treated for stricture of the urethra. The urine was turbid, and passed in a small stream. A diagnosis of vesical catarrh, with moderate stricture of the urethra, was made, and to determine the degree of narrowing metallic sounds were employed. A No. 21 conical instrument, with a long curve, was first gently introduced, with due antiseptic precautions, and an impassable obstruction encountered in the membranous urethra. With still greater care, a No. 23 sound was next used, but also without success. The examination was unattended with pain, and but little blood was lost. A prescription containing uva ursi and sodium bicarbonate was given, and the patient sent home. Three or four hours after the manipulations, and immediately upon taking his medicine, the patient was seized with vomiting and diarrhœa, followed by chills, restlessness, general prostration, pains in the chest and in the sacral region, and excessive thirst. Eighteen hours after the use of the bougies the patient died, amid symptoms of cardiac failure. Upon post-mortem examination the heart was found to be slightly fatty and the lungs were œdematous. There existed cloudy swelling of liver, spleen, and kidneys. Portions of kidney were put aside for histological examination, to determine if nephritis existed, but were inadvertently lost. The ureters and pelves of the kidneys presented no abnormality. A tight circular stricture was found involving the membranous urethra, and, close by, several diverticular depressions of the urethral mucous membrane were found, one of which appeared to have been recently eroded. Copious greenish pus escaped from the prostate gland. The mucous membrane of the bladder was in a catarrhal state; the viscus contained a small amount of turbid urine. The opinion is expressed that the fatal issue in the case reported is to be attributed to an acute nephritis, induced, perhaps, through the introduction of pus from the prostate through the erosion in the urethra.

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A FURTHER STUDY OF TUBERCULOUS INFECTION OF DUST.[1]

BY IRWIN H. HANCE, M.D.,

NEW YORK.

DURING the previous winter and spring the writer undertook to study the infectiousness of dust with tubercle bacilli in various localities in this city—tenements, hospitals, reception room of ore dispensary, and the public conveyances. It is his pleasure to present to the academy to-night the results of his investigations. The work was done at the request of Dr. Herman M. Biggs, pathologist to the health department, who kindly placed at the writer's disposal the privileges and advantages of the laboratory of the health board; and to him and Dr. William H. Park the writer wishes to express his full appreciation of the kindness and assistance extended to him in the pursuit of his work.

As regards the tenements, it was sought to prove how efficacious were the rules and regulations prescribed in the board-of-health circulars in preventing infection. Four specimens of dust were taken from tenements where the people were intelligent and in appearance cleanly about their persons and quarters. As a contrast, three dirty tenements were examined, in which the medical inspectors reported that the measures for preventing infection and contamination of the quarters were not being properly carried out.

The two hospitals were Bellevue and Charity, under the care of the city; and the waiting-room of the out-door poor of Bellevue Dispensary. The public conveyances were the elevated cars, and two of the old Broadway horsecars, now in use on the Avenue C and Houston Street line.

The method[2] of procedure was the same as was used in the examination of the cottages in the Adirondack Cottage Sanitarium, and the inoculated animals were all young guinea-pigs. The experiments in detail were as follows:

EXPERIMENT I.—Tenement, 338 East Thirty-second Street; basement room, occupied six months. Phthisical woman in bed three weeks before her death. Expectorated into cloths and paper, which were burned at once. Four animals inoculated. No. 1, sixteen square inches of dust from top of door; died on fourth day. No. 2, twelve square inches from cot bed; died in thirty-six hours. No. 3, twenty square inches from surbase; died in thirty-six hours. No. 4, thirty square inches from wall paper; killed on fifty-fourth day; negative.

EXPERIMENT II.—Tenement, 330 East Forty-seventh Street; two back rooms. Case of laryngeal phthisis; two months in rooms, two weeks in bed. Expectorated into bowl with water in it, emptied frequently into sink in hallway. No. 1, twenty square inches from top of door; died in thirty-eight hours. No. 2, sixteen square inches from end pieces and sides of bed; killed on fifty-seventh day; negative. No. 3, twenty square inches from surbase; killed on fifty-seventh day; negative. No. 4, thirty square inches from wall paper; killed on sixty-second day; negative.

EXPERIMENT III.—Tenement, 237 East Fifth-fourth Street; two back rooms. Phthisical woman, four years in rooms, six months sick, three weeks in bed. Expectorated into water in spittoon, emptied four times a day. Inside dark room examined; had been repainted. No. 1, twenty square inches from top of door; killed on fifty-seventh day; negative. No. 2, sixteen square inches from bed slats and springs; killed on fifty-first day; negative. No. 3, twenty square inches from surbase; killed on fifty-first day; negative. No. 4, thirty square inches from wall; died on third day.

EXPERIMENT IV.—Tenement, 105 East Thirty-fourth Street; rooms above unoccupied stable. Three months in rooms, ten days in bed. Used sanitary cuspidors, which were burned. No. 1, ten square inches from top of door; killed on fifty-seventh day; negative. No. 2, ten square inches from surbase; killed on fifty-seventh day; negative. No. 3, twelve square inches from bed and springs; killed on fifty-seventh day; negative. No. 4, twelve square inches from bed and springs; killed on fifty-seventh day; negative.

EXPERIMENT V.—The following isolated experiment is here introduced as added proof that rooms need not be infected by tuberculous patients. Infirmary of the Adirondack Cottage Sanitarium. The patient was bedridden and helpless for three months; expectorated into Japanese napkins, which with pasteboard receptacle were burned several times a day. No. 1, forty-nine square inches from stand by bed; killed on ninetieth day; negative. No. 2, forty-nine square inches from wall by head of bed; killed on ninetieth day; negative. No. 3, thirty square inches from bed and springs; killed on ninetieth day; negative.

EXPERIMENT VI.—Fourth-floor tenement flat, 221 East One Hundred and First Street; five rooms, in which two sons had died, one two months, the other two weeks ago. Expectorated into water in a cup, changed three times daily. Each patient was bedridden one month. Dirty appearance in apartment. Nos. 1 and 2, nine square inches from top of shelf and casing of door in inner room. Nos. 3 and 4, six square inches from surbase of inner room. No. 1, killed in sixty-five days; negative. No. 2, killed in sixty-five days; glands and spleen enlarged; two spots in lung indicative of tuberculosis, but no tubercle bacilli were found. No. 3, killed in sixty-five days; advanced tuberculosis. No. 4, killed in twenty-eight days; tuberculosis of glands, spleen, and lungs; tubercle bacilli found.

EXPERIMENT VII.—Tenement, 331 East Forty-seventh Street; two rooms. Alcoholic woman, been in room five months. Filthy quarters. Nos. 1 and 2, eighteen square inches from surbase and end of cot. Nos. 3 and 4, ten square inches from top of wainscoting. No. 3 died in forty-eight hours. Nos. 1, 2, and 4 killed on sixty-ninth day; negative.

[1] Read before the New York Academy of Medicine, January 21, 1897.

[2] MEDICAL RECORD, December 28, 1895, vol. xlviii.

Experiment VIII.—Tenement, 325 East Forty-third Street; three rooms on ground floor. Nursing mother, with two other children under four years about; been ill four months. Very dirty quarters. Spit into rags. Nos. 1 and 2, four square inches from bed and springs. Nos. 3 and 4, six square inches from surbase. No. 3 died in twenty-eight hours. Nos. 1, 2, and 4 killed on fifty-third day: all extensively tuberculous; tubercle bacilli found.

Experiment IX.—Bellevue Hospital. Ward 25: Three square inches from surbase by bed of phthisical patient; killed in sixty-five days; negative. Three square inches from stand of bedridden patient: killed in sixty-nine days: negative. Ward 20: Four square inches from stand; killed on sixty-fifth day: negative. Three square inches from surbase; died in six days. Ward 16: Four square inches from surbase: killed on sixty-seventh day; negative. Four square inches from card rack and stand: killed on sixty-ninth day; negative. Marquand Pavilion: Four square inches from stand; killed on sixty-ninth day; negative. Three square inches from surbase: killed on sixty-ninth day; negative. Sturgis Pavilion: Three square inches from surbase: three square inches from behind radiator; killed on sixty-ninth day; negative. Ward 18: Four square inches from surbase; four square inches from rods and slats of bed: killed on sixty-ninth day: negative.

Experiment X.—Charity Hospital. Ward 8: Three square inches from surbase. Female Ward 2: Three square inches from bed slats. Female Ward 2: Three square inches from surbase. Male Ward 2: Three square inches from bed slats. Male Ward 2: Three square inches from surbase. All of these were killed on the sixty-first day; all negative. Ward 9: Three square inches from behind wardrobe; died in two days. Gerry Pavilion: Three square inches from behind radiator inoculated into two pigs; killed on sixty-first day; both negative.

Experiment XI.—Bellevue Out-Door Poor. Nos. 1 and 2, three square inches from surbase in middle of waiting-room. Nos. 3 and 4, three square inches from surbase near where the spittoons were piled up. No. 1 died in three days. No. 3 died in five days. No. 2 killed in sixty-five days; extensively tuberculous: tubercle bacilli found. No. 4 killed in sixty-seven days: negative.

Experiment XII.—Elevated railroad cars. Twenty square inches of dust taken from under the seats in two cars, Nos. 1,042 and 1,080. Four guinea-pigs inoculated with dust from each car. Seven died in twenty-four hours. One killed on fifty-fifth day; negative. Ten square inches of dust from car No. 1,079, inoculated in four pigs. One died in three days. Three killed in sixty-seven days: negative. Ten square inches from car No. 1,079, inoculated into four pigs. One died in two days. Three killed in sixty-four days; negative. Ten square inches of dust, which had been kept sealed in a drawer for over two months, from car No. 1,079, inoculated into one pig; killed on sixtieth day; negative.

Experiment XIII.—Avenue C and Houston Street line. Car 8: Fourteen square inches inoculated into four pigs. One died in four days. Three killed in sixty-eight days; two negative: one actively tuberculous—tubercle bacilli found. Car 20: Twelve square inches inoculated into four pigs. One died in two days. Three killed in sixty-eight days, negative. Car 20: Twelve square inches of dust, which had been kept sealed in a drawer for over two months, inoculated into one pig; killed in sixty days: negative.

To summarize: Of sixteen pigs inoculated with dust taken from four tenements where the family had paid attention to the instructions and regulations given them, five died of acute infection, and none was affected with tuberculosis. Of twelve pigs inoculated with dust from suspected rooms, two died of acute infection, one was indicative of tuberculosis, and five were tuberculous: and two tenements out of three were found infected. In Bellevue and Charity hospitals eleven wards were examined, with negative results. Of four animals inoculated with dust from the waiting-room of the out-door poor, two died of acute infection and one was tuberculous. Of the elevated railroad cars, none was found infected with tubercle bacilli, but the dust was highly infectious with other germs, which rapidly proved fatal. Of the street-cars, one of the two examined was infected with tubercle bacilli. Two experiments with dust kept sealed in a dark drawer for over two months, in which ten and twelve square inches were respectively inoculated into two animals, showed that the acute infectious material had died out.

Conclusions.—The small amount of dust which it was possible to inoculate into each animal renders the chance of positive results much smaller than when a considerable area of surface is cleaned and experimented with. The average was but little over three square inches, except in some of the cleaner tenements, while the experiments in the Adirondack Cottage Sanitarium averaged one-half square yard into three pigs. It, however, emphasizes more forcibly the positive results secured. The large number of animals which died of acute infection, had they lived, might have increased the number of positive results. The contrast in the results of the two classes of tenements is most striking and instructive in many ways. It shows that the seed sown by the board of health, in its efforts to enforce compulsory notification of tuberculous cases and subsequent disinfection and renovation of quarters occupied by such people, is bearing good fruit, since all four of the cleanly apartments were free from infection; that the dirtier tenements, by reason of the virulent infectiousness of such small quantities of dust, are sources of great danger to the public. Further, this experiment proves the wisdom of and necessity for granting to the board of health power and authority to order such cleansing and renovation of tenements as they know require it. Knowing how difficult it is to destroy the tubercle bacillus by fumigation or disinfection, it is the writer's opinion that renovation offers more certain means of purifying such quarters than do any processes of disinfection. Finally, the conclusions practically reached by the inspectors as to the existence of infection, as determined by the character of the people and the habits of the patients, are shown to be fairly reliable.

As regards the results obtained at Bellevue and Charity hospitals, it should be a source of gratification to us all that not one case of tuberculosis developed in any of the animals. For we all know what classes of men and women we have to treat in these institutions, and how difficult it often is to enforce sanitary measures among them, owing to their ignorance and absolute indifference to the simplest hygienic principles.

For the same reasons, it ought not to be a matter of any great surprise that the dust in the Out-Door Poor Department was found infected with tubercle bacilli: and one would perhaps be justified in suspecting that the same conditions exist in the waiting-rooms of other dispensaries. The proof of its existence in this one case demands greater care on the part of the managers of such institutions, where so many children are brought to the dispensaries to be treated for other diseases, and while waiting their turn subjected to a real danger of infection with tuberculosis.

Concerning the street and elevated-railroad cars, every physician who considers the existing conditions of local travel in this city would naturally suspect that

the dust in nearly all of them is infected with tubercle bacilli. All that was needed was the proof of its existence in one car for the board of health to call the companies' attention to the fact that the present methods of cleaning the cars were not efficient. One in five cars examined was found dangerous to the health of the travelling public. Consider for a moment how great this danger is, when you know what a small proportion this is of all the cars in use, what a small part of the total area of thickly dust-laden surface was examined; and we may also suspect that the cars which showed negative results may have been similarly infected.

It is not in the writer's province to say how these cars should be cleaned, but there are certain points which are worth considering this evening. The construction of the cars should be such as to have as few recesses and dark corners under the seats as possible. The seats should all be boxed in as on all cable cars now in use. Only metal or wooden slats should be used on the floors; cocoa mats are specially likely to be infected, and become disgustingly dirty. Plush or cloth coverings for the seats should be prohibited; either leather-covered or perforated wooden seats should be used, since they can be easily cleansed. In a few words, the cars should be so constructed that, after having been cleaned with soap and water and some disinfectant, they could all be thoroughly washed out with a hose, the stream being sufficiently powerful to dislodge all dirt that accumulates in the corners.

The above report is presented to you this evening in order to show that the time has come for taking still further measures to prevent infection with tuberculosis. Our milk supply in this city is being carefully supervised by the health board, and at no distant date we may feel confident that this source of danger has been practically eliminated. It now behooves us to safeguard the public against the greatest source of such infection, viz., the dissemination of dried tuberculous sputum in public places and the homes of the poor. To accomplish this in the former places, a vigorous warfare must be waged by the decent members of the travelling public against the filthier class who expectorate anywhere and everywhere. At the same time, the health board must be supported by the various companies and private corporations in its efforts to prevent spitting in public conveyances. The public itself can aid materially in this crusade against the "spitters," by showing plainly its unwillingness to condone the offence any longer.

To lessen this evil in the tenement houses, the ideal way would undoubtedly be to have the State establish a sanatorium for the treatment of the incipient and such advanced cases as could be permanently benefited by climatic treatment, and a hospital in the country close by the city, where the more advanced cases could receive the care that cannot be given to them in their own homes, and which the hospitals, with one or two exceptions, refuse to give to such chronic invalids, owing to scarcity of room and the undesirability of having them in the wards with other patients.

Such institutions should be under the control of the board of health. Its efforts have already met with such success in reducing the mortality from this dread disease that we should all feel encouraged to believe that it will meet with similar success in battling against this infection as it exists in our tenements, public conveyances, and buildings.

Lakewood, N. J.

Ulcus Rodens of the face is treated by the Volkmann curette, followed with an application of chloride of zinc in strong solution.—Paul Dietz.

OBSERVATIONS ON ABDOMINAL SURGERY, WITH RESULTS OF THREE YEARS' HOSPITAL WORK.[1]

By W. GILL WYLIE, M.D.,
new york.

October, 1882, fifteen years ago, when I entered Bellevue Hospital as one of the visiting gynecologists, with the avowed purpose of making abdominal surgery a special work, up to that date there had been only one successful ovariotomy done in Bellevue Hospital. Those interested in and doing general surgery took little interest in abdominal surgery, and ignored gynecological surgery. Very little practical success had been made in abdominal surgery, even by gynecologists in our special hospitals, unless a death rate of thirty per cent. and over could be so considered, and with very rare exceptions the abdominal surgery was confined to simple ovariotomy. February 2, 1887, I reported to this society 125 cases of abdominal surgery, with 12 deaths; and in February, 1888, reported 79 more, making 204 abdominal sections, being all of my operations done from the time I entered Bellevue Hospital, in October, 1882. About half of these were done in the hospital, the others in private practice. Of the 204 subjects, 21 died and 183 recovered—or a little over ten per cent. had been lost.

Before 1888 and for several years later, those who did abdominal surgery were accustomed to receive a great deal of gratuitous abuse and extremely melancholy advice on the subject from those of the profession who were pleased to call themselves conservative. Many of the older and influential men of the profession refused to believe that we were doing anything but spaying women. I recall very clearly the strong opposition to an abdominal section in my first case of appendicitis, twelve years ago (Bellevue), by some of the most eminent physicians and surgeons then on duty. Late in the day, after many trials, I found one consultant who agreed to stand by me. The pus and appendix were found, and the man got well. Later, when I operated for general peritonitis due to intestinal perforation, some of my colleagues among the general surgeons refused to believe that such a case could be saved by operation.

Within the last four or five years the general surgeons have taken up abdominal operations for appendicitis with great enthusiasm, and, curiously enough, have gone over the same ground in working it out as gynecologists did about salpingitis and pelvic abscesses, discussing the well-worn question as to whether the local abscesses are intraperitoneal or extraperitoneal, whether to operate early or first try treatment, etc. Now the subject is so popular, and lately very fashionable and so well advertised, that most laymen who read the Sunday newspaper think they can give any of us points about appendicitis.

To-day, abdominal surgery is so popular and so commonly practised by nearly all medical men that it looks as though the gynecologists are going to be shut out altogether. In many of our largest general hospitals there are no gynecologists on the visiting staff, and, it is claimed, are not needed, for the gynecological surgery, abdominal and otherwise, is done by the general surgeons. It is a fact that some of the private hospitals of the gynecologists have been closed, apparently for want of material, while a large part of the surgery in the public hospitals done by the general surgeons is gynecological, especially the abdominal cases. It would be hard to find even in the smaller towns a young surgeon who is not doing more gynecological surgery than any other kind, and does not feel that he is fully competent to try his hand on all

[1] Read before the New York State Medical Society at Albany, January 26, 1897.

kinds of abdominal tumors. I have always said that for a gynecologist to make a practical success he must be a first-class surgeon. Now I say what is equally true, that for a surgeon to make a practical success of gynecological surgery he must be a first-class gynecologist. To make a diagnosis and decide what operation is needed, and to do some of the most important pelvic and abdominal surgery in the best manner, require a specially developed sense of touch that even very few gynecologists ever fully acquire in years by constant daily practice. In fact, gradually gynecological surgery has developed into a special art, which to do even fairly well one must inherit marked mechanical and artistic skill, or develop this artistic skill by prolonged persistent work as an apprentice under a master hand. Take a hundred young men who decide to study medicine and surgery; how very few of these one hundred could ever be trained to be successful sculptors, no matter how much they might study or know about how the work of sculptors is done, or even how much they may see others do? The same is true about special gynecological surgery. It is bad enough to do imperfect work in minor gynecology, in which, if a man understands and observes strict cleanliness, there is no danger to life; but when a human life, often of great value, hangs in the balance, those who cannot give the best chance of saving life should, it seems to me, hesitate and even stop work in such cases until they can be pretty sure of a good average success, if not the best.

If one operator loses only five per cent., another ten per cent., and another twenty per cent. or more in the same class of patients under like conditions, let us compare notes and find out why such a great discrepancy exists.

Nine years ago I stopped giving a full account of all my cases with results, because to me they sounded no longer new, and others seemed to be doing fully as well; besides, like all things of the kind, when once fairly under way, it soon began to be overdone, and all kinds of unsubstantiated figures of results began to appear in our most conservative journals. But now, since abdominal surgery has become so general in all directions, enough reliable and easily proven series of cases can be readily obtained to establish some fair standard, sufficiently close to indicate plainly what an operator's results should be to justify him in going ahead, or cause him to stop and improve his methods and give his patients a better chance to recover.

To do the best work in abdominal surgery, an operator must control a well-organized clinic, his assistants and nurses must be well drilled in his own methods, fully understand his ideas as to preparing the patients for operation, faithfully carry out the strictest rules of surgical cleanliness as to the patients, their own hands and persons, and all instruments and dressings, and observe the operator's views as to the after-care and treatment. To accomplish this, one must take time carefully to select and in some way manage to keep his assistants and nurses many years.

As our public hospitals are now conducted in New York City, where the house staff and nurses are changed every six months, the best-working clinic cannot be organized and kept up to a first-class standard. This fact will, in a large measure, account for the great difference between my results in Bellevue Hospital, where I have an average death rate of about ten per cent., and those in my private hospital, where the average is under two per cent. It is true that in Bellevue we get the very worst cases, and they are more liable to be complicated by Bright's disease and syphilis; but to-day a large percentage of private cases comes to me because they are difficult. If one has a private hospital, there is an advantage in getting most of his abdominal cases into it for operation; but there are some patients who will not leave their homes, and there are also many who should not be moved. I am satisfied that many cases of acute appendicitis are lost by being moved from their homes to hospitals. Take, for instance, a case of a distended and inflamed appendix or of local abscess in which rupture either has occurred or is about to occur; the moving makes rupture certain and also causes spreading of the septic material over the whole abdomen; and the time lost, even if it is only an hour or so, adds greatly to the shock and lessens the chance of a successful operation. The same may also be said of gunshot and stab wounds of the abdomen. I keep a handbag with all necessary instruments, dressings, etc., ready, and can at once pick it up and call an assistant and two nurses, and operate as soon as the patient is reached, wherever he may be; and if he is to be dragged over the streets to a hospital or his home, and it must be done, he can be moved at much less risk after the operation, when all pus and septic material have been thoroughly washed out.

Preparation of the patients for operation is of the greatest importance; even in acute emergency cases it is of great importance to empty the stomach and bowels as well as it can be done, without too much delay; or if the time is too short to use purgatives, to wash out the stomach and empty the lower bowels by injections before giving ether. When there is time, except when contraindicated, we move the bowels completely and give nothing—not even milk or broths—for twelve hours before the time of operating.

I am satisfied that the time and care I have taken, for many years past, in getting all my chronic cases ready for operations have greatly lowered my death rate, especially in very anæmic patients, such as those who have lost blood excessively, or have been weakened by repeated attacks of septic poisoning, or excessively fat women with weak hearts, etc. Gradually I have worked out a systematic plan of regulating the bowels and filling the blood-vessels with an approximately normal quantity of blood of good quality, for forty-eight hours or more before operating keeping the patient on a partly digested milk diet, and thus securing several hours before operation a clear and empty digestive tract, from the mouth to the anus, empty even of almost all gases for two or three hours before the time of operating. For many years we have entirely discarded the use of stimulants in preparing the patients, and rarely use tonics, but rely on simple laxatives and preparations of partly digested milk, such as peptonized milk, kumyss, fresh meat juice, and plain meat and bread. We give mild laxatives to regulate the bowels, and maybe a diuretic or antiferment when indicated. We can force the nutrition in this way, so that in ten days we can fill the pinkish lines indicating the veins in a pale and exhausted and anæmic woman with blue blood, and operate, feeling sure that she will not die of shock or heart failure if we happen to lose much blood during operation. When the bowels have had only milk diet for two or three days, and are well emptied two or three hours before operation, we are not afraid of opening or resecting an intestine, if it must be done during operation. For more than five years we have never faltered or desisted in pelvic or abdominal operations on account of adhesions, and all operations have been completely finished by removing all of the diseased organs or tissues, except in some cases of cancer, in which a pedicle could not be secured after enucleation or removal. I am fully aware that many operators will doubt the above statement, and think that I have not had bad cases of adhesions. In my tables I give the results of many cases in which the subjects had been previously opened and the abdomen closed on account of adhesions by other operators; I have reopened and

completed the operation so far in every case; in fact, in my private hospital a large percentage of my operations is in cases that have been pronounced inoperable by several other operators—even at Bellevue we have had some cases of the same kind direct from other hospitals. It is very generally acknowledged that one of the most formidable operations done on women is the removal of large multiple uterine fibromata, complicated by degeneration of the blood-vessels, salpingitis, and old adhesions of a more or less extensive peritonitis. The worst class of cases any of us have to operate on are those necessitating suprapubic hysterectomy. If you will glance over the three years' hospital work, reported in full in my tables, you will find, out of 343 abdominal operations, that 116 were suprapubic hysterectomies, mostly done for large fibromata; of 189 cases done in my private hospital, 80 were suprapubic hysterectomies, and all of the three deaths were among these.

Many years ago I would go to the country and operate on a patient, and make use of the family doctor and his nurse as assistants; but I found that this would not do, as my death rate for my outside cases was even larger than for those in Bellevue Hospital. Now, and for the past five years, I make it a fixed rule to send one of my own trained nurses several days ahead properly to prepare the case in my own way for the operation, and then go with my own assistant, operate, and leave my nurse; and in some cases one of my assistants remains till after the seventh day, when all danger is usually past. Since I have adopted this plan, if I could exclude the extreme cases of emergency, in which there is nothing to do but to operate at once, as the only chance to prevent immediate death, there would be very little difference between my death rates for outside cases and for those in my private hospital.

The cases given in the third table were all operated on in the City Hospital of Holyoke, Mass., by myself. They were practically outside cases, selected by others because they were difficult, and demonstrate what can be done without selection and without refusing any as inoperable. My first aim is always to adapt my operation to each individual case, and do the operation that gives me the best result—first, as to saving the life and, second, the future comfort and happiness of the patient. I have never yet become infatuated with any one method of operating in almost all cases, nor do I operate in all cases of a certain class by the vaginal route, nor in all of another by the suprapubic method. In double pyosalpingitis, if the adhesions and the indurated masses or tumors formed by the diseased appendages are low in the pelvis, or if the abscesses are not too large, I remove the whole uterus and all of both tubes and ovaries by the vaginal method. If there is necessity for it, or if there is any great difficulty in getting out all of the organs by the vaginal route, I may open the abdomen above to complete the removal or secure any bleeding vessels. In all cases in which the adhesions or masses extend above the brim of the pelvis, or if there are indications of the appendix vermiformis being involved, I operate from above. In almost all cases in which there is disease only on one side, or I wish to save some one or parts of both organs, I prefer the suprapubic operation. If the woman is young, under thirty-five, I am not willing yet always to remove the uterus merely because both tubes and ovaries must be taken out. In some cases I may leave the cervix uteri, so as to secure a longer and better vagina, and if necessary open the cul-de-sac to secure good drainage.

In cases of small fibromata of the uterus, in which the uterus does not exceed the size of a fist, I remove by the vagina when complete hysterectomy seems necessary in such cases. When they are large or badly complicated by high adhesions, I prefer complete suprapubic hysterectomy. When I can make a diagnosis of extrauterine pregnancy, I operate by the suprapubic method as soon as anything like a diagnosis is made, whether there seems to be hemorrhage or not. In all forms of peritonitis, when life is endangered, or a diagnosis of suppuration or formation of pus can be made, I operate at once before the case becomes hopeless from sepsis or by gradual extension of inflammation, or suddenly worse by rupture of the abscess. Even cases of extensive peritonitis may be saved by early operation, and almost all cases of local peritonitis and abscesses can be cured if operated on before great extension or rupture; and in unilateral salpingitis one tube and ovary may be saved by an early operation, that would certainly be lost by delay. Waiting for the fever to subside is like waiting for internal hemorrhage to stop, or for the patient to rally before opening the belly.

Results.—The death rate should almost always be given the place of first importance, and for a long time yet will be the crucial test for an operator in abdominal work. Quick and brilliant operations done in one's own pet and set way may be pleasing, but the best results will, as a rule, follow deliberate painstaking work in the hands of an artistic operator who readily and quickly adapts his methods of operation to the peculiar special characteristics of each case as he goes on with his operation, who never for a moment loses his temper, or gets rattled and forgets to carry out with absolute certainty all the rules of asepsis, and steadily keeps at his work till it is completely finished in all its details, even if he uses up an hour or more of time and tires out his audience. All a man needs to compel him to do his very best in every case of abdominal surgery is to keep always in his mind that an unconscious woman has given her life into his hands, and that failure on his part will cost a human life. Since making my last report of results in abdominal surgery nine years ago, in going over my records I find that I have reduced my death rate very decidedly, especially in those cases done outside of Bellevue Hospital, notwithstanding the fact that as I have grown older in the work worse cases have been sent me by my friends, and that many of the easy subjects of late are being attended to by doctors wherever they may be found. That is, as the operator becomes better known, he, like a consulting physician, is called on to see the worst possible cases, and the general run of his operations gives him a much larger percentage of desperate cases. I will confine my report of cases to all of those done within the past three years in my private hospital, in Bellevue Hospital, and a short series of cases that was collected for operation in the City Hospital of Holyoke, Mass., for the special purpose of having me go up and operate. My reason for excluding my private cases done outside in the homes of patients is that the statistics I give may be so exact and complete that they can be readily investigated and proven as correct. My private hospital was finished just nine years ago, and I have operated on more than five hundred abdominal cases there during the past nine years. My friend, Dr. George B. Fowler, of the health board, had the records of deaths searched for the names of all persons dying in 215 West Forty-third Street, the number of my hospital, and only nineteen were found. Since then one more has died. Two of these twenty were male patients, one of Dr. E. L. Keyes, and Dr. J. D. Bryant, who operated; and four of the others were not operative cases, leaving fourteen deaths after abdominal operations, giving a death rate of little less than three per cent. for all abdominal sections. So far, since I began to operate, I have never yet lost a case from a minor operation. In Bellevue Hospital the hospital records show that in the fourth division, in which is my service, the death rate

after all abdominal operations in my service is a little under ten per cent. In Bellevue, for several years past, about half the cases were operated upon by my assistant, Dr. R. H. Wylie.

I at first intended to give a list of all my cases, but I finally decided to give in detail only those done in hospitals where a regular record is kept of each case. Those done at Holyoke will fairly represent what I am doing in outside operations, which are not directly under my personal supervision. At the request of the managers and the medical board, I was invited to visit Holyoke every five or six weeks to do the important gynecologial cases to be selected by all members of the medical board. I offered to operate on any patient needing an abdominal operation and said I would like the most difficult cases that could be found in New England. For the past eighteen months I have gone to Holyoke ten times, usually going up Saturday night and returning Sunday night. In those ten visits I have done fifty-two gynecological operations, thirty-seven being abdominal operations, losing only one case. Some Sundays I did four or five abdominal sections, one after the other, stopping only long enough to wash my instruments as needed. At first I sent one of my nurses to prepare the subjects and remain to carry out the after-treatment; but after the third visit I trusted to the nurse of the hospital. I took with me to assist at operation only my first assistant or second assistant, or my own head nurse. Several members of the hospital staff, after the third visit, acted as my assistants in operating, and all members of the medical board rendered me every assistance in the most liberal and kindest manner.

Dr. R. H. Wylie has been my first assistant in most of my work for the past ten years, and now operates with about the same results as my own, as is shown in the Bellevue records. All abdominal sections done in my service are included.

Causes of Death.—1894: Two deaths. One was of a patient operated on by suprapubic hysterectomy for a large cancerous uterus; she died in third week after operation from acute insanity and exhaustion. She had been habituated to Hoffman's anodyne, and had symptoms of insanity before the operation. The second was also of a patient operated on by suprapubic hysterectomy for sarcoma of the uterus; she died in fourth week after operation, from apoplexy. The attack came on while she was sitting up.

1895: No deaths in private hospital.

1896: One death. Suprapubic hysterectomy for a large fibroid that had undergone calcareous degeneration. No signs of sepsis. Died suddenly on fourth day after operation. No post-mortem.

1896: One death at Holyoke. Suprapubic hysterectomy, also for fibroid that had undergone calcareous degeneration. No signs of sepsis. Died suddenly on fifth day. Post-mortem showed nothing about the wound or in the abdomen to cause death. Neither the heart nor the head was opened.

Deaths at Bellevue were mostly from sepsis.

Abdominal operations done in hospital practice for the past three years, beginning January 1, 1894, and ending January 1, 1897:

Total cases of abdominal operations	344	
Total deaths, of all cases	14	
Percentage of mortality		4.6

PRIVATE HOSPITAL.

Total of all abdominal operations done in three years	187	
Total of all deaths in three years	3	
Percentage of mortality for three years		1.57
Total suprapubic hysterectomies	74	
Total vaginal hysterectomies	45	
Ovariotomies and abdominal operations for appendicitis, etc	62	
Combined suprapubic and vaginal hysterectomies	6	

BELLEVUE HOSPITAL.

Total of all abdominal operations done in three years	121	
Total of all deaths in three years	10	
Percentage of mortality		8.25
Total suprapubic hysterectomies	25	
Total vaginal hysterectomies	11	
Ovariotomies and abdominal operations for appendicitis, etc	82	
Combined suprapubic and vaginal hysterectomy	1	

HOLYOKE CITY HOSPITAL.

Total of all abdominal operations done in the past two years	36	
Total of all deaths for the past two years	1	
Percentage of mortality		2.77
Total suprapubic hysterectomies	8	
Total vaginal hysterectomies	15	
Ovariotomies and abdominal operations for appendicitis, etc	13	

THE HYGIENIC, EDUCATIONAL, AND SYMPTOMATIC TREATMENT OF PULMONARY TUBERCULOSIS, WITH A PLEA FOR SANATORIUMS FOR THE POOR.[1]

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In presenting to you a paper under this title I do not pretend to offer any new treatment, but simply wish to summarize the best of what I have seen and learned during a number of years devoted to the study of the treament of pulmonary tuberculosis, in American and European sanatoriums and health resorts. I will add to this a few remarks on recent experiments with Marmoreck's antistreptococcic serum as an agent in the symptomatic treatment of this disease.

Individual prophylaxis, diet, and education, which form the most important part of the hygienic treatment of consumptives, can, I believe in the majority of cases, be best carried out in the "closed establishment"—that is, in the sanatorium, where the patient is under constant medical supervision.

The first question which naturally arises is: Where should such a sanatorium be situated? It should be where it can do the most good to the largest number. I do not believe in the specific curative quality of any climate, but I do believe very strongly that it is essential to the majority of tuberculous patients to be treated and cured in the same climate where they will have to live and work after their restoration to health. I would therefore place the sanatorium for consumptives within easy reach of a large centre of population, at no greater distance than three to five hours by rail. It should be in a region known for its relative purity of atmosphere, where there is freedom from all miasmatic and malarial influences, and where the pathogenic microbes are found only in negligible quantities. If possible, it should be where the extremes of temperature are not too pronounced, and, if the region is a mountainous one, at an altitude of from one thousand to fifteen hundred feet. The site should be a pleasant one, with a southern exposure, and protected from the cold winds by higher mountains or woodlands.

The next question is: What kind of buildings should be selected for such an institution? The European system, under which they house as many as seventy-five to one hundred patients under one roof, or the American cottage system, with no more than four to eight in each cottage? To make so large an aggregation as one finds in some of the European institutions seems certainly not a good plan, since the hygienic measures are almost sure to suffer in such a house. On the other hand

[1] Read before the New York Academy of Medicine, January 21, 1897.

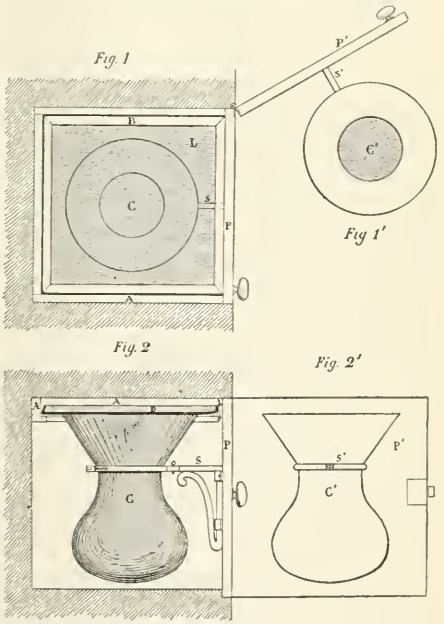
the cottage system, while it may be the ideal for some diseases, is, on the whole, not the most desirable as a sanatorium for consumptives. The constant medical supervision, one of the most important features in the sanatorium treatment, can hardly be carried out in a village of twenty or thirty small cottages several hundred feet apart, not to mention the increased expense which such a system involves. After having visited and studied some thirty odd institutions in this country and abroad, I endeavored in my French thesis on this subject[1] to illustrate what would seem, at least

Perspective View of a Sanatorium for Consumptives. Large Pavilion System.

to me, an ideal sanatorium for the treatment of patients suffering from pulmonary tuberculosis. It was designed by my friend, Mr. Van Pelt, of the École des Beaux Arts in Paris. I have adopted a plan between the European and the American, in other words, the large pavilion system. Three two-story pavilions, each accommodating twenty-five patients, are united by covered galleries one hundred feet long, which serve on rainy days as promenades. Behind the middle pavilion are situated the dining-room, kitchen, administration building, winter garden, etc., all united by galleries. At some distance from the main structures are a recreation pavilion, a house for visitors, and a place for isolation. Each main pavilion is about one hundred and thirty-five feet long, has twenty-five large well-ventilated rooms, also bathrooms, sitting-rooms, and parlors. In the basement are the hydrotherapeutic appliances. In front of each pavilion, along its entire length, is a veranda twelve feet wide, where the patients take their rest cure on their comfortable steamer chairs or lounges. Besides the ordinary hygienic precautions in regard to plumbing, heating, water supply, etc., all angles throughout the house are rounded to prevent the accumulation of dust. The walls are painted, that they may be easily disinfected; the floors are of hard wood, that they may be easily mopped, as sweeping or raising dust is absolutely forbidden in a well-conducted sanatorium.

One of the main features in regard to individual prophylaxis is the care taken with the expectoration and other secretions which might contain the bacilli. At the admission of the patient he is instructed that to expectorate anywhere except in a proper receptacle means danger to him and danger to others, for he may reinfect himself and communicate the disease to any number of other persons through the inhalation of the germs contained in the dried particles of his sputum carelessly deposited here and there.

Of course it is the duty of the administration of the sanatorium to see that a violation of the rules concerning the prophylactic measures is made impossible. Thus, there should be the proper kind of spittoons, a sufficient number of them, and a thorough destruction of the expectorated matter. But this should be done as unostentatiously as possible, for to see a countless number of all sorts of spittoons in various degrees of cleanliness is certainly not a pleasant sight for either patient or visitor. In my opinion, all spittoons standing on the ground should be done away with in a sanatorium, for while I am willing to concede to a certain portion of our American male population a wonderful dexterity in disposing of their buccal secretion, in the pure state or modified by the weed, I have yet to find a woman or young miss who knows how to hit the spittoon. Where much expectoration is going on one usually finds the brims of spittoons that are placed on the floor covered with dried sputum, and even the piece of oilcloth placed underneath as a precautionary measure often shows signs of the inexperienced spitter. To obviate these difficulties I have devised an arrangement of elevated spittoons, visible only when in use. In the walls of parlors, halls, and galleries, at appropriate distances, are placed small niches or cupboards three or three and a half feet from the floor. They are large enough to hold a spittoon eight inches high and about the same diameter, which is made of earthenware or colored glass, that its contents may be less visible, and is supported by a metal ring attached to the door of the cupboard. The patient desiring to expectorate opens the little door, thus bringing the spittoon within reach, and closes it again when he gets through. In the grounds the niches may be replaced by boxes mounted on stands. For the bedroom and the veranda, where the patient is taking his rest cure, the little covered white porcelain cups suffice.



Spittoon, elevated 3 ft. or 3 ft. 6 in. from the floor, and inclosed in the wall. *P*, door; *S*, hinged support; *C*, spittoon; *B*, cover. Figs. 1 and 1', plan; 2 and 2', elevation; Figs. 1 and 2 represent the door closed; 1' and 2' represent the door open.

Another prophylactic measure is the pocket spittoon, which the patient should always have with him to use when he cannot conveniently get at the others.

[1] "Les Sanatoria: Traitement et Prophylaxie de la Phtisie Pulmonaire," par le Dr. S. A. Knopf (Paris, Geo. Carré, éditeur).

One of the best of these is certainly the one devised by Geheimrath Dettweiler. It is a pocket flask about four inches long and six inches in its largest circumference. It is provided with a hermetically closing top and bottom, and is so constructed as to be easily cleaned. The touch of a spring causes the top to fly open to receive the intended deposit, and pressure of the lid causes it to close again with a snap. It would be perfection but that it is of glass and breakable, somewhat large and heavy, and its sharp protruding spring protector might cause an inoculation of the thumb. All these trifling disadvantages I believe I have overcome by having a spittoon made entirely of aluminum which weighs only three ounces instead of six ounces with nearly the same cubical contents.

All spittoons should be covered when not in use. The experiments of Spillman and Haushalter[1] have demonstrated beyond doubt the dissemination of the bacilli by flies. Patients in bed too weak to make use of the ordinary hand cup should be provided with moist rags, which should be burned immediately after use.

Dettweiler's Pocket Spittoon.

The best method of destroying the bacilli and their possible spores in the sputa collected in vessels seems to be the one recommended by Professor Grancher, of Paris.[2] The spittoons with their contents are placed in boiling water, the temperature of which has been raised by the addition of carbonate of sodium. The person intrusted with this work should be provided with strong rubber gloves, to guard against possible inoculation. Since the saliva of tuberculous patients not infrequently contains the bacilli, it is well to rinse the napkins in boiling water after each meal, or if for economical reasons this is impracticable, Japanese paper napkins may be substituted, which are to be burned after use. Knives, forks, spoons, glasses, etc., should also be washed in boiling water or sterilized after each use. The occasionally infectious nature of the saliva should also be a warning to consumptives never to kiss any one on the mouth. Patients should be taught not to use one handkerchief indiscriminately for the nose and wiping the mouth after expectoration. One should be kept in the pocket with the little flask to be used for the latter purpose. This may seem a superfluous precaution, and still I think the rather frequent coexistence of pharyngeal and laryngeal tuberculosis with relatively few advanced pulmonary lesions may well be explained by this mode of secondary infection, especially when we consider that the bactericidal quality of the healthy nasal secretion is probably always lacking in the tuberculous individual.

Consumptives should dress warmly, but not be so bundled up as to hinder their movements or make them perspire at the slightest exertion. Ladies will do well to adopt the Jenness-Miller system of dress reform, which does away with tight lacing and long and heavy skirts, thus facilitating abdominal breathing and freeing the viscera from the pressure caused by the usual mode of dress. Warm and dry footwear is essential. On very cold days the patients, while taking their rest cure, should be provided with hot-water bags or hot soapstones, to keep their feet warm.

[1] Spillman et Haushalter: "Dissémination du Bacille de la Tuberculose par les Mouches," Comptes rendus de l'Academie des Sciences.

[2] Grancher: "Maladies de l'Appareil Respiratoire. Tuberculose et Auscultation." Paris, Octave Doin, éditeur.

Under symptomatic treatment we must first direct our attention to combating the physiological poverty, the most striking symptom in pulmonary tuberculosis. This we endeavor to do by aerotherapeutics, good food and plenty of it, hydrotherapeutics, massage, and finally by medicinal substances to help build up the system, such as cod-liver oil, phosphates, strychnine, iron, creosote, bitter tonics, etc.

By aerotherapeutics is meant the gradual exposure of the patient to the open air until he virtually lives in the fresh air, winter or summer, rain or shine. This is what the Germans call the "Dauerluftkur." The patient is placed on the veranda, comfortably wrapped up on his lounge or steamer chair, in a position to admit of a complete muscular relaxation. Every half-hour or so he rises to take his breathing-exercises. I am willing to acknowledge that I think them of much greater importance than do the majority of phthiseo-therapeutists. It is true that whenever there are old pleuritic adhesions these strong respiratory movements may become painful, owing to the tearing of some fibrinous bands, but this is salutary and not lasting. The respiratory muscles become developed, the increased pulmonary function makes the process of hæmatosis more complete, and helps to dissolve the mucus and aid in expectoration. This is the little system of exercises I have adopted: The patient, who is taught always to breathe through the nose, takes a deep inspiration slowly, while raising the arms from the sides to a horizontal position, holds the breath for a moment, and lowers the arms during the expiration, which should be somewhat more rapid. The second exercise is like the first, except that the upward movement of the arms is continued until they meet above the head. In the third exercise the patient stretches his arms out as in the position of swimming, the dorsal surfaces of the hands touching each other. During the inspiration the arms are moved outward and finally meet behind the back. They are brought forward again during the expiration. Each respiratory act should be followed immediately by a secondary forced expiratory effort. This is for the purpose of expelling as much of the supplemental air as possible, and may be effectually aided by supinating the arms and pressing the thorax with them. The feebler patients must content themselves with breathing-exercises at rarer intervals and without rising from the bed or couch, and of course without moving the arms. Patients able to walk alternate their rest cure and breathing-exercises with graduated promenades, that is to say, walks on paths varying in inclination from one foot in three hundred to one foot in sixty feet.

Patients are taught never to hurry, always to stop before getting tired, and never to exercise to the extent of perspiring. Should they at any time have neglected this precaution and perspire profusely, they should at once return to the house, be rubbed off, and go to bed. While out of doors on cold or windy days consumptives should keep their mouths closed, and talk as little as possible. These precautions are essential to protect the patient from colds, which are always to be dreaded in consumption. In the recreation pavilion, parlor, library, or anywhere else, the air must always be kept fresh and pure. Of course the patients always sleep with an open window, wide open in summer and partly so in winter or on stormy days. But, however intelligent the patient may be, none of these measures must ever be left to his caprice; everything—rest cure, breathing-exercises, walks, even how far the window should be open—must be regulated by the attending physician.

Hydrotherapeutics, beneficial and indispensable as they are, must be applied most judiciously. The patient is educated up to the classic douche by preparing his skin first by dry friction only. Later the

patient is rubbed for a time with alcohol, then with equal parts of alcohol and water, then with water alone, and finally he receives the affusions or douches according to indication. Lateral weak douches or affusions may be advantageously applied to loosen old pleuritic adhesions. It goes without saying that the douche apparatus is always manipulated by the medical attendant.

The diet of tuberculous patients should be varied and abundant, and their meals served regularly and in an appetizing manner. They should be urged to eat, and it should be impressed upon them that their digestive powers are far greater than their appetite indicates. They may have no desire for food whatsoever, and yet they can eat and assimilate a good deal. Every consumptive must be told that upon his willingness to eat depends his salvation. Feverish patients should eat when their temperature is lowest. Milk from tested cows, butter, cream, should be taken in large quantities. The only precaution necessary is to take the milk in small sips, and as many as eight or ten glasses may be taken per day. The patient's teeth should be kept in good condition; he should eat slowly and chew his food well. Any indigestion should be reported to the doctor at once. For constipation an increased proportion of fruit often suffices; if not, abdominal massage or cascara or some other mild laxative may be resorted to. Diarrhœa, if not due to tuberculous lesions, should be treated by first cleansing the intestinal canal and then giving appropriate diet, such as rice, eggs, toast, cocoa, mucilaginous soups, Bordeaux with arrowroot. If of tuberculous origin, the usual treatment by opiates and astringents must of course be pursued.

Painful coughs seem best relieved by codeine solutions; but cough as a matter of habit, when there is nothing to expectorate, should be suppressed by discipline. Dettweiler tells his patients that to cough in public without cause is scratching the throat because it tickles, and that it is as ill-mannered as scratching one's head in public when it itches. On the other hand, I think it just as essential to warn the patient never out of false delicacy to swallow his expectoration and thus infect his intestinal tract. Sips of cold milk will help to overcome tickling sensations in the throat until the patient has fully become master of his cough.

Hæmoptysis is treated in sanatoriums as anywhere else—absolute rest in a half-sitting posture, ice bags over heart and apices, ligation of upper and lower limbs, morphine, ergotine, etc. The physician will of course assure the patient that he need not be alarmed, as hemorrhages are ordinary phases of the disease, not necessarily lessening the chances of recovery. Timid patients who have never had hemorrhages should even be warned that this may occur.

To combat night sweats the patient is given a glass of cold milk with one or two teaspoonfuls of cognac just before retiring. In cases in which this and even the atropine, agaricin, etc., failed, I have often succeeded by applying a wet pack in the form of a shawl over chest and apices.

Counter-irritants are to my mind valuable adjuvants. They draw from the delicate lung structure countless dangerous micro-organisms into the less delicate cellular tissue, where by the action of the counter-irritant the number of the phagocytic white corpuscles has been increased; and thus an actual destruction of pathogenic microbes is brought about by the simple mustard plaster, the old-fashioned dry cups, or the *points de feu* (ignipuncture).

One of the most surprising things to me which I noticed in my studies of the sanatorium treatment, especially in institutions situated in higher altitudes, was the almost total cessation of the fever of many of the newly arrived consumptives after a few days, without the administration of any antipyretic whatsoever. The only explanation to me was the almost total absence of pathogenic microbes, especially the streptococci, in these higher altitudes, and consequently a cessation of the association of microbes. This conclusion led me to my experiments with Marmoreck's antistreptococcic serum.[1] I wrote to the Pasteur Institute, and received my first lot of serum last June. Through the courtesy of my distinguished teacher, Professor Biggs, I was first allowed to test the antistreptococcic action in our city laboratory by a series of experiments on animals. These experiments were satisfactory enough to justify the employment of the serum in the human species. I will rapidly summarize the results I obtained, speaking, of course, of consumptive cases only. The action of the serum was not always uniform. With patients whose temperature rose over 102° F. for several days, I did not obtain any results. When, however, there was a temperature of only 101° F., or a trifle over, with streptococci in the sputum, a first injection of ten cubic centimetres reduced the temperature from one to one and a half degrees. A second of ten cubic centimetres brought it down to nearly normal. A third, fourth, fifth, and sixth of five cubic centimetres each, given first every twenty-four hours, then at longer intervals, helped to maintain the normal or nearly normal temperature, and a general better feeling was experienced by the patient.

Dr. Weaver claims still better results.[2] Among other cases he reported one in the *Journal of the American Medical Association* of September 5th, with a temperature of 105° F., which he brought down to nearly normal with a single dose, and maintained it there by repeating the injection every second day. However, I think it will require much more experimentation to fix the real value of this serum. Its action seems to depend not only upon the make of serum used,[3] but also upon the degree of virulence of the toxins produced by the streptococci in the system. The earlier the injections are made the better seem the results. I should like to encourage its use in pulmonary tuberculosis whenever there is a mixed infection, and when after a short trial absolute rest, fresh air, and the usual antipyretics have failed. I am happy to be able to announce that our very efficient city laboratory is now busy at work to obtain this serum, and hopes soon to be able to furnish you with sufficient quantities, and then you may try its merits for yourselves.

The mind of a consumptive should be treated as well as his body. He must not have time to think of anything but getting well. At all hours of the day he must have something to do with that purpose in view. At this hour his meals, at this his rest cure, at that his walks, at another his douches, etc. Cheerful reading, quiet games, occasional entertainments, or little lectures on hygiene should form the pleasant features of sanatorium life. Some consumptives are sanguine, some despondent, some irritable, and most of them imprudent—"Ein leichtsinniges Völkchen" ("a careless little lot of people"), as Dettweiler calls them. Much tact and forbearance, combined with a never failing firmnesss when occasion demands, are necessary to deal with them effectually.

To say that these various phases of treatment just described can be carried out only in a sanatorium would be foolish. They can be carried out by any physician in private practice whose patient is willing,

[1] Marmoreck: "Le Streptocoque et le Sérum Antistreptococcique," Annales de l'Institut Pasteur, July, 1895.

[2] Weaver, W. H.: "Antistreptococcus Serum in the Treatment of Consumption."

[3] Merieux (Lyon) and Niemann (Berlin): "Ueber Antistreptokokken-Serum," Berliner klinische Wochenschrift, No. 49, December 7, 1896.

obedient, and so situated as to have all the comforts and the surroundings which the hygienic and dietetic treatment demands. But how many of these patients have we? Are not the majority of tuberculous patients poor? And is it not utterly impossible to treat them successfully in their unhygienic homes or even in our general hospitals? It is for these poor consumptives that I plead for the creation of sanatoriums.

To demonstrate the necessity of such special institutions allow me to picture to you in brief the life of a consumptive before and after his admission to one of our general hospitals.

The honest laborer who has the misfortune to become tuberculous, and finally phthisical, will at the onset seek the advice of his family physician. Presuming that a correct diagnosis has been made, the physician is likely to prescribe, with the usual remedies just then in vogue, also a few weeks of rest. This, under the most favorable circumstances, means a consumption of part of the savings. After a while the patient, seemingly improved, resumes his former occupation. But the improvement is not lasting. He is again and again obliged to take a rest. The intervals between the periods of work become longer and longer. Instead of the physician the nearest dispensary is visited, for there has been too great a drain already on the little capital put aside during better days. At last, unable to work at all, he stays at home until he is forced to seek admission to one of the public hospitals.

A large number of our general hospitals supported by private charity absolutely refuse all patients suffering from tuberculosis, and it is but natural that the attending physicians of our general municipal hospitals should also avoid crowding their wards with tuberculous patients, especially if there is a likelihood of a very prolonged stay. Thus the consumptive often obtains admission with difficulty. Finally admitted, he is placed in one of the general wards. His neighbor to the right may have typhoid fever, the one to the left a pleurisy *à frigore;* opposite him may be a rheumatic or a fellow consumptive. If the physician in charge is in favor of medication, the patient will receive the latest remedies well spoken of in the treatment of tuberculosis. If the doctor is sceptical as to the value of medication in this disease, the patient may or may not receive the special diet, and the rest is left to nature. In the morning before the arrival of the visiting physician, the poor consumptive inhales the dust, and with it countless numbers of pathogenic microbes, raised by the attendant sweeping the ward with an ordinary broom instead of wiping the floor with a moist mop. If the patient has not yet his mixed infection he will soon get it. Instead of passing most of his time in the open air, the consumptive in our general hospitals is almost totally deprived of this essential factor in the proper treatment of his disease. Should he day or night ask to have a window open, his rheumatic neighbor would very strenuously object, for he could not stand the draught. Respiratory exercises are but rarely recommended, for the physician knows that they are useless in the ordinary hospital atmosphere. At meal times the consumptive patient eats but little. The frequent anorexia he cannot overcome, and even the special diet does not tempt him. The aerotherapeutic and hydrotherapeutic measures, so largely and beneficially resorted to in sanatoriums to overcome the loss of appetite, cannot be carried out in a general hospital. At night the patient sleeps but little. He is either kept awake by his own cough or that of his neighbor. The stuffy night atmosphere of the ward furthers still more his hyperidrosis. Thus he passes weeks, sometimes months, until a fatal determination ends his sufferings; for these patients rarely enter the hospital in time even to hope for a lasting amelioration. And during this time the family, deprived of its natural supporter, is most likely to have become a public charge.

And how does the presence of the consumptive in the general hospitals affect the other patients suffering from acute diseases? Leaving aside the depressing mental effect upon these patients, we know that it is next to impossible to have such thorough hygienic and prophylactic measures in a general hospital as are characteristic of the sanatorium. Is not the patient with his pleurisy *à frigore* in great danger of having his acute infection transformed into a chronic tuberculous one? And the typhoid-fever patient, with his greatly reduced power of resistance—may he not also become the prey of the bacillus tuberculosis ever present in our general hospitals?

The medical and sanitary advantages which would be obtained by the creation of municipal sanatoriums for consumptives are evident, but these are not all. The patient with incipient phthisis, after a few months of practical training in the sanatorium, will have learned how to take care of his expectoration to avoid auto-infection or the communication of his disease to others. He will have learned how to avoid the causes which may aggravate his condition and acquired such hygienic habits as to have the best chance to become and remain entirely well.

But sanatoriums do not serve only as educators of individuals but as educators of communities as well. In the villages where the two largest German sanatoriums are situated, Goerbersdorf [1] and Falkenstein,[2] the mortality from tuberculosis has actually decreased among the village people, being now one-third less than before the establishment of those institutions. This, no doubt, is due to the example set by the inmates of the sanatoriums, and it is also the best proof that well-conducted sanatoriums for consumptives are not centres of infection, but, on the contrary, places where one is safest from contagion.[3]

Experience abroad, where there are some sixty odd sanatoriums, half of them for the poor, already in operation or in course of construction,[4] has demonstrated that the running-expenses of a well-equipped sanatorium for consumptives are little or no greater than those of the general city hospitals; and statistics show that the same would be the case in New York. The daily expense per capita in the seven most important hospitals under the administration of the department of public charities and correction is as follows:

Fordham Hospital	$2.0626 [5]
Gouverneur Hospital	1.8399 [5]
Harlem Hospital	1.6919 [5]
Colored Home and Hospital	1.00 [6]
Bellevue Hospital	0.7742 [5]
Ward's Island Hospital	0.42 [6]
City Hospital	0.3338 [5]

This gives us an average of $1.16 per day, and the daily average expense for each tuberculous patient at the Adirondack Cottage Sanatorium, one of the most successful institutions in this country, is only $1. The least favorable results obtained in sanatoriums devoted exclusively to the treatment of consumption are as follows:

14 per cent. absolute cures;
14 " " relative cures;
42 " " ameliorations.

[1] Roempler: "Beiträge zur Lehre von der chronischen Lungenschwindsucht."

[2] Nahm: Münchener medic. Wochenschrift, No. 40, 1895.

[3] Knopf: "Are Sanatoriums for Consumptives a Danger to the Neighborhood?" MEDICAL RECORD, October 3, 1896.

[4] Liebe: "Der Stand der Bewegung für Volksheilanstalten für unbemittelte Lungenkranke im Frühjahr 1896," Hygienische Rundschau, Nos. 13 and 14, 1896.

[5] Thirty-fourth Annual Report of the Commissioners of Public Charities and Correction.

[6] Obtained in answer to personal inquiry

Thus, through the establishment of municipal institutions for the treatment of the curable tuberculous cases and for the isolation of the hopeless ones, the commonwealth would be the financial gainer in the end. Thousands of dollars are now expended for tuberculous patients in general hospitals, where, in spite of the best intentions on the part of the medical staff, they cannot be treated, but only kept, and are at the same time a constant menace to the other patients suffering from acute diseases. For the same expenditure a goodly number could be cured and centres of infection forever done away with. We all would be benefited in sanitary as well as social respects, could we give to the honest laborer above referred to the same chance (twenty-eight per cent.) of becoming again a well man, a bread-winner, and a supporter of his family. To attain this noble end let us create sanatoriums—create them soon and create them well.

349 West Fifty-Eighth Street.

STRANGULATED CÆCAL HERNIA, OF ONE HUNDRED AND FIVE HOURS' DURATION, IN A WOMAN AGED SIXTY-SEVEN YEARS.[1]

By JOHN B. WALKER, M.D.,

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About thirty years ago, while in good health, the patient suddenly began to have pain in the right side. Appendicitis developed; the abscess pointed and broke spontaneously beneath Poupart's ligament in the region of the femoral opening. It closed in three weeks. A year later a small lump began to appear in the region of the scar, just below the fold of the groin. This slowly increased in size and later was diagnosed as a femoral hernia. A truss has been worn at times, and as a rule has retained the hernia; at times, however, the hernia has slipped down underneath the pad of the truss. On several occasions the hernia has been apparently irreducible, but after twenty-four to thirty-six hours of rest in bed, together with applications of ice, it has been reduced. Her general health remained good.

On Friday morning, October 23, 1896, after continued straining at stool, the hernia came down and resisted all efforts at reduction. She worked about the room during this day, but the following day (Saturday, the 24th) she remained in bed and tried repeatedly to reduce the hernia, but without success. Her bowels did not move and she had some pain in the hernia. The next day (Sunday, the 25th) she applied hot fomentations, but again failed at reduction. She took but little nourishment (milk and tea), and was restless at night.

Monday, the 26th, she called in a physician who (after trying taxis without success) pronounced the case one of strangulation, and advised prompt removal to a hospital for operation. She refused, and he departed. The same afternoon she began to vomit and the pain increased.

Tuesday, the 27th (the fourth day), she became rapidly worse, the vomiting becoming fæcal and the distention also increasing. At 6:30 P.M. the writer saw her. Her face was pinched and anxious, and showed every evidence of the marked prostration and weakness which the lack of nourishment, the prolonged pain, and the loss of sleep had produced. The abdomen was greatly distended and everywhere tympanitic; the legs were drawn up and could not be extended; in the right femoral region a tense, tender, hard, non-fluctuating, irreducible tumor, the size of an orange, was found. There was no impulse on coughing. The pulse was 120, small, irregular, and weak; temperature, 99.5° F.; respirations, 24. The tongue was coated, dry, and brown. There was no hiccough. The vomitus was stained with bile, and had the fæcal odor of the contents of the small intestine. Obstruction was complete and no gas passed. The pain radiated over the lower portion of the abdomen and was colicky in character.

She was removed to the hospital and at once placed in a full-length tub bath. At first the water was just a little warmer than she desired, but after ten minutes she said she felt much easier. The bath was continued about fifteen minutes, when she was taken out, rubbed thoroughly dry, wrapped up in blankets, and put to bed. Eight minims of solution of Magendie were given hypodermatically, and she rested quietly for fifty minutes. (The groin area had been antiseptically prepared for operation as soon as she had left the bath.) An imaginary curved line (about four inches long) was drawn from the spine of the pubis upward, outward, and downward, over the tumor, and along this line was injected twenty minims of a four-per-cent. solution of cocaine. The skin was very thin and the sac was quickly opened (the bowel was nowhere adherent to the sac). It contained about three ounces of a reddish-brown serum with a foul odor. No fæcal particles were present. The color of the bowel was reddish-brown, with some darker, almost black areas. It was somewhat marbled in appearance, lustreless, and did not readily bleed when pricked. The constricting ring was very close and firm, so that it was not possible to insert even the tip of the little finger. A curved director was then carefully pushed alongside the bowel at its inner side, underneath Gimbernat's ligament, close to the spine, and on this as a guide the tip of the knife was carefully pressed against the tense fibres in order just to nick them (but not to push with much force to cut through all the fibres at once). A few fibres yielded and so allowed the tip of the little finger to be inserted, and upon this as a more intelligent guide Poupart's ligament was cut upward and inward, making the entire opening into the abdomen about one and a half inches in diameter.

There was no especial bleeding from the incisions. The bowel was carefully examined at the seat of constriction and no wound was discovered; but there was a deep indented furrow, one inch long, where the ligament had constricted the bowel; there was no ulceration. The protruded mass was drawn down out of the canal as far as possible and gauze packed about its neck to prevent anything re-entering the abdominal cavity. The protrusion consisted of about three inches of the head of the cæcum with the vermiform appendix, six inches of the ileum, and a tongue of omentum. (The appendix was three and a quarter inches long, one-quarter inch in diameter, with a short mesentery.) These different portions were united by adhesions, which were not dense and which were easily separated without much bleeding. About twelve inches of the ileum above the constriction was withdrawn from the abdomen and carefully inspected. The portion above the constriction seemed to be in good condition, while that below seemed almost gangrenous. It was hoped that this might improve, so the entire mass was covered with hot dry gauze. The gauze was removed in ten minutes, but the color and general condition, of the bowel had not improved. It was not safe to reduce the loop which seemed gangrenous, and she was too weak to stand an anastomosis or resection. So there remained the very faint chance that the vitality of the bowel might later improve, now that the constriction was relieved, if the loop outside the body could be kept at the body temperature. It seemed best (to save time) thoroughly to protect the intestines

[1] Read before the surgical section of the New York Academy of Medicine, January 11, 1897.

with a mass of gauze and cotton and to return her to bed at once. She was in bed thirty minutes from the time the cocaine was injected. She had very little pain at the operation, except when the arterial walls were clamped (this being due to the pressure on the sympathetic-nerve fibres). Special care had been taken to keep the patient warm, and the operation was not accompanied by any shock. She was placed in bed at 11 P.M. and given five minims of solution of Magendie. Her pain ceased; she passed gas three hours later; she vomited only twice, and was much easier the next morning (the 28th) at eight o'clock. The bulky dressing was then removed and it was found that the condition of the intestine had somewhat improved; fresh hot dry gauze was then reapplied. During the day teaspoonful doses of hot water were given by the mouth very often, but no other nourishment. One-sixtieth of a grain of strychnine and one-two-hundredth of a grain of digitalin were given every four hours. The rectum was washed out and an enema of one ounce of whiskey, two ounces of chicken broth, and two ounces of peptonized milk was given every four hours.

At 3 P.M. the dressings were removed, and the condition of the bowel had so much improved (although there were three small dark, almost black areas in the mesentery) that it seemed best to reduce the protrusion. Gas circulated and passed frequently from the anus. The distention was much less, the intestinal walls were lax and had fallen together; the walls and the mesentery had become very much infiltrated and thickened with serum. Reduction was accomplished with some difficulty; the upper part was very gradually pressed back, a little at a time, while the edges of the wound were separated by retractors. After every portion had been reduced, a large amount of narrow sterile gauze was packed around the loop of suspected intestine (so as to shut it off from the general peritoneal cavity in case there should be any suppuration). The ends were brought out into a large gauze dressing, wet with aluminium acetate and covered with a rubber protective.

October 29th. She rested much better during the night, retaining the enemata and taking some peptonized milk by mouth. The dressing was so saturated with serum that it was necessary to change it every six hours. A soap suds and turpentine enema was given through the high rectal tube and was very successful.

October 30th.—Continued improvement; dressing changed four times; enema every four hours, and increased nourishment by mouth.

October 31st.—Bowels move satisfactory; a little gauze removed.

November 10th.—The gauze was gradually pulled down until the last piece was removed to-day. The dressing is changed morning and evening; the opening into the abdomen has contracted down to one-half of an inch in diameter. The sac has sloughed out, leaving a small granulating area.

November 25th.—The wound has entirely healed. A truss is worn, and she walks about the ward a well woman.

Arteriosclerosis.—This is a disease of the arteries, characterized by a thickening of their walls, due to a deposit in the intima, with a diminution in the size of the lumen. The disease may be separated into three divisions: 1. The nodular or arteriosclerosis nodosa, in which the disease is circumscribed, although it may be widely distributed. 2. Senile, in which the change in the arteries is one of the signs of advancing years. 3. General arteriosclerosis, a disease of the middle aged or young, and which is the form to which reference is made when the disease is mentioned.—*Boston Medical and Surgical Journal*, December 10, 1896.

ON THE PREPARATION OF BLOOD FOR MICROSCOPICAL EXAMINATION (SECOND PAPER).

By HENRY G. PIFFARD, M.D.,

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My first paper on the subject, published in the MEDICAL RECORD for October 17, 1896, has brought me a mass of correspondence. Some writers have thanked me for the information contained in the article, and others have asked for additional light on the subject. Some, indeed, say that they are utterly discouraged, as they cannot get the results described in the text-books and have not been able to discover the causes of failure. A few gentlemen have called at my laboratory to see just how the procedures were carried out; and some criticisms have been made regarding the technique that I recommended.

One gentleman asks: "Why do you advise making a cover-glass film instead of spreading the film directly on the slide?" I answer, because the image is clearer and sharper when the objects under examination (the blood cells) are in optical contact with the cover than when they are separated from it by a medium, especially air.[1] Every microscopist has, or ought to have, one of Möller's test slides of the Pleurosigma angulatum mounted dry, as it is perhaps the best single object with which to test the quality of a lens of medium or high power. If he will look carefully over the slide he will find here and there a valve, the central portions of which are attached to the glass (by melting in), while the extremities have air between them and the cover. The superior image of the central parts should prove an object lesson of value. Let the experimenter then examine one of Möller's balsam mounts of the same diatom, and compare the image with that of the dry mount. A good one-fourth inch objective will show the markings beautifully on the dry diatom, while they will only with difficulty be seen on the one mounted in balsam. Such an examination will emphasize the statement made in a previous paper, that blood covers show, in general, to much better advantage when mounted dry than in balsam.

It has been objected, however, that details in the nuclei of leucocytes can be made out better in balsam mounts. This is true—the chromatin deeply stained with methylen blue is opaque, and its outlines appear sharper and more distinct when surrounded by the medium of higher index. The index of balsam (1.52), however, is low, as compared with those of other utilizable media. If the covers be examined in oil of cinnamon (Cassia), the index of which is 1.59, there is a distinct gain over balsam. Still better are my "naphthalinambar" (n. 1.625)[2] and the pure monobromide of naphthalin (n. 1.65). The oil of cinnamon, however, should be on the table of every working bacteriologist and hæmatologist. The iodide of methyl (n. 1.72) may also be employed to advantage in special cases. It is extremely volatile, however, and the cover must be instantly sealed with a good cement—either shellac or Bell's. The iodide extracts some of the basic stains, but appears to have little effect on neutral red.

[1] Since the above was written I have received a copy of Van Heurck's "Treatise on the Diatomaceæ." In this he quotes Prof. Hamilton L. Smith, as follows: "For mounting diatoms I invariably place a drop of the liquid containing them upon the cover, never on the slide, . . . for the diatoms thus treated when mounted appear much sharper and cleaner." Van Heurck adds: "I entirely agree with Professor Smith in his opinion." It may be objected that we are not dealing with diatoms but with blood cells, to which I reply that we are dealing with universal optical laws, to whose authority we must yield, as they will not be modified to suit our convenience.

[2] MEDICAL RECORD, May 4, 1895. "Naphthalin-ambar" can be prepared according to my published directions, or may be procured from Eimer & Amend, of this city.

Another source of trouble is in the use of methyl blue. Probably one of the best articles in the English language on the subject of blood that has recently appeared is to be found in Volume VII. of Wood's "Twentieth Century Practice." The author of the article repeatedly directs the use of this substance in his staining fluids. I am not surprised that those who have followed these directions have come to the conclusion that blood staining is a delusion and a snare. Methyl blue is the sodium salt of triphenylpararosanilin-trisulphonic acid. It is a diffuse plasmatic stain, staining protoplasm and nucleus uniformly. It belongs to Ehrlich's group of acid stains, and behaves, except as to color, like eosin.

The proper substance to use is methylen blue. This is the chloride of tetramethyl thionin. It belongs to Ehrlich's group of basic stains, and gives sharp nuclear differentiation. An impure preparation contaminated with zinc costs about five cents a gram, and is the one commonly used. The pure article, costing about four times as much, gives a sharper and cleaner stain.

Dr. Waldstein, in a paper read before the New York Pathological Society,[1] highly recommends thionin as a basic stain, but says that there is some difficulty in procuring a good preparation. After trying several sorts, my experience leads me to prefer that made by Cogit, of Paris. It can be obtained from Queen & Co., of Philadelphia, or at their New York office, 116 Fulton Street. Da Costa, referring to this preparation, recommends the following formula:

Distilled water	90
Alcohol, 95 per cent.	10
Carbolic acid, 25 per cent.	1
Thionin	0.5

This certainly gives an admirable nuclear stain, and displays the crescent and endoglobular plasmodia in the finest manner.

Some fail to make a satisfactory double stain with eosin and methylen blue. None of the text-books, so far as I am aware, specifically directs the kind of eosin to be employed. There are in the market several sorts, some of which will not contribute their quota toward the desired result. They stain the corpuscles strongly when first applied, but when the basic stain has acted and been washed off, the eosin is no longer apparent. The proper eosin to use is Grübler's, marked "soluble in alcohol."

A very beautiful but little known basic or nuclear stain is one furnished by Grübler under the name of neutral red. Nuclei, and other bodies with the same chromatic affinities, respond to it perfectly. It may be used in one-per-cent. aqueous solution. The same substance may be used for *intra-vitam* staining. Living infusoria and even minute vertebrates, such as the young tadpoles of the frog or the newt, stain with it quickly and without apparent injury to their functions.

There are two stains mentioned in the books, however, with which I must confess I have had but little success. These are Ehrlich's "tri-acid" and Chenzinski's neutrophil solutions. I have purchased the Ehrlich stain prepared by Grübler, and have several times made it up myself in accordance with the following formula:

(A)	Distilled water	100
	Orange G	15
(B)	Distilled water	100
	Absolute alcohol	100
	Acid fuchsin	65
(C)	Distilled water	100
	Absolute alcohol	100
	Methyl green	125
(D)	Glycerin	100

[1] MEDICAL RECORD, September 12, 1896, p. 385.

Make the solutions separately, and then mix all together.

Chenzinski's solution is made as follows:

Methylen blue, saturated aqueous solution	40
Eosin, one-half per cent. in seventy per cent. alcohol	20
Distilled water (or glycerin)	40

I trust that others have had better success with these solutions, and if so, that they will make known their exact technique.

Various solutions have been prepared for the permanent preservation of blood cells without apparent deformity of their contours. The best known of these, perhaps, is Hayem's "Solution A," composed of the following ingredients:

Distilled water	200
Sodium chloride	1
Sodium sulphate	5
Mercuric chloride	0.5

An ounce of this solution is taken in a small beaker. The end of the finger is then freely punctured and immediately plunged into the liquid, so that the blood may flow into it without contact with the air. Five or ten drops are sufficient. Human and all other kinds of blood that I have experimented with keep well in "Hayem." The corpuscles sink to the bottom, but when shaken up diffuse uniformly through the liquid, and a drop may be withdrawn for examination. If it is desired, however, to make a stained cover-glass preparation, the corpuscles must be washed several times with dilute alcohol and distilled water, to remove the mercuric salt.

I have devised another solution, which answers admirably for the blood of batrachia and of birds, but does not always preserve human blood in a satisfactory manner. It is composed of:

Distilled water	95
Formalin	5
Sodium chloride, c. p.	0.75

Permit one or two per cent. of the blood to flow directly into the solution, and pour the mixture into a vial. In a few hours the blood is completely fixed, and a drop of the mixture may be withdrawn for examination. If you desire to prepare stained covers, put a drop of the fluid on a cover glass and evaporate to dryness at a gentle heat. When dry, apply the stain and manipulate just as you would an ordinary cover. The salt crystals disappear with the first washing.

I have been asked by several where a good turntable could be had. Up to within quite a recent period I could not have answered this question, but at present am glad to say that the "self-centring" table as *now* made by Bausch & Lomb is in every way satisfactory.

Whether blood should be fixed by heat or by alcohol deserves a moment's consideration. Some advise that the cover be placed in absolute alcohol, or a mixture of this with ether, for about ten minutes. This I have never found satisfactory, but if the covers be left in the mixture for two hours or more, very good results may be obtained. On the whole, however, I prefer fixation by heat, as originally recommended by Ehrlich. To accomplish this most conveniently, I use a simple apparatus. It consists, in the first place, of a small electric stove, about four and one-half inches in diameter.

If attached to the Edison one-hundred-and-twenty-volt current, the surface of the plate will, in ten minutes or less, reach a temperature of about 350° C. This heat is excessive for our purpose, and must be controlled by a rheostat.

A small drying-oven with a shelf completes the apparatus. When it is first set up, it is necessary to use a thermometer to adjust the rheostat. In my own

apparatus the temperature of the oven gradually runs up to about 120° C. in three-quarters of an hour, and afterward remains at that point indefinitely.

This stove may, of course, be used for many other purposes, the heat being regulated to any point within the maximum with the rheostat.

This apparatus is not at the present time for sale in a complete form, but I have no doubt that dealers would be pleased to supply it, and could do so with reasonable profit to themselves for about twenty dollars, which price should include stove, rheostat, connecting cords, oven, and thermometer.

I cannot close this paper without calling attention to the recently published book by Dr. Cabot on the "Clinical Examination of the Blood." He has but little to say concerning microscopical technique, but, viewing the subject from its clinical aspects, has given us a work that in my judgment is the best that has yet appeared in any language.

256 West Fifty-Seventh St.

Clinical Department.

REMOVAL OF A TUBO-OVARIAN ABSCESS (LEFT) AND AN OVARIAN CYST AND TUBE (RIGHT) BY ENUCLEATION, WITHOUT LIGATURE, CLAMP, OR CAUTERY.

By J. COPLIN STINSON, M.D.,

San Francisco, Cal.

The history of the case I shall report is of some interest, as there were numerous adhesions of the adnexa and the uterus to the surrounding viscera and as the appendages were removed by enucleation, without ligature, clamp, or cautery.

Mrs. R. C——, aged forty, the mother of two living children, had always enjoyed good health up to a few years ago, when she began to run down, lost some flesh, became pale and somewhat anæmic, and inclined to be nervous; the bowels became very constipated; the patient commenced to have considerable vaginal discharge, and later on pain in the lower part of the abdomen. While under the care of one physician she was given the rest cure, massage, etc. This treatment was continued for a week or so, when she would no longer remain in bed. She went along, complaining mainly of nervousness, with at times pains over the heart; constipation, for which she took freely aromatic cascara sagrada; a continuous vaginal discharge; and pains occasionally in the lower part of the abdomen. She had two attacks of peritonitis, but was frequently confined to bed for a day or so. Occasionally she had slight chill and fever. A few months ago she noticed a swelling in the left side of the lower part of the abdomen. She consulted Dr. G. Gross, who made a diagnosis of pyosalpinx and advised that an operation be performed. In a subsequent examination by Dr. G. Gross and myself, Dr. Gross stated that the mass was only about one-half its former size.

Examination showed the uterus in normal position and moderately movable. A mass, tender to the touch, occupied the left side of the pelvis and extended to the side of the uterus. The right tube and ovary could not be thoroughly examined. Some thickening was felt, and slight pain on pressure.

On November 11, 1896, with the valuable assistance of Dr. G. Gross and Dr. O. Parrone, I made operation under chloroform, which was administered by the drop method.

Examination under chloroform showed the uterus in normal position; on the left side was a large adherent mass, extending to the uterine cornua; the right ovary was enlarged to the size of a mandarin orange, and moderately adherent.

Diagnosis: Endometritis, left pyosalpinx with adhesions, right ovary enlarged and moderately adherent.

The patient was placed in the lithotomy position; the cervix was dilated and the uterus curetted. Carbolic acid and tincture of iodine, one in four, were applied to the endometrium. The cervix was again dilated and the uterus irrigated with boiled water. She was then placed on the back, with legs extended, and an incision about three inches long was made above the pubes, dividing slightly to one side of the median line the skin, the subcutaneous tissues, the fascia, the rectus, and the peritoneum. On the introduction of two fingers, the omentum and intestines were found adherent to the appendages and the fundus. On account of the extent of the adhesions and the size of the masses, it was found necessary to enlarge the incision slightly. Three and three-fourths inches was the length of the entire incision. The fundus uteri could not be felt at first, so the adhesions on the left side were separated with the fingers till the mass on this side could be partially felt. Carefully working toward the fundus, separating the adherent omentum and intestines, after a while we exposed the fundus. The left mass was enucleated, beginning at its outer extremity. During the separation of adhesions it ruptured, and about one-half pint of creamy chocolate-colored fluid escaped. Pitcherful after pitcherful of hot water was poured in, till the fluid came away clear. The blunt dissection, aided at times by cuts from the scalpel, was carried as close as possible to the adherent mass (a tubo-ovarian abscess). The enucleation was continued as far inward as the cornua of the uterus, from which the mass was separated by dissection flush with the uterus. The pedicle was not tied or clamped, but was removed by enucleation without ligature, forceps, or cautery. There was no bleeding vessel. The adhesions behind the uterus were separated, except deep down in the pelvis. The right ovary was next sought for, and was found adherent; the tube was apparently normal. The ovary—of the size of a mandarin orange—was separated from the adhesions and the surroundings, and with the tube was enucleated by blunt dissection, aided at times by cuts with the scalpel. When the uterine end of the tube was reached, the serosa of the tube, about one-fourth of an inch from the uterine cornu, was divided in a circle and dissected back to the uterus. The tube was then cut off at the tubo-uterine junction, and the cut edges of serosa which had been dissected back were united with a continuous catgut suture. The oozing from the adhesions was arrested by irrigation with hot water and sponge pressure. A couple of tears on the uterine fundus were closed with continuous catgut sutures. Two narrow gauze wicks were carried down to the cul-de-sac, and the ends brought out through the lower angle of the wound. The omentum was drawn down and spread over the intestine, and then the cut edges of the peritoneum were united with a continuous fine chromicized catgut suture. The divided rectus and fascia were united with a continuous chromicized tendon suture, and for the fine approximation of the edges of the fascia a layer of fine chromicized catgut was also introduced. The skin edges were sutured with fine silk. Only sufficient room was left at the lower angle for the passage of the gauze wicks. The uterus was not removed, as it was in good position and had been curetted.

Dressing and after-treatment: Moist bichloride of mercury gauze, held in place by long strips of adhesive plaster, cotton, and binder. The moist dressings were changed as often as they were saturated—about every three hours for the first few dressings, every four hours on the first day, every six hours on the second,

and twice on the third. The gauze wicks were shortened on the third day. The remaining portions of the wicks, except a short piece, were removed on the fourth; and on the morning of the fifth the piece was withdrawn, when a narrow strip of moist gauze was introduced and the edges of the small wound were allowed to fall together. Recovery was satisfactory, the wound healed by primary union, and the silk stitches were removed on the seventh day.

From a study of this case and others I have operated upon successfully,[1] I draw the following conclusions:

1. That even when the appendages, etc., are the seat of extensive adhesions, a pyosalpinx, a tubo-ovarian abscess, and ovarian, uterine, or other cyst, tumor, etc., can be removed by enucleation.

2. That enucleation is the simplest and safest method of removing ovarian, uterine, or other cysts, tumors, etc. There is no danger of hemorrhage. If a vessel is severed, it can be caught at once and ligated.

3. That an ovarian, uterine, or other pedicle should not be transfixed and tied with mass ligatures or tied off in sections, but should be cut across and only the individual vessels ligated. This does away with mass, non-absorbable, and dead ligatures, the cautery, sloughing, and painful stumps, pelvic exudates, and wandering ligatures.

4. That with enucleation, the danger of injuring the surrounding structures is slight, recovery is rapid, and the danger of sepsis is reduced to the minimum.

5. That when a Fallopian tube is removed, it should be removed completely—no stump should be left. When the serosa of the tube at the tubo-uterine junction is not destroyed, it should be divided in a circle and dissected back to the uterus, and after the tube is removed the cut edges united with a continuous absorbable suture.

6. That after removing an appendage, etc., the cut edges of the broad ligament should be united with a continuous suture.

7. That even when both appendages are removed, a uterus that is in good position and not irreparably damaged should not be extirpated.

8. That it must be remembered that at times enucleation with ligation of vessels only is very difficult—*e.g.*, when the pedicles are short and deeply located in the pelvis, and thus cannot be easily controlled; when the broad ligaments retract quickly; when the surgeon cannot or does not wish to keep close to the cyst or tumor, etc.; when the broad ligaments are thickened and very vascular; and when the uterus is fixed by peri-uterine or other adhesions.

Under these circumstances, the surgeon should, in treating the pedicle, first separate adhesions, then enucleate the mass, so as to expose the pedicle, which is clamped transversely, as many forceps as necessary being applied. The operator should then cut off the pedicle between the tumor and the clamps; make moderate traction on the latter, which are used as a lever and tractor, to bring the severed pedicle well into view, so as to inspect the stump for mouths of vessels, which are ligated separately. When the clamps are removed, first apply small forceps at the upper and lower angles of the pedicle to control it; and, if it has a serous coat, bring the cut edges of the latter together over the stump with a continuous suture, to leave no raw surface exposed to form adhesions. The clamps are an addition to the enucleation method, and when applied to the pedicles act temporarily as a prophylactic against hemorrhage while the individual vessels are ligated, at the same time the forceps being used as a lever and tractor. The pedicle is easily controlled and manipulated, the stumps inspected, and the vessels located and ligated.

326 Kearny Street.

[1] Stinson: New York Medical Record, July, 1895. The Therapeutic Gazette, May, 1896.

ATRESIA OF THE VAGINA.

By R. J. Wilson, M.D.,

Toronto, Canada.

Mary S——, aged fifteen years. Family history good; had measles in infancy; otherwise enjoyed good health until thirteen years old. Since then she has complained of headache, general weakness, and constipation: has lost color, and from a plump, rosy child she has become a pale, listless girl, suffering from headache almost constantly, which for days at a time confined her to bed. For this condition various remedies have been prescribed without any improvement. She has never menstruated, and her parents were assured that just so soon as this evidence of womanhood appeared she would be well. She has monthly for the past two years all the symptoms of menstruation, such as pains in the back and down the thighs, and headache, but no flow. The pains have increased much in severity of late; she is losing strength, and is now compelled to keep to her room for a week each month. The bowels move only when encouraged, and she complains of the loss of power to defecate. There is no pain in urinating, but the flow is slow. I saw the patient for the first time on October 23, 1896, and insisted upon a thorough examination. On explaining to the mother that perhaps there was some mechanical reason for the non-appearance of the flux, she consented. On examination the breasts were found well developed, the pubic region was covered by an abundance of dark hair, the urethra and rectum were normal.

The external genitals were well formed, though separated by a very tense bulging mass apparently containing fluid.

Examination revealed the fact that the entrance of the vagina was completely sealed by a dense fibrous band attached to the vaginal walls about one inch above the vulvo-vaginal orifice. On examination per rectum, the true pelvis was found completely filled by a cystic mass, the rectal space being obliterated.

On examining the abdomen a tumor was found in the middle line extending from the symphysis pubis to one and one-half inches above the umbilicus, and occupying the whole of the hypogastric, umbilical, and the lower one and one-half inches of the epigastric regions, almost filling the flanks on each side.

The tumor resembled in size and shape a pregnant uterus at the end of the sixth month; it was very tense and contained fluid; pressure upon the tumor increased the tension of the cyst-like mass separating the labia. The history and the conditions mentioned made the diagnosis of atresia of the vagina quite clear.

Immediate operation was advised and agreed upon. The patient was prepared. On the following morning, assisted by Dr. W. B. Thistle, I operated. An anæsthetic was administered, when very careful search was again made to find if possible an opening in the membrane; none was found. A central transverse incision was then made in the occluding band, through which escaped about five pints of dark chocolate-colored fluid: after the escape of the fluid the operation was completed by rapidly dissecting away the membrane with scissors. There was very little hemorrhage. The central portion of the band was about one-eighth inch in thickness, while the attached margins were fully three-eighths inch in thickness. The vagina above the band was enormously elongated and dilated, and it was with difficulty that the cervix was reached; the os and cervix were dilated and readily admitted two fingers, while the cavity of the uterus was quite patent.

After a thorough cleansing of the parts a strip of iodoform gauze was introduced into the cavity of the uterus, and the vagina was packed with strips of the

same. This was changed daily for three days, after which a simple douche was ordered.

On becoming conscious, the patient complained of feeling faint, and eight hours after the operation the temperature was 100 F.; pulse, 118. At no other period in the subsequent history did the temperature exceed 99 F. The recovery was uninterrupted. A mixture of ergot, strychnine, and iron was given. The uterus occupied the true pelvis seventy-six hours after operation. On examination it and the appendages were found normal in all respects.

20 Bloor Street, W., November 28, 1896.

Progress of Medical Science.

The Treatment of Gonorrhœa with Methylene Blue.—Moore (*British Medical Journal*, January 16, 1897, p. 140) reports in detail two cases of gonorrhœa and refers to seven others treated by the administration of three grains of methylene blue, together with fifteen or twenty grains of potassium citrate, thrice daily, with the result of cutting short the acute stage and alleviating the patient's sufferings. In the later stage an injection of three grains of alum in an ounce of hot water was also employed thrice daily.

The Pathology of the Diarrhœal Disorders of Childhood.—Baginsky (*Berliner klinische Wochenschrift*, January 11, 1897, p. 22) expresses himself of the opinion that the diarrhœal disorders of childhood occurring in conjunction with elevated summer temperature, appear first as functional (chemic) disturbances and subsequently as profound organic lesions of the intestinal wall. For the development of these conditions the ordinary saprophytic bacteria of the intestinal contents and not specific bacteria must be held responsible. The active organisms cause injury to the intestinal walls through the putrefactive processes of toxic character or through products usually non-toxic in character (ammonia and its derivatives), inasmuch as they act as inflammatory irritants; or they cause degeneration of the vegetative and the most important excretory organs (liver, kidneys, etc.) through the blood stream and the lymph stream. As a result of the interference with nutrition and the diminution in the resistance of the tissues thus brought about, the organism is exposed to the invasion of pathogenic bacteria of all kinds (staphylococci, streptococci, pneumococci, oidium albicans, etc.). There also results a predisposition to disease, as manifested by numerous complications.

Motor Aphasia in a Child during the Early Stage of an Acute Exanthem.—Brasch (*Berliner klinische Wochenschrift*, January 11, 1897, p. 30) has reported the case of a girl, aged three years and ten months, without hereditary predisposition or previous abnormality, who became peevish, and then delirious and finally unconscious, with incontinence of bladder and bowels. In the mean time a scarlatinal eruption made its appearance, extending from the feet over the entire body, and the temperature rose to 105.3° F. There was, however, neither angina nor strawberry tongue and no vomiting. The urine was free and contained no albumin and the bowels were constipated. On the third day a similar eruption appeared upon a younger sister, though the attendant symptoms were milder in intensity and extent. In the course of a week the sensorial disturbances in the first child gradually subsided, but the power of speech was lost, although the child appeared to understand all that was said. The ears were normal. The heart presented no lesion. The pupils were moderately large and reactive. The face was symmetric and the muscles of both sides acted equally. Branny desquamation took place from the cutaneous surface, followed by a varicellous eruption upon the face. The knee jerks were preserved. The gait was oscillating, though not ataxic. Speech returned gradually and steadily and control of the sphincters was regained. Recovery was apparently perfect at the end of five or six weeks, although speech remained a little slow and monotonous. The case is viewed as one of atypical scarlatina, with aphasia of toxic origin.

Acute Generalized Miliary Tuberculosis, Involving also the Skin.—Although acute miliary tuberculosis cannot be regarded as especially uncommon, involvement of the skin in the general process is exceedingly rare. A unique case of this character has recently been reported by Leichtenstern (*Münchener medicinische Wochenschrift*, January 5, 1897, p. 1). A boy, five years old, previously healthy and with a good family history, had an attack of measles, from which he failed to recover perfectly, presenting marked febrile symptoms of remittent type. The pulmonary physical signs were insignificant and consisted in slight evidences of bronchitis in both lower lobes. The skin, which was frequently examined for rose-spots, was at this time quite normal. The spleen was strikingly enlarged. The bronchial physical signs increased in intensity and extent, and to them became added evidences of effusion into the left pleura, together with dyspnœa and cyanosis. The pulse had been rapid from the beginning (120 to 140). The temperature later assumed a more intermittent character and profound sweats occurred, with loss of strength and flesh. There was only slight cough and this was unattended with expectoration. In the second week of observation, *i.e.*, six weeks after the attack of measles, a number of small, bright-red, hard, conical nodules, with sharply circumscribed bases, were observed on the face. In the further progress of the case, similar nodules appeared upon many other parts of the body. The larger number of these underwent retrograde changes and disappeared in the course of from a week to two weeks with desquamation. At the summit of other nodules vesicles formed, which speedily dried and disappeared. Upon still others appeared pustules, which also underwent involution. As old nodules disappeared, new ones appeared in remote situations. At no time, however, was any considerable number present; nor was there any evidence of a tendency to spread locally, the nodules always remaining discrete. The cervical, axillary, and inguinal lymphatic glands became enlarged. The conclusion was reached that the cutaneous lesion was either tuberculous or tuberculo-toxic, and instructions were given to excise a nodule for histologic study, but this was for some reason not done. Examination of the contents of a pustule disclosed the presence only of streptococci. In the fourth week miliary nodules appeared upon the mucous membrane of the lips, breaking down and leaving superficial ulceration. A similar series of changes was noted also upon the tongue. At the end of the sixth week the child died, amid typical symptoms of tuberculous meningitis, which was confirmed by the post-mortem examination. In addition, the lungs and the pleura on both sides were found to be the seat of miliary tuberculosis, the lower part of the left lung being converted into a homogeneous cheesy mass. Several bronchial lymphatic glands also were caseous. The follicles of the mucosa of the small intestine were distinctly swollen. The mesenteric and retroperitoneal glands were partly cheesy. Liver, spleen, and kidneys were the seat of tubercles. Examination of two of the cutaneous nodules disclosed the histologic structure of a tubercle in the papillary layer of the skin, with the presence of tubercle bacilli.

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THE PLAGUE.

THE disease now scourging Bombay is probably the same as that which occurred in various epidemics in the principal centres of population in Europe in the middle ages, although it is possible that several different diseases were formerly called by this name when encountered in epidemic form. The great plague in London seems certainly to have been a visitation of this disease, for the description of Defoe, making allowances for the exaggeration of a layman and a writer who wished to construct a good story, is a fairly accurate account of the most striking symptoms of the plague as it has been observed in China and India during the past three years. The last great epidemic occurrence of the plague in Europe was at Marseilles and in other parts of France in 1720, but the disease has visited Europe several times since then, the last time in the province of Astrakhan in Russia in 1878-79. So little has been heard of it since then that to most physicians it has existed merely as a name in medical history. It has never died out, however, but has floated about in Asia, now rising to the dignity of an actual epidemic in one place, again being heard of as occurring sporadically in some distant region seldom visited by Europeans. The present recrudescence was first heard of in Canton in February, 1894, although the disease was known to be prevailing in southern China for at least fifteen years before that time, usually in sporadic form but occasionally in local epidemics of extreme malignancy. From Canton the plague passed to Hong-Kong, or perhaps came there from some other direction, becoming epidemic in May of the same year. The following year it was heard of again in the same cities, and in 1896 invaded Bombay and other places on the west coast of India.

There was little doubt that the disease was of bacillary origin, but the demonstration of this was lacking until Kitasato discovered a micro-organism in the blood and enlarged lymphatic glands. There seems to be some uncertainty concerning the morphology of this micro-organism. Kitasato found a bacillus in the blood which resembled the microbe of chicken cholera, apparently surrounded by a capsule, and staining chiefly at the extremities. Aoyama, Kitasato's associate, has suggested that this is really a diplococcus, and not a bacillus. The bacillus found in the glands had rounded extremities, no capsule, and stained quite uniformly. Lowson, who was also working in Hong-Kong at the same time, thought the difference in these two forms was an artificial one, the organism when stained lightly appearing as a diplococcus, but when more deeply stained being seen to be a bacillus. Yersin in Amoy found a bacillus with rounded ends staining well, but more deeply at the extremities than in the centre. Inoculation experiments by all these different observers have shown the micro-organism to be pathogenic, the inoculated animals succumbing with the symptoms of true plague.

There is considerable difference of opinion as to the method of spread of the disease. Europeans and half-breeds are far less frequently attacked than pure-blooded natives, and then apparently only when there has been prolonged actual contact with the sick, as was the case with two nursing sisters who carried sick children in their arms; or when Europeans have remained some time in infected localities, as happened in Hong-Kong when a number of British soldiers were employed in cleaning out the indescribably filthy houses inhabited by Chinese in the infected quarters of the city. Yet even natives, when clean of person and living in clean well-ventilated apartments, do not seem to be in much danger. Dr. Cantlie, in a recent address before the Epidemiological Society of London, says that none of the Chinese students in the College of Medicine at Hong-Kong was attacked, although they were on duty, night and day by turns, for six weeks in the plague hospital, and were during that time in constant contact with the sick. None of the European physicians, fifteen in number, in attendance upon the plague patients, acquired the disease. Dr. Aoyama had the plague and recovered, but it is not at all improbable that he became accidentally inoculated while prosecuting his pathological and bacteriological studies. Several of the lower animals suffer from the disease, rats especially. Indeed, the natives in plague districts often predict an invasion of the disease by observing an unusual mortality among rats. In Bombay it is believed that the rats dying of the plague are eaten by ants and that the latter carry the bacilli to the food or water. The plague has often prevailed in places where there are few or no ants, but other insects, house flies for example, might readily spread the virus. However the infection is carried, it seems to be very certain that persons, whether foreign born or natives, who are clean and live in well-kept airy apartments and upon nourishing and well-prepared food, are practically immune. In other words, the plague is pre-eminently a filth disease, and one that could gain no foothold in a community where modern sanitary rules govern. It is not a disease which New York, for example, has any reason to fear.

The disease usually begins abruptly with a chill, or sometimes a glandular swelling is the first sign of infection. Fever sets in early, the temperature rapidly rising to 104° F. or higher. The pulse is weak, sometimes dicrotic, and ranges from 100 to 120. There are the usual accompaniments of adynamic infectious diseases, such as headache, nausea, vomiting, and de-

lirium. The urine is albuminous. The glands are always enlarged, and sometimes their involvement goes on to suppuration. This suppuration seems, however, not to be characteristic of the disease, but rather to be a complication due to the accidental presence of pyogenic bacteria. Aoyama found, indeed, that the occurrence of suppuration in an enlarged lymphatic gland was seemingly destructive of the specific plague bacillus. The glands involved most frequently are those of the axilla, neck, and groin, though any of the lymph nodes may be affected. The enlargement frequently occurs in several groups of glands in succession. In rare cases no glandular involvement can be detected during life.

The mortality of the disease is very high, sometimes being as great as ninety-five per cent. of those attacked. In the present Chinese and Indian epidemics the deaths among Europeans were from eighteen to twenty per cent. of those attacked. Death usually occurs in from two to eight days. The incubation period has not been definitely determined, but is probably from three to seven days, although there are cases on record which would appear to prove that this period may exceptionally be extended to ten days or two weeks.

The treatment usually recommended consists wholly in supporting-measures, but its efficacy is very doubtful. Yersin claims to have elaborated an antitoxic serum of great efficacy, and it is said that the government has decided to make use of this in Bombay, Yersin being now on his way to India. It is said, however, that it requires six months to prepare the serum; so, unless he has been laying up a supply during the past year there would not appear to be much relief in sight from this source in Bombay. Yersin first inoculates rats and then horses from them. He tried the serum in 1895, in a French mission station in Amoy, with, it is affirmed, remarkable success, many who were already comatose when the injections were made having been cured.

There is a prophylactic possibility in the existence of an affection resembling the bubonic plague, but without its malignancy. This disease, pestis minor, which prevails at the present time in Calcutta, is of epidemic character, is characterized by polyadenitis, and shows in the blood and glands a bacillus very like Kitasato's, but it is attended by a low death rate. It is possible that this may be an attenuated form of the plague, related to it perhaps as cow-pox is to smallpox. If so, it may be that inoculation with pestis minor will be found to confer immunity against the bubonic plague. This, of course, is pure speculation, for we do not as yet know enough of the two diseases bacteriologically to say how nearly related they are, if they are related at all, but it is an interesting speculation.

PREMATURE BURIAL.

During the past ten days the lay press has devoted much space to the question of the possibility of the living being buried and the reliability of the usual tests applied to determine that death has surely taken place. The majority of instances one finds recorded of a return to life and "a struggle in the grave" are based upon faulty deductions. The body being found in contracted and distorted positions, with hands clenched, hair torn out, blood stains present, etc., is to be explained by natural conditions. In an editorial on December 26th last, we called attention to the shameful manner in which the supposed dead are hurried away by undertakers to be frozen, and ventured the opinion that physicians are not blameless in the matter. In most instances there seems no objection to giving the subject the benefit of the doubt, and, at least for some hours, refraining from putting obstacles in the way of a renewal of vital function. During the cholera in New York many years ago, there were instances of auto-resuscitation after supposed death, and, if we mistake not, this disease is peculiarly likely to result in a state of pseudo-death. The question comes up with periodical regularity, and each time it is discussed a sufficient number of authentic instances of "coming to life again" before burial are recorded to make it quite easy to believe that more instances of burial while the supposedly dead are still alive do in reality occur than physicians as a rule have been willing to admit. When, however, Mr. Sextus says he is almost of the belief that in nearly five per cent. of human burials there is still life in the subject, we must refrain from according to his observations that credit which might otherwise be due them.

QUOTATIONS FROM THE MEDICAL RECORD.

We notice that a letter has been sent to the medical journals of this country and of Canada, which by the inference it carries is calculated very naturally to place the Medical Record and its publishers in a false position.

Both editor and publishers of the Medical Record realize most fully that the best interests of the medical profession are equally theirs, and they would be the last to countenance any action which might interfere in the slightest degree with the fullest and freest dissemination of knowledge. The Medical Record has always allowed the free use of the original matter contributed to it for all reputable purposes, provided that due credit is always given to the original source of publication. There is no reason to believe that its policy in this respect will ever be changed.

The refusal to allow the editor of a certain publication to make extracts from the Medical Record and *The American Journal of Obstetrics* was based upon sound business reasons, and applies only to that particular case.

The letter above referred to, while plausible on its face, is misleading in its intent, inasmuch as it implies that our course in this one instance might be considered as characteristic of our general policy, than which nothing is more untrue.

It is to be regretted that the matter should have been obtruded upon the notice of the medical profession, and the suspicion naturally occurs that the principal object in view may have been a widespread

advertisement of a forthcoming book which the writer has contracted to compile.

We do not intend to enter into any controversy, but we believe that this plain statement of our policy as regards the MEDICAL RECORD will assure the medical profession that any ideas such as this letter was calculated to suggest are absolutely without foundation.

ONE THING AT A TIME.

IT is sometimes said, more expressively than elegantly, of a man who has undertaken a task beyond his power of accomplishment that he has bitten off more than he can chew. The board of health of this city seems to be in a predicament of that sort just at present. Some months ago notices were conspicuously posted in all the elevated and surface cars, setting forth that spitting was a nuisance, a disgusting practice, and a menace to public health. After this statement of fact follows a paragraph to the effect that spitting is forbidden in the cars, and that the rule will be enforced. The notices are still displayed in some of the cars, perhaps in all, but they might as well be in Calcutta as far as they concern spitters in New York. The conductors, who are supposed to enforce the law, are in many cases the worst offenders against it. We have known of an instance in which complaint was made against a man who was sprinkling the floor of a car with saliva; the conductor, being asked to make him desist or leave the car, as soon as he could clear his own mouth of the tobacco juice which filled it, laughed and said that the notice meant nothing, and it was none of his business what the passenger did as long as he was making no disturbance.

The board of health of this city has done some excellent work and has won the respect of the medical profession as well as of other citizens, but it will make itself an object of ridicule if it promulgates laws which it cannot enforce. It has recently proposed to declare tuberculosis a contagious disease and to compel its notification. We do not know what it proposes to do with the consumptive after it catches him—perhaps to send him a notice that spitting is a disgusting practice and dangerous to public health. We cannot but think that it would be wiser to see that one rule is properly executed before another is put forth. Perhaps the prestige of having put an end to spitting in public places would carry the board to the point of being able to enforce the notification by physicians of cases of tuberculosis occurring among their *clientèle*. But for the present one dead-letter health law is enough.

To Prevent Premature Burial.—The cable reports that some one in Vienna has discovered a new kind of Roentgen rays, which will infallibly determine in a subject whether death or catalepsy has intervened. An investigation of this claim is recommended to those gentlemen who are alarming us with the assertion that premature burial is of frequent occurrence.

News of the Week.

The Health of the Tsar.—Some time ago it was reported that a Berlin surgeon had been called to St. Petersburg to trephine the Tsar's cranium, but a few days later the report was emphatically denied by the surgeon himself. Now another report comes from Berlin to the effect that the young Nicholas is an epileptic, and that his attacks are recurring with increasing frequency. His physicians, it is said, have prescribed a strict regimen, cutting off his tobacco. It is impossible to learn what truth there is in this rumor, but we trust there is none.

Strengthening the Quarantine Station.—Governor Black recently signed the bill, introduced by Assemblyman Nixon at the request of Health Officer Doty of the port of New York, appropriating $5,000 for the completion of the disinfection apparatus at the quarantine station of the port of New York, to prevent the introduction of infectious and contagious diseases. The measure is a precaution taken against the possibility of the introduction into this country of the bubonic plague.

A Rinderpest Serum.—Koch has completed his studies of the rinderpest in South Africa, and has sent word that he is about to return to Berlin with a newly discovered serum which will lessen the force of the disease. In the mean time, he is unable to say whether or not he will be able to prevent animals from being infected with the disease. He has demonstrated that sheep and horned cattle are the most liable of all animals to contract the disease, and that dogs, monkeys, and rodents enjoy complete immunity from it.

The Plague.—Up to February 4th, according to the official returns, there had been in Bombay 5,098 cases of the plague, with 3,841 deaths. Several of the European governments are sending commissions to India to study the disease. It was announced that Koch was to head the one sent by Germany, but a dispatch from Berlin says that he has telegraphed from South Africa his refusal to go to Bombay. Yersin is now on his way there, having been invited by the government to make a trial of his antiplague serum which was found so effectual in Amoy last year. A sanitary conference has been called to meet in Venice on February 12th. It is announced that the British delegates will refuse to sanction the adoption of stringent quarantine restrictions, urging rather upon the delegates from southern Europe the prophylactic virtues of cleanliness, both personal and municipal. It is announced by the governor of the Transcaspian territories that the bubonic plague has appeared at Candahar, Afghanistan. A force of Cossacks has been sent to the Amu Darya River to prevent, if possible, the introduction of the disease into Russian territory.

The Polyclinic Hospital.—The trustees of the New York Polyclinic Medical School and Hospital have decided to rebuild on the site of their former building, which was burned some weeks ago. The work will be begun immediately.

The Successor of DuBois-Reymond in the chair of physiology at the Berlin University will probably be either Professor Munk, of Berlin, or Professor Kühne, of Heidelberg.

Obituary Notes.—Dr. Charles W. Cooper, of Northampton, Mass., was lost at sea from the steamship *Columbia*, which arrived here from Genoa on February 8th. Dr. Cooper was born in Maine in 1851. He was graduated from Amherst College in 1873 and from the Harvard Medical School in 1876. For a time he was surgeon on a steamship on the Pacific, and then settled in Northampton.—Dr. Charles A. Stark, of Marshfield, Mass., died there on January 22d, aged thirty-five years. He was a graduate of the Dartmouth Medical School. He was for a time connected with the staff of the New Hampshire Insane Asylum, and then went South, practising his profession in Louisiana. In 1889 he returned North and in the following year established himself at Marshfield. —Dr. Ramon De Mazarrado died at Philadelphia on January 3d at the age of sixty-two years. He was a native of Cienfuegos and a graduate of the medical department of the University of Pennsylvania. He continued his medical studies abroad, and then returned to Cuba.—Dr. William A. Carey died at Philadelphia on January 29th at the age of thirty-five years.—Dr. Andrew Wittkamp died at Philadelphia on February 2d, at the age of forty-one years, as a result of cerebral hemorrhage. He came from Germany as an infant and was graduated from Jefferson Medical College in 1876.

Philadelphia Neurological Society.—At a stated meeting of the Philadelphia Neurological Society on January 25, 1897, Dr. Lewellys F. Barker, associate professor of anatomy in the Johns Hospital University, read a paper entitled "Flechsig's Association Centres in the Cerebral Cortex."

Orrhotherapy in Puerperal Septicæmia. — The Kieff (Russia) Society of Gynecology and Obstetrics has issued a circular, requesting all members of the profession who have tried any experiments in the use of antitoxin in septic diseases following delivery to communicate the results to the president, Prof. G. E. Kehn, Bolshaya Vladimirskaya, Kieff, Russia. The material thus brought together will be carefully examined and submitted for discussion to the section of obstetrics at the forthcoming international medical congress.

Rontography.—A writer in *The Lancet* suggests that the pictures obtained by means of the Roentgen rays be called, as a tribute to the discoverer, rontographs, and the process rontography.

Against Illegal Practitioners.—Since April, 1895, when the law providing for the criminal prosecution of quacks was restored, the New York County Medical Society has caused the arrest of eighty-three persons for practising illegally, and it has obtained convictions in fifty-one cases. These persons have paid $3,690 in fines, and a number of them have been sent to jail besides. The legal department of the society has a large number of cases pending.

Dr. George W. Brush, of Brooklyn, is, by direction of the President, to receive a medal of honor for distinguished gallantry in action on the Ashepoo River, South Carolina, on May 24, 1864. Dr. Brush, then a captain of infantry, volunteered to command a boat crew which went to the rescue of a large number of Union soldiers on board the stranded steamer *Boston*, and succeeded in conveying them to the shore, being exposed during the entire time to a heavy fire from a Confederate battery.

The Night Medical Service in Paris.—Some time ago a night medical service was established in Paris, the fee being placed at 10 francs. It has grown to such an extent, however, that the police authorities are endeavoring to reduce the expense, and with this object propose to give the physicians employed in the service an annual salary of 600 francs ($120). This would be an equivalent of about sixty cents a visit in the poorer districts, where the night calls are the most numerous, and the physicians concerned refuse to serve for so small a compensation. The prefect of police pretends not to be alarmed, for he thinks there are enough needy practitioners who will be glad to take the vacant places and do the work for $10 a month.

Small-Pox in Cuba.—There are over two thousand cases of small-pox in Havana, and the disease is proportionately prevalent in other cities of Cuba. In Guanajay, in Pinar del Rio, there are reported to be four hundred and sixty-seven cases in a population of less than ten thousand. Yellow fever is less virulent for the time being, but in two months the hot weather will set in, and then the disease will undoubtedly become even more deadly than during the last rainy season.

A Surgical Doorkeeper.—As an illustration of the overcrowded state of the medical profession, says the *Medical Times* (London), an evening newspaper states that at the present time the doorkeeper at one of our London workhouses is a pauper who holds the diploma of fellow of the Royal College of Surgeons of England. It is stated that at one time the "fellow" in question had an excellent practice, kept horses and carriages, and was chief medical officer of a county asylum. Now he wears workhouse fustian, with brass buttons, and is glad to touch his hat to all comers. Our contemporary says that competition alone could not have reduced the man to such straits, for, it optimistically thinks, although the profession is much overcrowded, every well-educated and well-conducted doctor should not experience much difficulty in earning sufficient to live respectably.

The American Medical Association.—It is announced by the committee of arrangements for the fiftieth annual meeting of this society that, in addition to the regular order of exercises during the meeting, there will be, for a week preceding and a week succeeding the meeting, special courses and clinics given in the various teaching institutions of Philadelphia, without cost to visiting physicians. Information concerning these may be obtained from Dr. Edward Martin, 415 South Fifteenth Street, Philadelphia, chairman of the committee on hospital courses.

A Prophetic Utterance.—The London *Daily News* relates the following story in a notice concerning the honor recently conferred on Sir Joseph Lister: While going round his wards in the Glasgow Royal Infirmary one day, Sir Joseph, then plain Mr. Lister, came to the bedside of a patient whose arm had been severely crushed without the skin having received any injury. Turning to the assembled students, he said, "Gentlemen, I have frequently noticed that when severe injuries are received without the skin being broken, the cases nearly always recover. On the other hand, trouble is always apt to follow, even in trivial injuries, when a wound in the skin is present. How is this? I cannot help thinking that the man who is able to explain this problem will be one who will gain for himself undying fame." The problem was solved by the speaker himself, and the fame has been gained.

A One-Man Medical Faculty.—Dr. Dunglison writes in the *College and Clinical Record* that the late Prof. Robley Dunglison, of Jefferson Medical College, when invited by the representative of Thomas Jefferson, then rector of the University of Virginia, to leave England to assume the duties of a professorship—or rather a combination of professorships—in that school, entered into a contract: "To teach to the best of his ability and with due diligence, anatomy, surgery, the history of the progress and theories of medicine, physiology, materia medica, and pharmacy." At the time he was invited to take upon himself this task he was but twenty-six years of age.

Dr. Giuseppe Sanarelli, the alleged discoverer of the yellow-fever bacillus and of a curative antitoxin of the disease, is a graduate of the University of Siena in 1889. He early turned his attention to the study of water-borne diseases. He studied for a time at the Pasteur Institute in Paris and on his return to Italy was appointed professor of hygiene at the University of Siena. Upon the establishment of the Institute of Experimental Hygiene in Montevideo he was chosen as director at a salary of $5,000. While in Brazil he contracted yellow fever, and after his recovery declared war on the disease and set about the discovery of its cause. We earnestly hope he has been successful, as announced, but we cannot forget that Freire and others have thought that they had discovered the secret and have been shown to be mistaken.

College of Physicians of Philadelphia.—A stated meeting of the College of Physicians of Philadelphia was held on Feburary 3d. Dr. Thomas G. Morton read an appreciative memoir of the late Dr. William Hunt, based upon a personal acquaintanceship of some forty years. A discussion upon "The Relations of Nervous Disorders in Women to Pelvic Disease," was participated in by Drs. B. C. Hirst, E. E. Montgomery, G. E. Shoemaker, C. P. Noble, S. Weir Mitchell, C. K. Mills, Wharton Sinkler, F. X. Dercum, J. Hendrie Lloyd, James Tyson, A. V. Meigs, J. M. Anders, L. W. Steinbach, and S. Solis-Cohen. The consensus of opinion appeared to be that pelvic disease alone is not competent to cause nervous disorders, and that the removal of healthy or slightly diseased pelvic organs for the cure or alleviation of such disorders is not justifiable, although it was agreed that pelvic disease in nervous women should receive precisely the same therapeutic consideration as in women free from nervous disorder. Dr. J. K. Mitchell was elected a councillor and three new fellows were elected.

The New London County (Conn.) Medical Society held its annual meeting at the residence of Dr. J. G. Stanton, on January 14th. Dr. E. P. Douglass read a paper embodying the report of a number of surgical cases seen by him. The election of officers resulted in the choice of the following: Dr. F. W. Dart, Niantic, *President;* Dr. J. R. Crofton, *Vice-President:* Dr. H. H. Meyer, *Secretary:* Dr. Hughes, Groton, *Librarian and Curator.*

Plenty of Doctors in South Africa.—It is said that every small village in Cape Colony and Natal is well supplied with medical men (mostly of Scotch or German nationality), and in the larger towns the supply largely exceeds the demand.

A Training School for Colored Nurses is about to be established in Charleston, S. C. One was recently founded in New Orleans.

Plural Births in Massachusetts.—During 1896 there were one thousand four hundred and seventy-two twins and twenty-seven triplets recorded in Massachusetts.

Antivaccinators.—Pennsylvania shares in the distinction of possessing a so-called Anti-compulsory Vaccination League, the president of which and ten vice-presidents appear to be homœopathic physicians. At a recent meeting a petition to the legislature was adopted, asking that the compulsory-vaccination law be repealed.

Vital Statistics of Philadelphia.—For the week ending January 30th there were reported to the Philadelphia board of health 556 deaths—108 more than during the preceding week and 57 more than during the corresponding week of the previous year. Of the whole number 150 were of children under the age of five years. The individual causes of the largest number of deaths were as follows: Pneumonia, 107; pulmonary tuberculosis, 72; heart disease, 35; diphtheria, 34; old age, 23; apoplexy, 22. During the week there were reported also 106 cases of diphtheria, 46 of scarlet fever, and 27 of typhoid fever.

To Discourage Vivisection.—The latest scheme for discouraging vivisection, as promulgated by the American Antivivisection Society, of which a graduate in medicine—we blush to record it—figures as the president, is to "search out, under capable medical direction, all varieties of cruel work by vivisectors, and, giving it the widest publicity, mention the name and address of the perpetrator in every case." We venture to state the list will be a small one, as so-called vivisectors are moved by no less lofty and delicate sentiments than the self-assuming antivivisectors.

A Botanical Doctor Called to Account.—A colored man of Philadelphia, known as a botanical doctor, has just been convicted of involuntary manslaughter and sentenced to imprisonment for a year and the payment of a fine of $500. It appears that the "doctor" had administered to a sick man suffering from abdominal pain a decoction of his own preparation. Death resulting, appendicitis was found to exist, the fatal result of which might have been averted by appropriate operation.

The German Congress for Internal Medicine will hold its fifteenth annual session in Berlin on June 9 to 12, 1897. The meetings will be held in the Architektenhaus, in the Wilhelmstrasse, under the presidency of Professor von Leyden. The subjects announced for discussion are the "Treatment of Chronic Articular Rheumatism," opened by Bäumler and Ott; "Epilepsy," opened by Unverricht; and "Exophthalmic Goitre," opened by Eulenburg.

New Jersey Board of Medical Examiners.—The sixth annual report of this board states that during the year 1896 seventy-five candidates made application for examination for license to practise medicine and surgery in that State, in accordance with the provisions of the law. Two candidates subsequently withdrew before completing the examination, and three were rejected; the remaining seventy passed a satisfactory examination and received the license of the board. The rejections were 4.1 per cent. The examinations were held in June and September, at the Capitol building, in Trenton. The percentage of rejections was lower this year than at any time since the organization of the board in 1890, showing that recent candidates have been prepared with greater care and thoroughness.

An Epidemic of Scarlet Fever is reported to prevail in Thorofare, a small New Jersey town.

Jefferson Medical College.—Mr. James P. Townsend has been elected a trustee, to succeed his father, recently deceased. Dr. H. F. Harris has been elected bacteriologist to Jefferson Hospital. A committee of the trustees has been appointed to represent the college at the unveiling of the monument erected to the memory of the late Prof. Samuel D. Gross on May 5th at Washington. The presentation address will be delivered by Dr. Claudius H. Mastin, of Mobile, the unveiling will be by Miss Horwitz, a granddaughter of Professor Gross, the reception by Surgeon-General George M. Sternberg, U.S.A., and an address will also be delivered by Dr. William W. Keen, professor of surgery in Jefferson College.

The Boycott of the Pan-American Medical Congress.—For some inscrutable reason, the Pan-American Medical Congress, lately held in Mexico, has been boycotted by the American medical press. The only journal which reported the proceedings was the New York Medical Record. Our contemporary in pointing out this fact admits that it cannot understand the reason of the universal silence. If the meeting of the congress was to be of no service to the profession, why was it ever decided to hold it in Mexico? Surely, the proceedings were of some value, and if so, why again, we say, have they not been reported? —*The Medical Press.*

The University of Rome was closed the 1st of this month because of the riotous conduct of the students. They have been in a more or less disturbed condition ever since the beginning of the term on November 14th. At that time an address was delivered by the professor of moral philosophy, Signor Labriola, in which the speaker denounced the minister of public instruction, who was present with him on the dais, most bitterly for his political action. The students applauded Signor Labriola and loudly hissed Signor Gianturco, the minister of public instruction, as he passed them on his way out of the hall.

The British Medical Association Meeting.—Dr. Roddick, of Montreal, the president-elect of the British Medical Association, was recently in London to discuss the arrangements for the annual meeting in August. While there he was entertained at dinners by some members of the council of the association at the Grand Hotel. The prospects of a successful meeting are bright, and we are sure it will not be the fault of the Canadians if it is not a success in every way.

Drugs Made in Germany.—The *German Pharmaceutical Journal* estimates that one hundred and seventeen new drugs have been brought on the market during the second half year of 1896.

Interhospital Football Contests take place each year between the staffs of the various London hospitals. After the games are over, the uninjured exercise their newly acquired surgical skill in patching up their maimed and battered comrades.

The S. D. Gross Statue.—A statue of the late Dr. Samuel D. Gross, modelled by Mr. A. S. Calder, has recently been cast in Paris. It is to be erected on the grounds of the Smithsonian Institute, near the Army Medical Museum, in Washington. The statue is the gift of the American Surgical Association, and Congress has appropriated $1,500 for the pedestal. The statue will be unveiled during the congress of American physicians and surgeons in Washington in May.

A Modified Diphtheria Antitoxin.—In an article published in the last number of *Fortschritte der Medicin*, Professor Behring explains modifications which he is on the point of introducing in his antitoxin serum. The serum is in future to be brought into the form of a solid. It will not contain any carbolic acid or other antiseptic, and Behring maintains that thus modified it will keep for any length of time without losing its efficacy, and that it will be free from any dangerous by-effects.

Gives His Salary to Charity.—The Earl of Derby, who is mayor of Liverpool, does not draw his salary of $10,000 but he directs the corporation to hand it over in various proportions to the hospitals and dispensaries of the town.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical

corps of the United States navy for the week ending February 6, 1897. January 30th.—Assistant Surgeon H. La Motte granted sick leave.

Changes in the Woman's Hospital. — We are so accustomed to regard this time-honored institution as a model of conservatism that the announcement of its adoption of the *fin-de-siècle* mode of treating its attending staff will be received with considerable surprise by the profession. If, as we are credibly informed, certain of the assistant surgeons (whose ability and experience are well known) have been summarily dropped from the active list at the recommendation of the medical board, we are forced to conclude that the recent progress (?) of the hospital is in a retrograde direction. The assurance that the changes are made purely "in the interests of the service" does not alter the fact that these gentlemen have, to say the least, not been treated with the consideration which they deserved at the hands of their associates.

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on January 28th, the newly-elected president, Dr. James Tyson, assuming the duties of his office. The retiring president, Dr. J. C. Wilson, delivered an address dealing with the events of the past year. Dr. E. L. Vansant made a report of the results of a bacteriologic investigation of the nasal mucus in one hundred cases of chronic nasal discharge, with special reference to the presence of the Klebs-Loeffler bacillus. The cases were mainly instances of various forms of rhinitis, and the examinations disclosed the presence of diphtheria bacilli in thirty of one hundred and thirteen cultures made. In many of the others staphylococci and other bacteria were found. Dr. Solis-Cohen presented a communication entitled "The Schott Method of Gymnastics in the Treatment of Heart Disease, with Report of a Case," and a demonstration of the exercises was given by Dr. Charlotte West. Dr. A. J. Downes exhibited a portable cylinder of acetylene gas for surgical illumination: also a wound retractor and a double-bladed wire vaginal speculum.

The Sheppard Asylum.—Dr. Charles M. Franklin, of Lancaster, Pa., has been appointed first assistant physician of the Sheppard Asylum, of Towson, Md.

Dr. William M. Leszynsky has been appointed consulting neurologist to the Manhattan Eye and Ear Hospital.

The Cumberland County (N. J.) Medical Society convened at the Hotel Cumberland, January 12, 1897, at 2:30 P.M., with the president, Dr. D. H. Oliver, in the chair. Dr. L. L. Hand, of Leesburg, read a paper on "Indigestion." A report on the "Advance of Surgery for the Past Year" was made by Dr. Joseph Tomlinson, and Dr. Stites reported on "Pathology." The society adjourned, to meet at the same place on the second Tuesday in April.

Bequest to a Medical College.—The will of Prof. William H. Pancoast, who died on January 5th, directs that his museum of anatomy and surgery, together with $600 per annum, be given to the Medico-Chirurgical College of Philadelphia.

Cigarettes in Stamford.—Some people in Stamford, Conn., have become alarmed by the discovery that a large number of cigarettes are consumed in that city each week. One dealer says that he disposes of fifty thousand cigarettes weekly, and these sales, with those of other local dealers, bring the total number sold up to one hundred thousand weekly.

The Hudson Street Hospital.—The work of this institution increased largely in 1896 over that of former years. During the year 1896 the number of patients admitted to the reception ward was 2,956; new cases of out-patients treated, 26,390; total number of visits to out-patients, 72,735; ambulance calls taken, 3,532; operations in wards, 156; operations in out-patient department, 2,599. The work thus far this year has been largely in excess of the corresponding period last year.

New York State Medical Association.—The thirteenth annual meeting of the fifth district branch of the New York State Medical Association will be held in Brooklyn, on Tuesday, May 25, 1897. All fellows desiring to read papers are requested to notify E. H. Squibb, secretary, P. O. Box 760, Brooklyn.

Allegheny County (Pa.) Medical Society.—At the annual meeting of the Allegheny County Medical Society, held at Pittsburg, Pa., on January 28th, Dr. H. C. Wood, of Philadelphia, delivered an address on "Pain from a Diagnostic and Therapeutic Point of View."

Preparations for the Plague.—Dr. H. C. Boenning, quarantine physician at the port of Philadelphia and executive officer of the Pennsylvania State quarantine board, has given orders that the quarantine measures enforced at the port of Philadelphia during the prevalence of cholera in Europe a few years ago and its threatened introduction into this country will be now enforced against any vessel that may arrive at the quarantine station from the plague district, and no vessel will be allowed to come to the port of Philadelphia that can be in any way a menace to the health of the community. Rags coming from infected districts will be strictly prohibited from entering the port, as will also all articles that have been in household use, rugs, etc., which might possibly be carriers of infection. The secretary of the Pennsylvania State board of health, Dr. Benjamin Lee, will issue a circular indicating the necessity of unusual activity on the part of municipal authorities throughout the State for placing their respective towns and boroughs in a state of extreme cleanliness. The board of health will also urge the importance of attention to personal hygiene and cleanliness, especially on the part of those who may be exposed to the contagion. A communication will be addressed to the managers of the leading passenger railroads throughout the State, indicating the possible necessity for the establishment of hospitals and quarantine stations at the State line. Special in-

structions will also be issued to the inspectors at the ports of Erie and Pittsburg, as to the necessity for keeping a close watch upon any vessels arriving from foreign or domestic ports at which infection exists. The importance of the disinfection of mail matter coming from infected districts will be urged upon the postal department.

The Dispensary Abuse in Zululand.—A correspondent of *The Lancet*, writing on medical practice in Zululand, says that some of the district surgeons increase their incomes to the extent of £50 a year, by conducting a dispensary at which they must attend all natives at a uniform fee of one shilling. The shilling goes to the government, which supplies the necessary medicines; the district surgeon, however, is expected to provide surgical instruments. The dispensary system does away with all chance of native practice, which before its institution used to yield a fair income, as the natives cannot see why they should pay more than one shilling for private attendance when they can have attendance and medicine at the surgery for that sum.

Albany Medical College Alumni Association of Greater New York.—The second annual banquet of this society was held at the Hotel Savoy, this city, Thursday, January 21st. There were between fifty and sixty present and the speeches were of a very rare and pleasing nature. The association has nearly doubled in members since the last meeting, and the banquet was pronounced an even greater success than last year.

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on January 28th. Dr. Frank White presented a foreign body from the stomach of a boy. The patient was a low-grade imbecile, who had acquired the habit of eating bits of wood and the like. He had a preference for liquid and semi-solid food, but manifested no special symptoms of gastric disturbance. The firmly matted collection of strands of wood fibre occupied almost the entire cavity of the stomach, to the form of which it had adapted itself. Dr. White exhibited also a specimen of tuberculosis of the larynx. Dr. Samuel M. Hamill presented for Dr. J. A. Johnston, of the National Soldiers' Home, specimens of tuberculous kidneys. Dr. D. D. Stewart presented an enormous obliterated aneurism of the innominate artery from a patient who had died of cerebral thrombosis in consequence of endarteritis. The successful result had been brought about three and a half years before death by the introduction into the aneurismal sac of a coil of gold wire through which was passed a strong galvanic current for more than an hour. The lumen was almost if not entirely occluded. Dr. D. L. Edsall presented a specimen exhibiting two successive perforations of the bowel in typhoid fever, and a second specimen exhibiting a single perforation in the same disease. In the first instance it was thought that the rupture had taken place during the administration of a cold bath, but when the condition was recognized with certainty it was deemed too late for operative interference. In the second instance the condition of the patient when he came under observation was considered counter-indicative of operation. Dr. William E. Hughes exhibited a perforated duodenal ulcer and a retroperitoneal sarcoma. The most striking feature of the latter was the early development of a condition resembling varicocele. Dr. W. G. Spiller presented for Drs. White, Llewellyn, and himself two interesting brains from cases of status epilepticus. In the one there existed several circumscribed areas of cortical sclerosis, and in the other an immense cyst in the occipital lobe. Dr. Alfred Stengel exhibited a large amœbic abscess of the liver, in conjunction with ulcerative colitis, and demonstrated amœbæ in stained preparations. Dr. M. H. Fussell exhibited an aneurism of the aorta at the junction of the ascending and transverse portions of the arch, which had ruptured into the right pleural cavity. Dr. Alfred Stengel exhibited a gummatous liver and also thrombosis of the left auricle and ventricle.

Philadelphia Medico-Legal Society.—At the annual meeting of the Medico-Legal Society of Philadelphia, the following officers were elected for the ensuing year: *President*, Dr. William H. Ziegler; *Vice-President*, Drs. John H. Dripps and Edwin B. Wheeler; *Treasurer*, George M. D. Peltz; *Secretary*, Dr. George Y. Pascoe.

The Board of Health Censured.—At an inquest held recently in the case of a woman who had died of post-partum hemorrhage while under a midwife's care, the coroner's jury brought in a verdict in which they censured the board of health for granting licenses to midwives without examinations. The health board, however, does not license midwives. It registers them, though there is no law compelling a midwife to register. The health board registers any midwife who brings a diploma from a school of midwifery or a note from a reputable physician that she is competent.

The Health of Dublin.—Various epidemic diseases are prevailing to an unusual extent in Dublin. Scarlet fever has been epidemic for some time, and the number of cases of measles is steadily increasing. Typhus prevails to a considerable extent, and smallpox has been reported to the authorities. The beriberi epidemic at the Richmond Asylum is subsiding. In all there have been one hundred and fifteen cases, with seven deaths.

Dr. Alexander C. Abbott, professor of hygiene in the University of Pennsylvania, has been appointed chief of the bacteriological division of the Philadelphia bureau of health, in succession to Dr. B. Meade Bolton, resigned.

The Health of the British Army in India.—The secretary of state for India stated in Parliament a few days ago that five hundred and twenty-two per thousand of the British forces in India were at present incapacitated by disease, chiefly venereal, although he maintained that the average permanent incapacitation due to disease was only forty-six men per thousand. He said that a department committee was now inquiring into the subject.

Reviews and Notices.

BRAIN: A JOURNAL OF NEUROLOGY. Edited for the Neurological Society of London by A. de NATTEVILLE. London: Macmillan & Co. New York; The Macmillan Company. 1896.

THIS summer and autumn number covers no less than four hundred and fifty-eight pages and presents a long list of deep original articles, clinical cases, critical, digest, etc.

REPORT OF THE SURGEON-GENERAL OF THE ARMY TO THE SECRETARY OF WAR. For the fiscal year ending June 30, 1896.

THIS volume contains valuable statistical data relating to health in the army and kindred matters.

WATER AND WATER SUPPLIES. By JOHN C. THRESH, D.Sc. London, M.B. Victoria, Ph.D. Cambridge; Medical Officer of Health to the Essex County Council, etc. London: The Rebman Publishing Company (Limited), 11 Adam street, Strand. Philadelphia: W. B. Saunders.

ONE of the chief aims of this work is to furnish to all interested in public and private health the information necessary to the correct formation of opinion in matters pertaining to wholesome water supply. Sufficient technical and scientific data are incorporated to enable one to take intelligent action upon plans and schemes for supplying communities of any size. The subject is most important, and it seems to us such a work has a large field of usefulness open to it. It is especially fitted for the use of those interested in wells and water supplies in small places and rural districts.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS. For Students and Physicians. By JOHN H. MUSSER, M.D., Assistant Professor of Clinical Medicine in the University of Pennsylvania, etc. Second Edition, Revised and Enlarged. Illustrated with 117 Woodcuts and 14 Colored Plates. 8vo, 938 pages. Lea Brothers & Co. 1896.

PRACTICABILITY is one of the crowning features of this work, and completeness is another. The author's experience at the bedside has taught him that what the practitioner requires is an aid to diagnosis at every stage of a disease and in every complication. No work can possibly cover all the changes which disease processes undergo, but the result here presented shows what can be done in this direction. Several of the colored plates which have been added, as well as new woodcuts add to the book's practical worth. Of the former there are nine and of the latter fifteen. A page covered with illustrations of the malarial plasmodium is highly instructive, showing the development, process of cleavage, and isolation of the spores. The illustrations of urinary casts add much to the clearness of this chapter, and Plates I. and II., showing tube cultures of various bacilli and cocci and their microscopic appearances, are for the most part quite accurate. As a student's guide, as well as a practitioner's aid, it has much to recommend it.

DEFORMITIES: A TREATISE ON ORTHOPÆDIC SURGERY. Intended for Practitioners and Advanced Students. By A. H. TUBBY, M.S. London, F.R.C.S. England; Assistant Surgeon to and in charge of the Orthopædic Department, Westminster Hospital; Surgeon to the National Orthopædic Hospital; Surgeon to Out-Patients' Evelina Hospital for Sick Children; Joint Honorary Secretary, British Orthopædic Society; Late Senior Demonstrator of Physiology, Grey's Hospital.

THE volume, which contains something less than six hundred pages, shows the results of painstaking and conscientious work on the part of the author, although nothing strikingly new is presented to those acquainted with the modern practice of orthopædic surgery. While there are quotations in most of the chapters from the writings of Americans, we regret to see that so little space is given to the diseases of bones and joints, although the author states in his preface that "the practice of orthopædic surgery in England does not include such as tuberculous ostitis and arthritis of the hip and knee, on what grounds it is difficult to understand."

The chapter on the repair of tendons can be especially commended to those interested in the operative treatment for infantile paralysis, although only the case by Winklemann is alluded to in this connection.

Aside from these shortcomings, the book we believe will be appreciated by both general and orthopædic surgeons because of the succinct style of the writer in presenting facts, together with the profuseness and excellent quality of the illustrations.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. Eleventh Session, held at Washington, D.C., April 30 and May 1 and 2, 1896. Volume XI. Philadelphia: Printed for the Association.

THIS volume contains many highly instructive papers well illustrated. It is neatly bound and reflects credit upon the secretary, Dr. Benjamin Lee, while the high order of the society's work is well represented.

TWENTIETH CENTURY PRACTICE: AN INTERNATIONAL ENCYCLOPEDIA OF MODERN MEDICAL PRACTICE. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. Vol. VII., "Diseases of the Respiratory Organs and Blood, and Functional Sexual Disorders." New York: William Wood and Company.

THE full scope of the subject matter of this volume is not adequately represented in the title-page announcement, since we find in the table of contents not only chapters upon the diseases of the mediastinum and diseases of the diaphragm, which are indirectly, to be sure, closely identified with respiratory affections, but also articles upon rachitis and chemical and microscopical examination of the urine.

The respiratory affections here treated of include only pleurisy, asthma, and hay fever. We infer, therefore, that the editor's intention must be to devote one or more entire volumes to a consideration of the other affections of the lungs. Otherwise it would seem strange to find classed together these affections and the functional disorders of the sexual apparatus, for, while there is a connection between disordered respiration and sexual function, it is more apt to be physiological than pathological.

It is fair to presume that the editor knows best how to arrange his subjects so as to get them all crowded into the limited space of twenty volumes, so we will reserve judgment. After all, it is the quality of the various chapters, much more than their location, which interests us.

The first contribution of one hundred and twenty-five pages is from the pen of Dr. Herbert B. Whitney, of Denver, upon "Diseases of the Pleura." The able manner in which the various forms of pleurisy, their complications and sequelæ, as well as malignant and other growths of the pleura, have been treated in this article indicates a thorough familiarity with the subject, both theoretical and practical. The bibliography includes subdivisions for pneumothorax and malignant disease.

The next chapter, on "Asthma," is by Dr. Franz Riegel, of Giessen. Those who remember this author's "Bronchial Asthma" in Ziemssen's Encyclopedia need not be told that the quality of work is of high order. The bibliography, though brought down only from 1876, occupies three pages. Two short chapters on "Diseases of the Mediastinum" and "Diseases of the Diaphragm," both by Dr. E. Main, of Paris, include about all that can be said in these departments and bring us to the important contribution from Dr. Alfred Stengel, of Philadelphia, upon "Diseases of the Blood," to which about three hundred pages have been devoted. This is a most instructive article, and containing so much that is quite modern it offers entertaining as well as instructive reading. The subdivision upon clinical methods of examining the blood will be found a feature of practical value. "Rachitis" has been ably written by Dr. Jules Comby, of Paris, whose suggestions as to prophylaxis and treatment are especially good. The "Disorders of Menstruation" have a joint authorship, Dr. Ernest W. Cushing and Dr. Charles G. Cumston, both of Boston, having accomplished the task of telling all about them in twenty-eight pages—a more difficult accomplishment than if two hundred and twenty-eight had been devoted to it. It is fortunate that there is nothing to criticise, for we should not know which writer to blame. "Functional Disorders of the Male Sexual Organs" have been discussed by Dr. Charles W. Allen, of New York, in a dignified and clear manner. His suggestions as to prophylaxis in onanism may or may not find favor. The usual subdivisions "impotence," "spermatorrhœa," and "sterility" have been made. The short bibliography contains only the authors quoted in the text. Though coming at the last, Dr. James M. French's

"Chemical and Microscopical Examination of the Urine" is by no means least. It covers one hundred and seventeen pages, and contains enough good practical working information to repay any one for the shelfroom accorded the volume. In points of literary and scholarly merit Volume VII. is not behind those which have gone before.

AN AMERICAN TEXT-BOOK OF APPLIED THERAPEUTICS FOR THE USE OF PRACTITIONERS AND STUDENTS. Edited by J. C. WILSON, M.D., Professor of the Practice of Medicine and of Clinical Medicine in the Jefferson Medical College; Attending Physician to the Hospital of the Jefferson Medical College, to the German Hospital, and to the Pennsylvania Hospital, Philadelphia. Assisted by AUGUSTUS A. ESHNER, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Attending Physician to the Philadelphia Hospital. Philadelphia: W. B. Saunders. 1896.

THE book is one dealing with medical therapeutics only, no purely surgical diseases being considered, although the manipulations that may be demanded in emergencies arising in the course of various affections, such as intubation in diphtheria, are sufficiently described. An excellent index renders the mass of material contained in the thirteen hundred pages of the volume readily accessible to the hurried reader. The book is well printed and substantially bound.

DIAGNOSTIK DER HARNKRANKHEITEN. ZEHN VORLESUNGEN ZUR EINFÜHRUNG IN DIE PATHOLOGIE DER HARNWEGE. Von PROF. D. C. POSNER, in Berlin. Zweite verbesserte Auflage. Berlin: Verlag von August Hirschwald. 1896.

THIS second edition of Posner's excellent little work has been added to and somewhat improved. There are forty-four illustrations in the text, and an appendix gives a short symptomatology of the common diseases of the urinary tract which will be found useful.

ELEVENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA.

A HEAVY volume of seven hundred pages, containing numerous reports upon water courses and the supplies of cities, with many maps showing sources of pollution; reports of laws bearing upon health, vital statistics, and a mass of information on various topics.

THE TONIC TREATMENT OF SYPHILIS. By E. L. KEYES, A.M., M.D., Late Professor of Dermatology, Syphilology, and Genito-Urinary Surgery in the Bellevue Hospital Medical College, Consulting Surgeon to the Bellevue Hospital. Revised Edition. New York: D. Appleton & Co. 1896.

UNLIKE most revised editions, it cannot be said of it that it has been brought up to date. This little work has, in this sense, nothing to do with what has been written by others. It is an exposé of the author's own particular views upon the manner in which mercury should be given in curing syphilis, and in an experience of twenty years since these views were first advanced by him he has found no reason for changing them. Much additional information upon local and general treatment will be found, although there are but seventy-eight pages in all.

PTOMAINS, LEUCOMAINS, TOXINS, AND ANTITOXINS; OR, THE CHEMICAL FACTORS IN THE CAUSATION OF DISEASE. By VICTOR C. VAUGHAN, Ph.D., M.D., Professor of Hygiene and Physiological Chemistry in the University of Michigan, and Director of the Hygienic Laboratory; and FREDERICK G. NOVY, Sc.D., M.D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. Third Edition, Revised and Enlarged. Philadelphia and New York: Lea Brothers & Co. 1896.

PATHOGENIC germs are, in these days, at the bottom of all poisoning in infectious disease, and since of late the very toxins of these agents have been utilized to combat their intoxicating effects, a work of this kind is not only a desideratum but it becomes a necessity. The study of the elaboration of poisonous products has advanced with wondrous strides, and the prevention of disease by antitoxin prophylactic inoculations is too attractive to be given up because of repeated failures and disappointments. The almost daily discovery of new facts in the realms of bacteriology, and in the therapeutic action of specific chemical agents, makes the frequent appearance of a rewritten edition of such a work almost necessary. The five years' interval between the second and last editions has been crowded with new observations bearing upon the field here covered. It may be safely stated that the progressive physician of to-day requires a working knowledge of this comparatively new branch of medical science.

A MANUAL OF VENEREAL DISEASES. By JAMES R. HAYDEN, M.D., Chief of Venereal Clinic, College of Physicians and Surgeons, New York; Professor of Genito-Urinary and Venereal Diseases in the Medical Department of the University of Vermont, etc. In one 12mo volume of 263 pages, with 47 engravings. Cloth, $1.50. Philadelphia and New York: Lea Brothers & Co. 1896.

DESIGNED for students and practitioners, this work of two hundred and sixty pages covers the ground in a concise manner. The general outline of the work is based upon the larger treatise recently given out by Dr. Taylor, and the formulæ are largely drawn from the treatment recommended in the latter work. The three venereal diseases and their complications are described, as well as the various procedures of an operative nature which the latter often require. Students rather than practitioners will find this book useful.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA AT ITS FORTY-SIXTH ANNUAL SESSION. Held at Harrisburg, 1896. Volume XXVII. Published by the Society. Philadelphia: The Edwards & Docker Company.

THIS record of the proceedings at the Harrisburg meeting of May last contains, besides the various addresses, a number of excellent papers and a somewhat lengthy history of the State society by Dr. William B. Atkinson, its secretary.

ROYAL INFIRMARY CLINIQUES. By ALEXANDER JAMES, M.D., F.R.C.P.E., Physician to the Royal Infirmary. Edinburgh: Oliver & Boyd, Tweeddale Court. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1896.

THIS is a series of lectures delivered to the class in clinical medicine, for whose students it is prepared and to whom it is dedicated. A variety of interesting diseases are described, some of the cases presenting peculiar features. There are colored plates of Addison's disease and a few minor illustrations.

RHEUMATOID ARTHRITIS: Its Pathology, Morbid Anatomy, and Treatment. By GILBERT A. BANNATYNE, M.D., Honorable Physician to the Royal United Hospital, and to the Royal Mineral Water Hospital, Bath. Bristol: John Wright & Co. 1896.

IN this excellently written treatise on a deforming and little understood disease Dr. Bannatyne suggests that the affection is of bacterial origin, and describes certain micro-organisms discovered and studied by Drs. Wohlmann, Blaxhall, and himself, which he believes to be specific to the disease. He makes a very proper distinction between senile arthritis and arthritis deformans. The work is thoroughly modern, even to the presentation of a skiagraph of the hand showing the deformities of the skeleton in arthritis deformans.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By ROBERTS BARTHOLOW, M.A., M.D., LL.D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia; Fellow of the College of Physicians, etc. Ninth Edition, Revised and Enlarged. New York: D. Appleton and Company. 1896.

THIS latest edition of Dr. Bartholow's standard treatise on materia medica will be welcomed by all to whom the work has been an authoritative guide during the past twenty years. Many changes and additions have been made to bring the book fully up to the times, much of the new matter having to do with a discussion of the synthetic products of German laboratories, which he includes among the antiseptics. To those who are familiar with Dr. Bartholow's excellent work no description of it is necessary, and to others the fact that nine editions of the book have been called for since 1876 is satisfactory evidence of its appreciation by the profession.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 21, 1897.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

A Further Study of Tuberculous Infection of Dust.—DR. IRWIN H. HANCE read the paper (see page 217).

The Hygienic, Educational, and Symptomatic Treatment of Pulmonary Tuberculosis, with a Plea for Sanatoriums for the Poor.—DR. S. A. KNOPF read the paper (see page 222).

Sanatoria for the Treatment of Incipient Tuberculosis.—DR. E. L. TRUDEAU, not being able to leave the Adirondack sanatorium, sent a paper on this subject, which was read by DR. PRUDDEN. Experience acquired in the development of the Adirondack sanatorium during the past thirteen years might, the author thought, furnish evidence of interest as to the practicability, necessity, and safety of a special hospital for the treatment of pulmonary tuberculosis. The fact that tuberculosis in the early stages was a curable disease, and the further fact that those patients with the chronic type deserved consideration on humanitarian grounds, furnished sufficient reason for establishing sanatoria. The lot of the consumptive poor had been hard, but it had been rendered harder since the fact had been pointed out that the disease was infectious.

Sanatoria for consumptives should be located outside of large cities. The pavilion plan was advocated by Dr. Trudeau. The buildings should be free from dust, have plenty of air space, thorough ventilation, and sunlight. Since the establishment of hospitals for consumptives in England, the death rate from that disease had fallen. A fair proportion of the patients was cured. The sanatorium should be conducted so as to guard against infection and reinfection, and to give the best sanitary conditions. While no climate was a specific for consumption, still the favorable influence of certain climates had been proven. The paper briefly described the construction of the pavilions at the Adirondack sanatorium, each one containing usually about five patients. This plan enabled the patients to select for companions those who were congenial, and to avoid others. It encouraged exercise, as they had to walk out to reach the dining-room. When a patient became worse he was at once removed to a separate infirmary. They were required to live much in the open air, but Dr. Trudeau entered a strong protest against patients with abnormal temperature, increased pulse, and other signs of phthisis in active state, taking much exercise, especially such severe exercise as rowing and mountain climbing, which some advised. The use of paper cuspidors, to be burned night and morning, and other provisions made in the cottage plan to prevent infection, had proven most successful, as shown by the absence of tuberculous germs in the dust from all of the cottages except one, according to a previous paper read by Dr. Hance. In that exceptional case the patient had disobeyed instructions and had expectorated wherever it was convenient, and in general was not cleanly. Additional evidence was furnished by the significant fact that during the thirteen years since the pavilions had been established not a single attendant had developed tuberculosis. Susceptibility was enhanced by bad hygiene, such as existed in tenements, etc.

Rigid rules in the selection of cases were not easy to make, but it was safe to say that the earlier the diagnosis was made, the better the prospects of cure under treatment. The first few months often presented the only opportunity for restoring health. The apathy of the general profession in making an early diagnosis seemed inscrutable. Cases were allowed to pass as bronchitis until a cavity or hæmoptysis compelled the recognition of tuberculosis. Too much stress was placed on the absence or presence of physical signs, and not enough attention was given such symptoms as cough, sweats, etc., and frequent examination of the sputa. Inoculation of a guinea-pig might be necessary. Dr. Trudeau had seen no harm come from the use of tuberculin, either in diagnosis or treatment. It was only in certain cases that he used it for treatment, and then in doubtful cases for diagnosis. The principal aim of the modern sanatorium treatment of tuberculosis was to improve the patient's nutrition, increase the resistance to the disease by placing the patient in the best environments, in an invigorating climate, and by furnishing open-air life, rest, careful regulation of the daily habit, abundant supply of nutritious food, and such medicinal agents as might be indicated in the several cases. Living out of doors, well covered, was without danger, as shown by the fact that lobar pneumonia had not occurred in one of the many hundreds of patients who had been treated at the sanatorium. Exercise should be graduated according to the patient's strength, and especially should not be great in fever. Overexercise might light up quiescent tuberculosis. As much food should be taken as possible, consistent with assimilation. Cod-liver oil, hypophosphites, and arsenic were commonly used; creosote when it improved appetite and digestion.

In a general way, it might be said that about twenty per cent. of all cases admitted to the sanatorium were cured. In thirty per cent. or more the disease was more or less arrested. Of incipient cases, thirty to thirty-five per cent. were cured.

DR. H. M. BIGGS spoke of the work and regulations of the health department with a view to controlling tuberculosis. For the past three years the department had required the reporting of cases at hospitals and dispensaries, had requested reports from private physicians, in the case of hotels and tenements had carried out a system of inspection, and had required of owners of houses renovation of rooms in which there had been death from tuberculosis. Disinfection as ordinarily employed had been considered insufficient; hence renovation by painting, etc., had been demanded. The reports during these years showed the extent of tuberculosis in the city, for in 1896 the number of cases, far less than the actual number, had reached nearly eighty-five hundred; adding to this number those of deaths from tuberculosis, the number was thirteen thousand. At first the inspectors were almost always met with reproaches, but at present they usually found that all or a part of their regulations were being carried out before their first visit. This showed the rapid dissemination of knowledge regarding the infectious nature of tuberculosis, and the necessity for proper disposal of the sputa and observance of cleanliness, etc. Dr. Hance's investigations proved the necessity for such instruction and regulations, since in the tenements where cleanliness was observed the dust collected contained no tubercle bacilli, while that from dirty tenements occupied by consumptives had produced tuberculosis in guinea-pigs which were inoculated with it.

During the past week the health board had taken another step, which was to require physicians to report all cases of tuberculosis, as they had for years been required to report cases of contagious disease. The distinction was still made, however, that tuberculosis was not a contagious disease, but an infectious communicable disease. In addition to this, the establishment of sanatoria under control of the health department was recommended, and on the ground that it had been found absolutely impossible to remove very se-

rious sources of infection with the power which the department possessed under existing relations. It was not intended to make inspections in private houses, but in places where the health of the public was in danger, as in tenements, hotels, etc.

Dr. Biggs presented tables of death rate and deaths from tuberculosis in the city since 1867. The first ten years, until 1877, the annual death rate per 1,000 for all diseases had been from 27 to 33, while that from tuberculosis alone had been about 5. The next ten years there was a decided fall in the deaths from phthisis, it being between 3.65 and 4.27. From 1887 to 1896 it had been only 2.58. The chief fall had been since 1882, after the announcment of the infectious character of tuberculosis.

Tuberculosis was wholly a preventable disease, and he had no doubt that if the department could obtain sufficient appropriations for the establishment of hospitals and the supervision of institutions where the disease was treated, the death rate from tuberculosis would be reduced one-half the next ten years.

Regarding the suggestion in Dr. Trudeau's paper, that there was danger of tuberculosis only when there was considerable susceptibility, Dr. Biggs' belief was that the question of susceptibility was only one of degree. While some persons were unusually susceptible, yet susceptibility was very general. Further, tuberculosis was distinctly a curable disease. Even among the poorest classes autopsies showed that in a large proportion of cases tuberculosis had existed, was recovered from, and death had taken place subsequently from some other disease. It was chiefly a question of early diagnosis and favorable conditions for the treatment of the disease, to effect a cure. As to tuberculin, he had used it considerably in hospitals and had seen no ill results, and the same experience was narrated to him by Koch last summer, who had seen no harm from its use for diagnostic or other purposes in five thousand cases.

Dr. Mabbott said that while he was convinced the work of the health department had aided in reducing the death rate from tuberculosis, yet it was a question whether there had not been other factors. For instance, during the later decade the city limits had been extended nearly to Yonkers, taking in a district where there was presumably less tuberculosis. Again, probably more consumptives now left the city and died outside.

The Degree of Infectiousness of Tuberculosis.—Dr. Egbert Le Fevre thought we had been given to believe that tuberculosis was much more infectious than it was. The infection of dust from certain places had been proven by those who worked in laboratories and had injected it into guinea-pigs. But he did not believe we could correctly judge of the infectiousness of city dust by such inoculation experiments. Our bodies were protected by epithelium and by a natural resistance to the germs. When that resistance was lost we might be infected. He thought a scare had been excited in the city with regard to tuberculosis which was of unnecessary proportions. If the disease were preventable to the extent that had been suggested, there was but one course to pursue, and that was the segregation of all tuberculous patients. But were we willing to go back to seventeenth-century methods, when segregation was demanded for lepers? We would have to wall off all our consumptives. Anything short of that step would simply be playing at preventive measures. If stringent rules were going to be enforced, they must be applied to the rich as well as to the poor. Tubercle bacilli had always been present, and he believed always would be. He did not believe we were going to overcome the disease by trying to stamp out the tubercle bacilli, but rather by inculcating the laws of health, by teaching the people how to take care of themselves: not by isolating the tuberculous from the community, breaking up family, social life, and business.

It had been stated to-night that the board of health was taking measures to stamp out tuberculosis. The speaker, as a member of the medical profession and standing in relation to his patients, would like to know exactly what steps the board of health was going to take with regard to isolation, etc. Because of the hardship which came from a diagnosis of tuberculosis, he had time and time again known death certificates to be made out under acute bronchitis, pneumonia, etc., when the patient had advanced tuberculosis. When chronic tuberculosis was made a matter of public record, the insurance companies found it out and refused to pay insurance.

Regarding the separation of consumptives from others in general hospitals in the city, he believed the board of health need only say that it should be done and the commissioners of charities would make provision so that the regulation could be enforced. He did not agree, however, with the recommendation that the hospitals for consumptives should necessarily be under the board of health. The board had taken control of the hospitals for contagious disease, and this might have been proper; but tuberculosis was not a contagious disease. It could be combated by ordinary cleanliness; it did not demand special isolation. It was true that Dr. Biggs had admitted it was not a contagious disease, but the public was not in the habit of splitting hairs in distinguishing between the words infectious (or communicable) and contagious, when the same regulations were applied to both classes of cases. Only yesterday a faithful servant employed by a family for many years was compelled to leave the house, because she had a cough and the family dreaded infection.

Dr. J. E. Stubbert thought there was no necessity for frightening the people with regard to the danger of infection from tuberculosis. In the only hospital in the city for this class of patients there had not, so far as he knew, been a case of infection of attendants since its establishment. If isolation of such cases from others was demanded in city hospitals, he thought it could be carried out in a separate building on the same grounds. In the construction of sanatoria, what was needed was not one or two large buildings for numerous patients, but cottages. This was essentially an American plan, and it was a good one. The spit cups shown by one reader were not approved by Dr. Stubbert.

Committee on Tuberculosis.—After a few closing remarks by Dr. Knopf, Dr. Prudden made the following motion, which was adopted: "That a committee of eight be appointed by the chair, of which the incoming president of the academy shall be *ex-officio* chairman, to consider and to report to the academy upon tuberculosis in its relation to the public health, and measures which should be taken to curtail its ravages, and the ways in which the academy may be useful in the attainment of the object proposed."

Preparation of Blood for Microscopical Examination (sequel to paper published in the Medical Record, October 17, 1896).—Dr. H. G. Piffard read the paper (see p. 228).

Dr. Le Fevre and Dr. Vissman spoke of some of the difficulties connected with the microscopical examination of the blood, and of the value of some of the points brought out by Dr. Piffard.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, January 28, 1897.

W. R. Pryor, M.D., Chairman.

Officers Elected.—Dr. S. Marx was elected *Chairman*, and Dr. H. L. Collyer *Secretary* for the ensuing year.

Cystic Degeneration of the Chorion.—Dr. Marx presented three specimens. The first was a part of the curettings in a case of cystic degeneration of the chorion. As usual in such cases—they were rare, at least in New York—there had been hemorrhages almost from the beginning of pregnancy, which had continued until about the tenth week, when he saw the patient and removed the material, about a pailful, after first dilating the cervix with the hand. The hemorrhage during the operation was severe, but was controlled by a gauze tampon, which was removed after thirty-six hours.

Infection of Pregnant Uterus from the Colon.—Dr. Marx's second specimen was a uterus removed post mortem from the body of a woman whom he had delivered some days before in a hospital. He was sent for after she had been forty-eight hours in labor—rapid pulse, foul discharge from the uterus, and other signs of sepsis having developed when he was called. Following removal of fœtus and placenta, he curetted and packed the uterus; but, following the rule, septic symptoms continued and at the end of forty-eight hours he injected antistreptococcus serum. No benefit resulted, as was usual in puerperal cases according to his experience, although in surgical sepsis Dr. Gerster had told him he had had good results. At the end of six days he opened a rapidly growing tumor at the side of the uterus, which proved to be an ovarian abscess. The patient died six hours later. Autopsy showed adhesions between colon and fundus uteri, and colon bacilli and streptococci in the uterus.

Inversion of Uterus; Hysterectomy.—Dr. Marx's third specimen was a uterus removed by laparotomy for inversion. The girl had aborted at the sixth month, and on expulsion of the fœtus had herself pulled upon the cord and thus caused inversion of the uterus. Dr. Marx saw her after thirty-six hours, when sepsis already existed. She was taken to a private hospital, and preparations were made for hysterectomy, for it was deemed best to get rid of as much of the local focus of infection as possible. Attempts at reduction made previously had failed. While the abdomen was open, an assistant tried to reduce the uterus, but the tissue was so rotten that the hand went through. Another attempt was more successful. Dr. Marx found no difficulty in doing hysterectomy, and, as usual, the pulse dropped, the patient did well for a time, but after a few days died suddenly, perhaps of heart failure.

Dr. Collyer had seen one case of hydatids of the chorion. It was of a girl supposed to be five months pregnant. Usually there was in such cases much trouble from hemorrhage, especially at operation, but in this instance there was little.

Biological Basis of Menstruation.—Dr. J. Clarence Webster, of Edinburgh, was the author. He first pointed out certain explanations of the menstrual function which he regarded as erroneous. The first was its relation to ovulation, the view having become widely believed in that menstruation was a necessary preparation for the development of the ovum in case it should be fertilized. Many facts refuted this explanation. Conception sometimes took place before puberty or beginning of menstruation; it sometimes occurred after the menopause: post-mortem and ante-mortem section showed Graafian follicles at all periods of development without relation to the menstrual period, and the reverse; removal of the ovaries did not always stop menstruation. Yet it was not denied that there was some relation between the two processes—menstruation and ovulation. The author then mentioned the variable effect of operations, removing the ovaries, the tubes, etc. In the third place, he spoke of Dr. Johnstone's view, supported by Tait and some others, that the menstrual act was related to the nervous system, peripheral, or both cerebral and peripheral, and who explained cessation of the menstrual function after removal of ovaries and tubes by the tying off of the nerves, or failure to do this close to the uterus in the cases in which the flow continued. Fourthly, as to the view that menstruation was probably a preparation of the uterine mucosa for the engrafting of the ovum, the author said he had repeatedly urged its improbability on several grounds, among which he mentioned the occasional occurrence of conception before commencement of menstruation, at a time when the mucosa could not have been denuded by that process; also the occurrence of conception during lactation, when the menstrual process was in abeyance. Further, there was nothing worthy the name of menstrual decidua in the menstrual discharge. Not a single fact had been advanced to support Lowenthal's theory, that menstruation was due to non-fertilization and death of the ovum—that when the ovum was fertilized, it became implanted in the uterus and grew, and menstruation ceased; when it died, it was discharged and the mucosa broke down.

Johnstone, he said, believed that menstruation was the result of periodic wasting away of corpuscles which were too old to undergo the changes which must occur in connection with the attachment and development of the fertilized ovum. Johnstone did not regard the endometrium above the internal os as mucous membrane, but as belonging to adenoid tissue.

In the fifth place, Dr. Webster considered the relation of menstruation to body metabolism, and finally its biological aspect, which he said had been almost entirely neglected. A careful study of plants and animals had enabled biologists to establish a distinction between "maleness" and "femaleness" in terms of physiological and psychological value. It was only recently, however, that sex differences had been studied on the basis of such inquiries. Too long had reproduction and sex been considered by themselves, as if they were something to be dissociated from the general physiological organism. The most important sex distinction which had been established was that which had to do with the general metabolism or the protoplasmic chemistry of the body. Every living cell and organism was constantly representing two forms of metabolism—the one anabolic, by which nutrition was taken in, waste repaired, energy restored, structure made or altered; the other catabolic, by which potential was changed into kinetic energy, or movement or activity manifested, structural alteration induced, and waste created. Throughout the animal kingdom the characteristic metabolism of the male was catabolic; of the female, anabolic. The same distinction was made in the plant world. The lines of inquiry on which this distinction was made were as follows: 1, a study of sex; 2, investigation of the condition of animals and plants in the lowest forms in which sex had its beginning; 3, observation of normal and pathological changes in the reproductive apparatus; 4, experimental inquiry into the nature of factors which determined sex. After following up these lines of inquiry, the author thought we were forced to regard the menstrual function as the highly specialized means, gradually produced in the evolution of the highest mammals, by which the two great factors in tissue metabolism, the anabolic and catabolic, were properly balanced. Normally it became established along with the various phenomena which characterized the development of sexual activity, namely, at puberty, because it was then that the metabolic habit peculiar to females (predominance in anabolism) manifested itself. The range of variation in the menstrual function in the human female was attributed to the instability of the process during the stage of evolution preceding the fixed habit. While there could be little doubt that menstruation had been established in higher ani-

mals by gradual evolution, we were in doubt as to how it had become established. Having begun, it probably proved to be advantageous, and by natural selection became a fixed characteristic. Had it proved of no advantage, it probably would have been eliminated. Natural selection in the highest ranks of the animal world was not in the direction of establishing a numerical superiority, but was based on individual characteristics in the selected number. The tendency was to diminish the number of offspring and improve the quality of the individual. It was associated with the development of a single uterus, with a diminution in the number of the offspring, with the determination of the semi-erect or erect posture. Of prime importance among these factors was a change from a bicornuate to a single uterus. Natural selection had tended to make irregular menstruation regular, the male having a feeling of disgust for the menstruating female. In his remarks upon marriage, observed to a degree by many animals, Dr. Webster said the offspring undoubtedly stood a better chance of surviving when the parents united their efforts in raising it.

Speaking of the rut, Dr. Webster said it came on in different animals at different seasons of the year, in accord with the duration of pregnancy, this terminating at that season which offered the best chance for the offspring to survive. In man and in some animals season was less important for the raising of the young, and copulation took place throughout the year. It seemed likely that the rut in the higher vertebrates was an expression of forced sexual affinity to secure fertilization of the ovum. The physical changes at this season pertained mostly to the male, who showed great activity, while in the female the change was mostly psychical and passive, being in accordance with the rule already referred to—that in the female the anabolic process was typified, the catabolic in the male.

Dr. Arthur Johnstone, of Cincinnati, opened the discussion. He said he had for years been working along this line; that ten years ago he stood almost alone, but he was glad now to see this confirmation of his labors. Many of his listeners were familiar with the papers which he had published, but he wished to refer to one which he had read before the Chicago Gynecological Society, in which he attempted to analyze the functions of reproduction, ovulation, and rut. Cook, of the Parry expedition to the Arctic regions, had given an account of a settlement of Esquimaux, which confirmed some of his views and those expressed in the paper to-night. During the long winter, which was continuous night, these Esquimaux women not only lost sexual appetite, but ceased to menstruate, and their physical condition was so lowered that they became exhausted on slight exertion. With the return of day menstruation returned, they became highly active, and the sexual feeling manifested itself in strong degree. Dr. Johnstone believed the rut depended upon the physical condition, and was the manifestation of perfect physical development. Ovulation and menstruation were not coincident; they ran on different times, although the times might coincide. Regarding menstruation, he would take a little more radical ground than the author; he would go farther back, and say that menstruation began when the first leaf fell off the first tree. Menstruation was nothing but a shedding. As far back as animal and vegetable life went, that law of shedding was one of the first things to manifest itself after epithelium had been produced. Leaves were epithelial structure, they performed their function, they fell. The crab dropped its shell, snakes shed their skin, birds moulted. In all this we saw the exact reproduction of menstruation. Referring to what had been spoken of as the Stevenson wave, he said Dr. Mary Putnam Jacobi may have been wronged in using Stevenson's name in this connection, since she had first spoken of the phenomenon. It had, however, been dropped until Stevenson had written regarding it. Menstruation was simply a shedding—a shedding of structures which had become useless. In the lower animals the shedding took place through the lymphatics; animals in the upright position menstruated in the strict sense of the term. Investigators who had looked into his work had not made allowance for the rut in the human being, always present. Man was the only animal on earth in which it was always present. The necessity for it was easily seen; it was the one thing which held society together. It was the cement, the life of the nation. The endometrium had to be kept in a higher condition than in animals, higher than in monkeys. The human being upright, there was nothing to support a soft uterus, in which menstruation took place through the lymphatics: consequently the organ was firm and the menstrual blood poured into it occasionally and was washed away. Dr. Johnstone thought there was close relationship between the nervous system and menstruation, and that the arrest of menstruation after operations was due to cutting off the nerve supply. He believed future advance of gynecology was going to depend largely upon a study of the menstrual wave. It was the best barometer known to him of the female organism, its ills and whims. A friend of his was studying the urea or chemical wave, which promised much also.

Credit Wrongly Placed.—Dr. Mary Putnam Jacobi said she thought she had been unlucky with regard to the one idea which she might claim to have added to our knowledge of this subject. Dr. Johnstone had referred to the wave, and stated that she had left the idea undeveloped. After reading the article of Stevenson, to whom the credit had been given, she had been unable to find anything which had not been established in her article in 1876. The wave was established particularly with reference to the variation in the quantity of urea, of which she had given many tables, and also with regard to the pulse pressure. German observers were following in these lines, and had given her credit. Dr. Jacobi had found the remarks of Dr. Webster and of Dr. Johnstone on the insufficiency of the lymphatic mechanism of the uterus to carry away the detritus in certain animals, including woman, exceedingly interesting. She believed it was Leopold who had described the mucosa of the uterus as primarily of lymphatic construction. The precise mechanism by which the accumulation of blood was diverted to the great mass of tortuous blood-vessels around the tubes and ovaries had not, she believed, been touched upon by either of the speakers. In her essay referred to, she had suggested that this vascular system was comparable to the nodes on the stems of plants, in which it was known that material accumulated to provide for the new growth of the stem. In a biological sense the analogy was perfect, and it was almost perfect in a mechanical sense. Dr. Jacobi would trace the nervous mechanism to the brain, and mentioned the inability for mental work in amenorrhœa, and the existence of the latter in nearly all cases of chronic insanity. Dr. Jacobi thought it was an error to say that anabolism applied exclusively to the female organism. What had been said in this line applied to the female cell, but not to the female organism, which must necessarily embrace both male and female characteristics.

Dr. Bernard Gordon was disposed to accept the view of a German writer, that the uterus and tubes only acted the part of a glandular duct, the ovary being the gland. When the ovaries were removed menstruation ceased in most cases, and the uterus atrophied because it was no longer needed. The fact that the descending ova did not always become implanted

and grow had its analogy throughout nature, for did not hundreds of acorns rot where but one grew?

Dr. Tull asked a question based on the observation that when both ovaries were removed a flow soon took place in nearly every instance, whereas it hardly ever occurred after removal of but one ovary.

Dr. Edward A. Ayers thought a good many things were explained in connection with the menstrual function and ovulation by bearing two things in mind: 1. That in the matter of reproduction nature made provision for a great excess, so as to insure perpetuation of the species. 2. Everything developed sooner or later into rhythmic action, and so with menstruation. By this function it seemed nature's purpose to sustain a constant fresh supply of more embryonic form of tissue, a younger and more potential form of protoplasm.

The author closed.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE QUEEN'S SPEECH—MEDICAL MATTERS — DR. RENTOUL'S CAMPAIGN—INFANTILE CEREBRAL DEGENERATION—THE LATE DR. MONAT AND DR. BALLARD —DIPHTHERIA—DUBLIN EPIDEMICS — VACCINATION INJURIES—DR. RODDICK, OF MONTREAL

London, January 22, 1897.

The Queen's speech is rather disappointing to sanitarians. It was quite expected that some action on the report of the vaccination commission would be taken, but the subject is not mentioned. There is a reference to "provisions for adding to the military defences of the empire," which I suppose means increasing the army, but there is no indication of improving the medical service, and yet the deficiency in this department continues to be a scandal. The Queen is made to state that her government is directed to "take the most stringent measures" against the spread of the plague, and no doubt the precautions already adopted in our ports will be continued, whatever else may be done. The newspapers report that this government has consented to be represented at an international conference proposed by some of the powers on this subject. Malta has declared a strict quarantine, and this retrograde step may perhaps be followed by other Mediterranean authorities, so that the English system may again have to be defended in the conference. In our own ports we are not likely to deviate from the plan that has been so successful in keeping out cholera. Bills are promised on inebriates' reformatories and on employers' liability, both of which must interest the profession. Another bill of great importance is promised, viz., for improving the London water supply.

Dr. Rentoul signalizes his election to the General Medical Council by publishing a spirited address on the most important subject of medical politics at the present day, the one that he has devoted so much of his time and money to prevent being settled in a way to injure the profession and endanger the public. He asks whether it is in the best interests of public health and public safety that the proposal to provide the poor with midwives should be opposed, and if so, how are midwives to be done without? And he answers these questions in a manner to commend the address to every general practitioner and to bring shame and confusion to the few consultants who have supported a traffic in sham midwifery diplomas. He shows from statistics how frightful has been the loss of life under midwives, and that there is no difficulty in providing qualified medical assistance for every poor woman in labor. Thus he cuts away the superfine sentiment on which so many have been trading, and then proceeds to refer in some detail to the means by which every poor pregnant woman can, with the utmost facility, secure the services of a qualified practitioner and a practical nurse for her confinement. The conditions for this are now in existence, and so far there is no necessity for legislation. It seems, therefore, to me the more monstrous that the neglect of them in a certain proportion should be put forward as a reason for creating an inferior order of practitioners.

Dr. Rentoul's trenchant manner of dealing with the midwives question has given rise in some quarters to the notion that he is naturally fond of controversy, and this impression was fostered during the election by interested opponents. I am, however, assured by one who has lived in closest connection with him that this is a complete mistake, and that he is by nature a most modest unassuming man, who is only driven to fight this question by the clearness with which he sees the dangers ahead and the conviction that it is the duty of the day to speak out and manfully press home the truth. The Medical Council, therefore, need not fear the entrance of a mere noisy demagogue to rouse it from slumber, but prepare to welcome a sincere advocate of the well-being of the public and profession, who was elected at the head of the poll to represent his brethren. There is one thing in his address I cannot help regretting. Having asked the several medical societies to adopt a resolution, he remarks that if the majority of practitioners object he would have to drop this most vital question as their representative, while if they adopt it he can tell the council fearlessly that he speaks for and in the name of his constituents. Now he can thus speak already. He is returned at the head of the poll in the manner appointed by Parliament, and there can be no necessity to strengthen his position by any further plebiscite. Remembering, then, the apathy of the constituency, I feel it unwise to ask it to take the trouble to repeat its vote, and I hope Dr. Rentoul will hold tenaciously the position he has won, and boldly assert his right to speak in the name of the profession which has elected him to defend its interests.

A somewhat difficult subject was illustrated by lantern slides at the last meeting of the Medico-Chirurgical Society. I scarcely know what some of the bygone fellows would have thought of a magic-lantern entertainment at a medical society, but perhaps as soon as convinced of the utility of any mode of conveying information they would have accepted it. The subject was infantile cerebral degeneration, with symmetrical changes of the macula. Four cases were reported in the paper by Drs. Kingdon and Risien Russell, and another case was observed by Dr. F. J. Smith. All the recorded cases have been in Jewish children, some of them more than one in a family. This rare disease usually begins with muscular enfeeblement and failure of sight, when the child is about three months old. A month or two later characteristic changes in the region of the macula lutea may be observed with the ophthalmoscope. The child becomes apathetic, unable to sit up, and when lying down cannot turn from side to side. Blindness approaches; there are muscular atrophy and general emaciation; the heart, lungs, and abdominal viscera are normal, and the thermometer gives no sign. But the paralysis deepens into death, which occurs at from one and one-half to two and one-half years. At the lutea the symmetrical changes are a whitish-gray patch, slightly raised above the surface of the retina, with a few visible vessels at the periphery. The fovea centralis is seen as a dark-red spot in the centre of the patch. At first the papilla shows no definite change, but later there is distinct optic atrophy. Widespread degener-

ation of the fibres of the corona radiata and the pyramidal tract throughout the pons, medulla, and cord constituted the chief lesion found post mortem, but similar extensive degenerative changes were found in the fillet, descending root of the fifth, and superior cerebellar peduncles. All these changes were symmetrical. Photographs of the children at different periods were exhibited to show the clinical progress, and photo-micrographs of the preparations to show the changes found after death, both in the central nervous system and in the eyes. Sections were also shown under the microscope.

The death, at the age of eighty, is announced of Dr. F. J. Monat, formerly inspector-general of prisons and visitor of asylums in Bengal. He had also served in other high offices, among them physician of the Calcutta Medical College and secretary of the Council of Education. Of late years he was better known for his valuable contributions to the Statistical Society, of which he was president, 1890–92.

Another noteworthy death is that of Dr. Edward Ballard, F.R.S., many years inspector of the local government board, in which position he carried out a number of very important inquiries. He died on Tuesday, in his seventy-ninth year.

There is a fall in the diphtheria mortality this week to fifty-two, but this number is seventeen in excess of the average for the decade.

Measles is increasing but scarlatina decreasing in Dublin, where, however, whooping-cough is rife.

Drs. Thorne Thorne and Monckton Copeman seem to be having a good time on the continent. They are sent to study the systems of vaccination, and the authorities and medical men are giving them every assistance for inspecting and carefully studying the arrangements. Perhaps the government is waiting for their report before determining whether to take action.

Dr. Roddick, of Montreal, was entertained at a dinner here on Wednesday, as president-elect of the coming meeting in Canada of the British Medical Association.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE NEW LAWS REGARDING THE STUDY AND PRACTICE OF MEDICINE IN FRANCE CAUSE CONSIDERABLE DIMINUTION IN THE NUMBER OF STUDENTS AND DOCTORS, BOTH FRENCH AND FOREIGN—LEGISLATION FOR CHILDREN ENGAGED IN INDUSTRY—PRIZES FOR 1899 OFFERED BY THE ACADEMY OF MEDICINE—QUININE AND ITS ANTIDOTE, ATROPINE—THE RADIOGRAPH ALTERS PROFOUNDLY A DIAGNOSIS, ETC.

PARIS, January 24, 1897.

THE new and Draconian laws regulating the practice of medicine on French territory are making themselves felt much sooner than was anticipated. The statistics show that at the end of the scholastic year, 1894 to 1895, the number of students at the Faculty of Medicine of Paris was 5,239. At the end of the year 1895–1896 the number of the same students was 4,940, or in other words there had been a diminution of 299, which is considerable. This is evidently a first step toward disencumbering our medical school and studies, and augurs a better future for the medical profession throughout France—better not only regarding qualification but better also in the every-day practical and monetary sense. Two factors have contributed largely to bring about this notable diminution: first, the number of aspirants for the grade of *officier de santé* is steadily decreasing and will soon stop altogether, as the grade has been abolished by the new law, which allows only those to go on and take the degree who had been matriculated before the new law came into force; also those who matriculated after the law had been passed but before it became active, covering a period of a year or a little more. Second, the Faculty of Medicine of Paris no longer opens its door to foreign students, or only very exceptionally. Among the 4,940 student doctors, or *officiers de santé*, there are 3,976 Frenchmen and 964 foreigners—810 men and 154 women. This shows that the proportion of foreign students is still about 1 to 4 French, say 25 per 100. This year only 40 foreigners have been authorized to pursue their studies at the Faculty of Medicine of Paris—a very decided falling off. These students are divided as regards nationality as follows: 15 Russians, 9 Turks, 4 Roumanians, 2 English, and 2 Austrians. America, Germany, Holland, Belgium, Italy, Greece, Switzerland, and Africa have each only one authorized student. We say authorized in distinction from those foreign medical students who are unauthorized—that is, who follow certain public lectures and visit the hospitals, which I believe they are welcome to do without any special permission being granted or registration required. This year (that is, the last academic year), the Faculty of Medicine has received 594 new doctors, of whom 95 were foreigners. This is the medical balance sheet for 1896 and we may expect a smaller one each succeeding year, which will please the French profession at large: as, owing to overcrowding, it is not the doctors that are wanting, but the patients.

Regarding legislation in the different countries of Europe from a hygienic standpoint and as affecting women and children engaged in industry, Dr. Napias has just made a very valuable and interesting communication at the meeting of the Academy of Medicine held on January 12, 1897. It appears therefrom that the age of admission of children to industrial work of all kinds varies somewhat in the different countries. For instance, in Italy it is nine years—the youngest of all. In Switzerland and Austria fourteen is the age at which they are admitted to work in factories and industrial establishments generally. As regards the limit of age for protection, it is at its minimum in Italy, all protection ceasing in that country from twelve years old and upward for both sexes. This age limit, however, varies in other countries, and the mean in the larger number of States or countries is from sixteen to eighteen years. Nevertheless for girls it is raised to twenty-one years, and even more in some countries. Finally, the law in Switzerland and Austria regulates the duration of work as well for men and women as for boys. Dr. Napias shows us that the day of twelve hours for children and adolescents has become a rarity, and that it exists only in Belgium and to a very slight extent in Hungary.

The working classes in France certainly have no cause to complain that their interests, at least hygienically, are not carefully looked after. The Academy of Medicine has published its list of proposed prizes for the year 1899: they are twenty-seven in number, all being monetary and ranging in amounts from 600, 700, and 800 francs to 3,000, 5,000, and 6,800 francs. The works presented for the prizes, which are of course competitive, must be written in French or in Latin, and accompanied by a sealed envelope containing a device and indicating the name and address of the author. The works of foreigners are likewise admitted in competition for all the prizes except three. It is also announced that whoever shall make himself known, either directly or indirectly, will be excluded *ipso facto* from the competition. Furthermore, the printed matter, manuscripts, instruments, etc., submitted for examination to the Academy of Medicine, will not be returned to the authors or owners; only the recipients of prizes will be allowed the title of "laureate of the Academy of Medicine."

It is a well-known fact among practitioners, not only in France but also in the United States, that some patients cannot take quinine, even in the smallest doses, without its provoking ringing in the ears, deafness, sometimes vertigo, a sense of cerebral congestion, headache, and other symptoms of this order, in certain cases so accentuated that it is necessary to stop its exhibition altogether. Dr. Aubert guards against these inconveniences and, indeed, overcomes them entirely by atropine associated with the quinine in the following formula:

℞ Chlorhydrosulphate of quinine..... 0.40 cgm.
Sulphate of atropine..... ½ mgm.

This is for one dose and it is best taken in a wafer.

The fact that atropine thus attenuates or causes to disappear entirely the disagreeable symptoms often caused by the salts of quinine deserves to be brought to the notice of the profession at large and adds another to the list of drugs that atropine makes tolerable, for we already know that the nausea caused by hypodermic injections of morphine, and with stronger reason when morphine is taken by the mouth, is prevented or attenuated by the addition of a small quantity of atropine. Drs. Aubert and Petger have noticed the utility of belladonna as a means of making iodide of potassium more tolerable. It would seem then that belladonna is efficacious against quininism, and evidently succeeds better than other drugs suggested for that purpose, such as the bromide of potassium and ergotine, either alone or combined with opium.

At the last meeting of the Medical Society of the Hospitals, Dr. Moutard-Martin presented a patient who had entered the hospital with the diagnosis of aneurism of the aorta, and in whose case the radioscope showed conclusively a displacement of the right heart, probably caused by an old pleurisy.

WHAT'S IN A NAME?

To the Editor of the Medical Record.

Sir: It gave me great pleasure to read the letter of Dr. Gerster in the issue for January 23, 1897, of the Medical Record. I fully agree, as a matter of course, with Dr. Gerster that the word appendicitis, which is a most abominable one, should be placed on an *index verborum prohibitorum* to be created by us. The word for appendix vermiformis, which I find in my Greek book on anatomy, is σκωληκοειδὴς ἔκφυσις; which word the Greeks employ for appendicitis, if apophysitis or ekphysitis or scolecitis, I do not know. I have no Greek book on surgery. I shall write for such a book, however, in order to be able to give the term in living Greek of this not only, but of some other words in our surgical nomenclature, the composition of which seems to be rather arbitrary. Dr. A. Rose.

[The Greeks say φλεγμονὴ τῆς σκωληκοειδοῦς ἀποφύσεως, or σκωληκοειδῖτις, or, borrowing from the French, *appendicite*. Scolecoiditis might do, but appendicitis has probably come to stay. After all, the important question is not one of name (that which we call a rose by any other name would smell as sweet), but what to do with the pesky thing.—Ed.]

"MICROSCOPICAL POWER OF THE NORMAL EYE" AN ERROR.

To the Editor of the Medical Record.

Sir: In the Medical Record for January 23d is an article on "The Microscopical Power of the Normal Eye," by Dr. Roehrig, in which he describes two common phenomena which he mistook for a magnification of a hair. What he really saw was a doubling of the hair or object, and this method is one of the ways of proving the wave theory of light. And what he mistook for the air tube of the hair was the bright line made by the waves of light coming together after having passed around or by the hair. And the two dark lines he mistook for the sides of the hair were the two shadows of the hair, and not one. This can be shown better by not holding it before the eyes, but before a piece of white paper, using the same method, and is called a defraction ghost by microscopists, and is usually fully described in works on physics. Therefore, what he really did was to hold the object at such a distance from the pupil that both of the shadows could enter it. This phenomenon can also be illustrated by using a card with a narrow slit cut in it, in which case the centre will be dark instead of light, as is the case with solid objects, and of course in either case, if the objects are held far enough from the eye, it will readily be seen that it is two objects and not one enlarged object. Of course, when he used both eyes at once, then the objects was enlarged with a light centre. It was the effect of double vision, and is fully described in all works on physiology. It does not seem possible that he would have been deceived with both eyes, if he had not been first deceived by one. But it shows how easy it is for us to deceive ourselves even with things we are perfectly familiar with, if we find them when we are not looking for them.

R. C. Paine, M.D.

Bethel, Sullivan County, N. Y.

PRIVATE CHARITIES AND PUBLIC MONEY.

To the Editor of the Medical Record.

Sir: May I ask your kind indulgence to answer a few points contained in the reply of the president of the New York Post-Graduate Medical School and Hospital to my article that appeared in your columns on January 16th.

He says: "I beg to state that it is a mistake to call the New York Post-Graduate Medical School and Hospital a private institution unless various qualifications are made." It has received the charter which all educational institutions, as I understand it, have now to receive at the hands of the University of the State of New York, whether private or public: it has its separate board of directors; its autonomy is preserved; it is not connected with any institution of learning, either college or university; in fact, it was started as a private teaching body, and, so far as I have reason to believe, has never changed that character. I believe it would be regarded as a private institution by the generality of people, and no amount of denial or verbal juggling will alter that fact.

As regards the hospital attachment: the school began as a centre of teaching and was dependent for its clinical material upon the hospitals and other institutions with which the various members of its teaching body were connected: but it was early seen that this was not a good way of teaching, and, from small beginnings, the hospital arose to its present proportions. Had there been no school, there would have been no hospital. The hospital originated from the needs of the school as a teaching body and not as a charitable or benevolent institution, and therefore I do not regard it, and I do not think the majority of people would regard it, in the light of a charitable organization.

The president of this private corporation lays stress upon the fact that the "professors and instructors . . . have never received any dividends from the investment of their time and money," which I believe to be perfectly correct. He adds "that they have never supposed that they would get any." There I cannot

agree with him, as I remember very distinctly that in the beginning it was understood and intended that the fees derived by the various men from their teaching would go to them; but it was found impossible to do that, for not only did the school need everything that it could get from tuition fees, but more besides, and the teachers helped it along with contributions from their private purses. If he will look at the minutes of the early period of the school's life, I believe he will find that I am correct.

He goes on to say that the "Post-Graduate asked nothing from the State until we had invested much more than half a million of dollars in the plant, land, and buildings; until we had spent twelve years in unremitting labor," etc. His statement is rather misleading. The institution gets nothing from the State. It got from the legislature an amendment to a bill already existing, in which the board of estimate and apportionment was authorized in its discretion, etc. From his statement contained in the article published it would appear that the New York Post-Graduate Medical School and Hospital is a State institution, which it most certainly is not.

He says: "The bill granting this [appropriation] passed the legislature, was commented on in the public press, went to the mayor of the city of New York, received his approval, without which it could not have been a law, and was finally, after full consideration, signed by the governor. It is remarkable that the medical taxpayers, whom your correspondent desires to represent, did not take advantage of any of these opportunities to oppose the bill." I must disclaim any desire to represent the "medical taxpayers," but with regard to the great notoriety which the president of this private institution claims was made, if my memory holds good, there was very little said about it and it was not discussed publicly, certainly not in the medical profession, and I remember after its passage one of the members of the faculty of the Post-Graduate laughingly joked with me about the matter, stating that a march had been stolen and that they had got a grant of money which gave them a new lease of power. I can assure the president of this private institution that, had I known of it, I should have fought it tooth and nail, as I did last December.

It is a pity that a little more attention was not given to accuracy in the article, for the president says, in speaking of the action of the board of estimate and apportionment: "Even the two members who voted against us in the beginning, finally concurred in this view, [that is, that the institution should receive at least $20,000], for, as I understand the matter, no appropriation by the board of estimate is valid unless it be made unanimously." This is an error. A majority vote only is required, and if he had taken pains to consult the *City Record* of January 12, 1897, he would have seen the following statement:

"The comptroller moved to amend by allowing the sum of $25,000 for the purpose, which was adopted by the following vote: Affirmative, the mayor, comptroller, and president of the board of aldermen (3). Negative, the president of the department of taxes and assessments and the counsel to the corporation (2)." It was the mayor's vote that cost the city $10,000, and made this private institution so much the richer.

It is not necessary to fill up the columns of the MEDICAL RECORD in discussing the question as to whether State or city aid should be given to private institutions, nor whether there is an insufficient number of hospitals, dispensaries, etc., nor is it necessary to take the part of the MEDICAL RECORD in reply to the surprise expressed by the president of this private corporation "that your great journal should publish in a leading article that which seems to invite such attacks upon us as the one I have been criticising." The MEDICAL RECORD is amply able to take care of itself. It is certainly deserving of the thanks of the medical profession for calling attention to this form of abuse.

One point may perhaps be commented upon, and that is the objection which the president makes to the use of the word "plunder" in the last part of the article in the MEDICAL RECORD of January 16th, and he defines plunder as "money or valuables taken by force or by fraud from an enemy." He gives no authority, so I am unable to say from what dictionary he takes his definition; but in the Standard Dictionary under the word plunder is put "synonym: booty, pillage, prey, rapine, robbery, spoil, stolen goods, stolen property;" in the Encyclopædic Dictionary "as that which is plundered or taken by open force from another body; spoil, pillage, prey." The Century Dictionary gives as the meaning of the word plunder, "that which is taken from an enemy by force: pillage, prey, spoil, booty." Now I think there is very little doubt that the moneys which are given from the public purse for private uses may be fairly considered in the light of spoil. The money raised by taxation is money that is held in trust for the people for public purposes, and to my mind it is as wrong for these moneys to be diverted to assist private institutions as it would be for the trustee of an estate to use the money of his ward to support a foundling asylum or a home for destitute orphans.

I think, therefore, that the term "plunder" may be very properly used in this connection, notwithstanding that it seems to him such a harsh word.

The benevolent president of this private institution adds, possibly as a covert threat, that "I [he] think your correspondent will ultimately regret that he applied such a term to the aid received by us from the State." That sentence contains a very misleading statement. The aid is not from the State. It is from the city treasury.

As to the "well-dressed mendicants" which sticks in his crop, he says: "We did not become well dressed from dividends or salaries from our institution." *Qui s'excuse s'accuse.* Nobody has accused the gentlemen connected with this institution with diverting any of the money received by them for personal purposes. I am sorry that this gentleman should consider it necessary to bring this in.

But when you see a party of gentlemen, while presenting their claims for recognition as recipients of a public charity, clustering round the board which is to make the decision, and, while their fate is hanging in the balance, say in a low voice, "Make it twenty-five, make it twenty-five," I think it would excite in any one, as it did in me, a feeling of disgust, and I do not think that the term mendicants is one whit too strong for them.

It is possible, as the president of this private corporation says: "In spite of the views of your correspondent, I am happy in the belief that we have the confidence of the members of that profession [the medical profession] from Canada to Texas." Possibly, and perhaps this is so on the principle that "distance lends enchantment," etc., but I doubt if his institution enjoys the same "confidence" of the members of the profession in New York City.

F. R. STURGIS, M.D.

February 3, 1897.

Corns on the Soles.—A boy of fifteen years presented himself, with about twenty corns upon the foot soles, which rendered walking almost impossible. Hot bath of saturated solution of caustic potash, fuming nitric acid, followed by application of salicylated collodion.—*British Medical Journal.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 6, 1897:

	Cases.	Deaths.
Tuberculosis	161	136
Typhoid fever	7	2
Scarlet fever	147	7
Cerebro-spinal meningitis	1	1
Measles	169	5
Diphtheria	207	31
Laryngeal diphtheria (croup)	21	10
Chicken-pox	22	0

Why Medical Bills Should be Paid.—One occasionally comes across a layman who appreciates what the medical profession, as a whole, is doing for the public; but it is not often that we hear so much true sentiment uttered in our behalf as in a late sermon of the bishop of Norwich, England, as quoted by the *Medical Herald*. He is there reported as saying: "Nor can I, nor shall I, be silent about the wrongs to which scores of medical men are subject. I refer to the startling contrast there is between the inexorable demands which society makes on medical men, and the elasticity of the social conscience with respect to his remuneration. I have known cases where they are summoned at all hours and all seasons of the year. Their bills are presented with timidity, if not anxiety, and they are sometimes received with amazement, sometimes with indignation, and sometimes relegated to oblivion. Nor are cases unknown where the righteous demand for work done is met by calling in another practitioner; he, in turn, to suffer as his brother did before him. I cannot permit myself to imagine that I address any such wrong doer here to-day. But if I do, then, in my Master's name, I entreat you to remember that the medical men of this nation are the highest type of their class in the world; they are entrusted with the secrets of domestic life; they have all our liabilities of their order; they frequently die as martyrs to science, to suffering, to sympathy, to destitution. Believing this, my plea is that every unpaid medical bill be discharged generously, gratefully, cheerfully, and that, whatever account must be deferred in payment, the last to be deferred is the account of him who is the human agent who has brought us into the world, enables us to continue our work in life, and many a time lays down his own in endeavoring to baffle death."

The Treatment of Inevitable Abortion.—According to Gould, an "inevitable abortion is when the embryo or fœtus is dead, or when there is an extensive detachment or rupture of the ovum." The symptoms of this condition are dilatation of the cervix, uterine contractions, the loss of the angle between the lower and upper uterine segments, and uterine hemorrhage. Of the two classes of abortion, viz., criminal and accidental, the former, in this *fin de siècle* age, is the one most frequently met with. When the evidence of an attempt to terminate gestation is positive, even though hemorrhage may be slight and the degree of dilatation of the cervix insignificant, threatened criminal abortion should be considered as inevitable. The fame of the catheter and its use in this connection is world-wide, yet how many women fail to appreciate the pernicious results which may follow its use! How is it possible to determine whether or not septic matter has been introduced into the cavity of the uterus with the instrument, until certain symptoms are manifest? Is it not safer practice, therefore, to consider such cases as inevitable rather than to temporize? There is but one indication for treatment, and that is to empty the uterine cavity. This is best accomplished, after rapid dilatation of the cervical canal with the Goodell dilator, by means of the index finger. After removing as much of the products of conception as possible, the cavity should be thoroughly curetted with the sharp curette. Some advise the use of the vaginal tampon, but tamponage is procrastination and should be condemned; curettage, though radical, is the rational treatment. This procedure is particularly applicable in cases of the criminal variety, for the abortion will usually be incomplete; it is equally valuable in the accidental cases, for we cannot be positive that the abortion will be complete, as small pieces of the decidua vera sometimes remain attached to the uterine wall. These may be discharged with the lochial secretion, or, on the other hand, may remain and be the starting-point for a septic process. Taking it for granted, then, that abortion is seldom complete, is it not best to empty the uterus at once, when it seems inevitable, rather than to temporize, waiting, as did Micawber, for something to turn up? The curette answers every indication. After its thorough use the uterus contracts, pain ceases, and the hemorrhage is stopped, and the patient is placed in an ideal condition for convalescence. The danger arising from this procedure is remote. The operation should be performed, however, under the strictest observance of surgical asepsis, for upon the thoroughness of your technique depends your success. The anæsthetic may add an element of danger, consequently great care should be exercised in administering it to patients suffering from acute anæmia. The question of the employment of drainage after curettage is a mooted one, some claiming that by the use of gauze we prevent rather than favor drainage. This may be true if the uterus is packed tightly, but if a narrow strip of sterilized iodoform gauze is carried to the fundus drainage is not only facilitated, but by its stimulating action the uterus is kept in a state of tonic contraction. Its use also prevents the possibility of the agglutination of the two raw surfaces of the uterine canal, a condition which has been known to occur.—Dr. Carey Kennedy Fleming, *in Denver Medical Times*.

Lepra.—From the experience in Norway with isolation of lepers Dr. M. Joseph holds the contagiousness of the affection as proven. The degree of danger depends upon the social position of those concerned.—*Therap. Woch.*, No. 47.

Raspberry Lemonade.—

℞ Acidi citrici.....gm. 5
Aq. dest.....gm. 100
Sacch. alb.....gm. 450
Syr. rub. id.....gm. 600
Syr. ceras.....gm. 300
Vin. rubr.....gm. 450
Tinct. aromat.....gtt. 15
Add to water as required.

—*Therap. Woch.*

Foreign Bodies are looked upon by Dr. Hummel as the media of infection in most instances of actinomycosis. Seeds and grain are usually the agents at fault.

The Parasite of Whooping-Cough.—M. Kurloff (*Vratch*, No. 3, 1896) remarks that Henke and Deichler have for the last ten years maintained that the cause of whooping-cough is a very active organism provided with cilia. He challenges this statement, and believes that the micro-organism of whooping-cough is not to be sought for among bacteria, but

among the protozoa. He has never failed to find active amœbæ with finely granular protoplasm and with spherical spores characterized by concentric lamination. He believes he has been able to follow the development of the spores into amœbæ. The facts he describes may all be observed in the fresh sputa of the patients, even without the employment of an Abbé's condenser.—*The Lancet.*

Infection with Leprosy.—Goldschmied has observed in Madeira the infection of a healthy child by a leprous nurse.

Street Noises.—London has its grievances as well as New York, but there steps are being taken by the city government to mitigate or suppress such street noises as constitute a public nuisance. Why can we not have the same?

Nervous Stability Considered from the Standpoint of Education and Training.—Dr. Jones (*Northwestern Lancet*, December 1, 1896) writes as follows on this subject: "There is unquestionably a growing and widespread tendency to degeneracy, anatomical as well as social. It invades the literature of the day to a nauseating degree. New writers are constantly pouring books upon the unsuspecting public that appeal to the emotional and animal nature. The characters, clothed in fine linen, are at heart perverts or defectives, and show the abnormal mind of the writer, who in private life is a leech, preying upon the credulity of readers, leading them in unhealthy paths of thought, appealing to wrong reason, and in the end dragging down respectability. The remedy for these ills is properly to train, direct, educate, and surround the growing brain, to the end that strength, force, observation, and reason may overcome degeneracy."

Test for Bile Salts.—It occasionally happens that the urine from icteric patients, although presenting the color and other appearances of containing normal bile pigment, does not respond to the tests of bilirubin. Instead of green, a red or even a blackish color may appear. In these cases the bilirubin has undergone some transformation, perhaps reduction to urobilin, and is incapable of being converted into biliverdin.—Dr. J. B. Nichols, *Medical News*, December 26, 1896.

How a Baby "Acquires."—A very interesting article with the above heading appeared in a recent number of *Nursery Guide*, and is quoted as follows: "At birth a child is simply 'organized suction.' He is a little bundle of animal appetites and propensities, with latent potentiality for good or bad. He is simply what he is by inheritance, as he has yet acquired nothing. He develops in body and mind according to natural laws. At first, hereditary tendencies predominate; then, finally, through environment and education acquired tendencies prevail, and life is thus made up of predisposition and acquisition. Predisposition, or hereditary tendency, determines greatly the nature, quality, and extent of all acquisitions—physical, mental, or moral. It is essential, therefore, that children should be well born, as well as properly trained. Training should precede birth."

A Large Hydrocele.—Dr. L. R. Markly, of Washington (*Medical Sentinel*, December, 1896), reports a case of hydrocele which he tapped, and from which he drew off twenty-two ounces of fluid. The patient was sixty years of age.

Antitoxin.—The following appears in an editorial (*Boston Medical and Surgical Journal*, December 17, 1896): "The strength of antitoxin is at present determined as follows: Diphtheria toxin, the germ-free filtrate of bouillon cultures of the diphtheria bacillus, is injected subcutaneously into a series of guinea-pigs of nearly uniform weight to determine accurately the smallest quantity of toxin which is fatal to the guinea-pig. When this has been determined, the toxin becomes the test toxin. A given quantity of serum to be standardized is mixed with ten times the minimum fatal dose of the test toxin and injected subcutaneously into guinea-pigs of nearly the same weight as those used in standardizing the toxin. If no local œdema or infiltration appears—if, in other words, the guinea-pig is completely protected, the quantity of serum used contains one-tenth of an antitoxic unit."

Cerebral Syphilis.—It may safely be said that, with the exception of embolism, the large proportion of the cases of apoplexy occurring between the ages of twenty and forty years are due to syphilitic disease of the cerebral blood-vessels.

How to Eat.—The *Boston Medical and Surgical Journal*, No. 18, 1896, says that Charaka Samhita, the great Indian physician, was about right when he said: "One should take one's food in a place that is agreeable. The food one takes should, again, consist of dishes every one of which is agreeable. One should eat not with haste, or taking up a long time, or talking or laughing the while. While eating, one should eat with attention concentrated thereon. Lastly, one should eat after a proper survey of one's self."

The Penalty for Non-Vaccination.—Gloucester, England, was the scene of the life and work of Jenner, and it seems strange to report that this same town has suffered an epidemic of small-pox, the like of which has not been experienced by any other town in England for years. A detailed account of this epidemic, published in *The Times*, last August, furnishes the following statement of facts: Between 1886 and 1894 the number of public vaccinations had fallen from 1,095 to 34, and in ten years the total was only 2,378, though in that period 15,682 children had been born in Gloucester and only 3,176 had died. The epidemic began with a case of small-pox in an unvaccinated child which was concealed and treated as measles. The end of the epidemic was certainly not due to effective isolation nor to the exhaustion of the virulence of the infection. When the city began to be boycotted the citizens appealed to the city council; the council appealed to the doctors; and the doctors replied that isolation, vaccination, and re-vaccination were the necessity of the time. Finally, the board of guardians instructed the vaccination officers to carry out the law. More than 36,000 vaccinations were effected. The epidemic was brought under control in May, and by the end of July it had been stamped out. The epidemic had attacked 2,036 persons (the population being about 40,000), of whom 443 died. The guardians are now prosecuting vaccination defaulters with energy as great as their previous indifference.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. Volume X., Diseases of the Nervous System. Royal 8vo, 859 pages. Illustrated. William Wood and Company, New York.

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UNILATERAL AND COMPLETE EXCLUSION OF THE INTESTINE FOR FÆCAL FISTULA.

BY F. KAMMERER, M.D.,

SURGEON TO THE ST. FRANCIS AND GERMAN HOSPITALS.

THE difficulties which the surgeon encounters in the treatment of fæcal fistula in the cæcal region, of whatever origin, are well known. When this region has been the seat of prolonged inflammation and many adhesions have formed between the intestines, resections of the cæcum, followed by suture of the divided ends of the bowel, have generally proven an unreliable method for the closure of the opening in the intestinal wall. Usually, primary union is not obtained in these cases, and a fæcal fistula again becomes established.

The difficulties in the way of the union of the divided ends in uncomplicated cases, such as inequality of the lumen of the ileum and of the colon, the absence of a peritoneal investment at the broad mesenteric border of the colon, the shortness of the mesocolon, preventing easy approximation of the divided ends—all these are not more readily surmounted when we are operating within dense adhesions of the intestines, and, consequently, dealing with a much altered visceral peritoneum. The many failures which have attended resections in the cæcal region for the cure of fistula in former years have gradually convinced surgeons that relief from these conditions must be sought by operations upon normal parts of the intestinal tract, away from the seat of intestinal adhesions. Naturally enough, intestinal anastomosis by lateral apposition of two loops of normal intestine, lying as near as possible to the fistula, was the first alternative that suggested itself to surgeons. It was Maisonneuve[1] who first conceived the idea of lateral anastomosis and carried it out practically on animals and in two cases of hernia with varying success. Billroth revived the operation in 1881; his patient died of peritonitis. Then his assistant, Von Hacker, took up the operation some years later, and, while he performed it four times for indications other than fistula, he nevertheless recommended it for the latter condition when firm and extended adhesions were anticipated. It should further be stated here that Von Hacker[2] practised narrowing of the lumen of the intestine on the proximal side of the affected portion, between it and the anastomosis, by suturing the intestine in longitudinal folds, his idea being to prevent the approach of intestinal contents to the seat of disease. Outside of this recommendation of Von Hacker, I have not been able to find any case of fæcal fistula treated successfully by lateral anastomosis alone. We may speak of lateral anastomosis as an incomplete exclusion of a part of the intestinal tract from the fæcal circulation.

Theoretical reasoning, perhaps to a greater extent than failure in practice, led to the idea of complete exclusion. This operation has been occasionally resorted to in late years for ailments of the cæcum and adjacent bowels. The term is applied to that procedure by which a certain portion of the intestinal tract, while remaining in connection with its mesentery, is entirely withdrawn from the fæcal circulation, its divided ends being either both closed by sutures or implanted one or both into the abdominal walls, to allow an exit for previously accumulated fæcal matter or later secretions from the intestinal walls. Whether or not the excluded portion be hermetically sealed is immaterial. All these varieties should be included under the heading of "total or bilateral exclusion."

A great amount of discussion has been carried on as to the propriety of absolutely shutting off portions of intestines. Salzer,[3] who first conceived the idea of total exclusion in preference to lateral anastomosis, operated on animals only, never having had occasion to verify the conclusions he came to on the living human being. These have, however, been accepted by many surgeons, and centre in the proposition that hermetical closure of a portion of intestine is, to say the least, a hazardous procedure. In later experiments, when greater care was taken in the preparation of his animals before operation, Salzer found that total exclusion without drainage of the excluded portion, was not necessarily a fatal operation. The subjects of such experimentation survived the operation for an indefinite period, and did not succumb to peritonitis as in former experiments, the result of decomposition of imprisoned material, necrosis of the intestinal walls, and rupture and extravasation into the peritoneal cavity. Other investigators have had similar results. If thorough disinfection of the excluded intestine has been accomplished and the gut itself is in a normal condition, the secretion from its walls will be very slight. But if the walls are the seat of pathological changes and disinfection has been omitted, especially in the small intestine, great distention of the loop with gaseous and fluid material, the latter resembling liquid fæces, will follow. The large and small intestines differ greatly in this respect. In the former, the secreting power of its mucous membrane is very slight, and absorption is rather the rule. In the small intestine, on the contrary, the secreting glands are very active. It is on this account, no doubt, that the few who have practised total exclusion with hermetical closure have operated on the large intestine. Such cases have been reported by Baracz[2] and Obalinski[3] with a favorable issue, both as regards immediate result and the further course of the cases. The only case of total exclusion of small intestine, which I have found, is reported by Parkhill,[4] of which I will take occasion to speak later on. His patient was entirely well one and a half months after operation, not a very long period it is true.

I have operated on two patients for fæcal fistula following appendicitis. In one case unilateral exclusion resulted in complete cure; in the other it had to

[1] Vassor, Frederic: Thèse de Paris, 1852, p. 50.
[2] E. von Hacker: Wiener klin. Wochenschrift, 1888, No. 17; 1892, No. 1.

[1] Salzer: "Beiträge zur klin. Chirurgie" (Festschrift, Billroth).
[2] Baracz: Centralblatt f. Chirurgie, 1894, p. 617.
[3] Obalinski: Centralblatt f. Chirurgie, 1894, p. 1,193.
[4] Parkhill: Med. News, lxvii., p. 402. Philadelphia.

be supplemented by total exclusion. The cases are the following:

Case I.—W. R. J——, aged eighteen years, was admitted to the St. Francis Hospital on May 26, 1895, to the service of Dr. Shrady, suffering from acute appendicitis. He had never been ill before. On May 27th Dr. Shrady operated upon the large abscess, the contents of which showed distinct contamination with fæcal matter. The gangrenous appendix which formed part of the wall of the abscess could not be removed with safety. The abscess cavity was packed and drained with iodoform gauze. On June 8th the fæcal discharge from the wound became very pronounced, and from this day on all fæcal matter passed through the wound and none by the rectum. The wound surfaces gradually contracted but showed no tendency to close, a large fistula still existing on August 21st, from which defecation occurred. On this day the patient was put under ether, and after thorough disin-

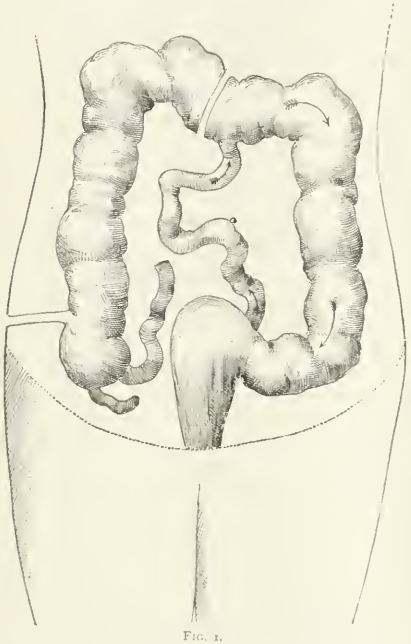

Fig. 1.

fection the fistulous opening was temporarily closed by several sutures passing through the abdominal walls, with avoidance of the peritoneum. The abdomen was now opened in the median line from a point two inches above the umbilicus to the symphysis pubis. It then became apparent that the adhesions of the intestine were not confined to the right iliac region, but that the entire omentum was bound to the intestines at various points. It required considerable time to separate the adherent omentum, and to recognize the point at which the ileum joins the cæcum. A point about eight inches from the cæcum was chosen for the division of the ileum, and after closure of the distal end the proximal end was implanted by a Murphy button into the lower border of the transverse colon, which was very pale and much contracted, looking like a loop of small intestine. Some difficulty was also experienced in bringing together the proximal end of the divided ileum and the transverse colon, again owing to the adhesions. The approximation was so perfect that no supplementary sutures were deemed necessary, and the abdomen was closed. The operation had lasted slightly over two hours (see Fig. 1). The further course of the case was uneventful. The button passed on the eighth day, and no fæcal matter has escaped from the fistula since the day of operation. There was no sign, however, of a spontaneous closure of the fistulous opening. It remained patent and occasionally discharged a little clear gelatinous fluid. Therefore on September 22d an attempt was made to suture it, which was in the main successful, but at the end of a fortnight a very small sinus, just admitting a probe, again appeared, discharging the same mucus as before. This finally closed by granulations by the end of October. The patient is at present in excellent health, and has gained considerably in weight. During the first week or two after the escape of the button, he complained several times of colicky pains on the right side, which were never very severe and have never since reappeared. To my knowledge this is the first case of successful unilateral exclusion of the normal ileum and colon recorded.

Case II.—G. T., aged forty-eight years, was operated on for appendicitis with abscess, by a leading surgeon of this city, three times from February to October, 1895. After the last operation a fæcal fistula developed at the site of the wound, through which at present (December, 1895) almost all fæcal matter is discharged, a very small quantity occasionally passing through the anus. When admitted to the hospital the patient was in good general condition. In the right iliac region a granulating surface, four inches in length, is seen, from which an opening, admitting one finger, passes into the large intestine along a sinus about two inches long. At the lower angle of the incision there is a second passage, just admitting a probe, running in an upward direction, and meeting the fistulous sinus at its junction with the bowel. There is a constant discharge of fæces through these openings.

On February 8, 1896, an attempt was made to close the opening in the large intestine by a double row of sutures, after incising the bridge of soft tissues between the two fistulous tracts, and thorough dissection and scraping of the chronic abscess cavity surrounding the fistula. Although the ascending colon was separated from its surroundings, so that easy approximation of its edges was possible, the attempt was not successful, and the fistula reopened after the lapse of a week, discharging in the same manner as before operation. Owing to the dense adhesions which I encountered, I decided that intestinal anastomosis of the nearest available non-adherent portions of the small and large intestines was the proper course to follow.

On opening the abdomen on March 12th, the intestines in the right iliac region presented a mass of firm adherent viscera, from which, however, the lower end of the ileum was isolated and recognized at its junction with the large intestine. After shutting off the former with clamps, it was divided transversely at a point about six inches from the ileo-cæcal valve. Its distal end was now closed by a double row of sutures, and after division of its mesentery, the proximal end of the small intestine could be readily brought in contact with the transverse colon at about its middle portion, this being the nearest point available for the purpose, as the ascending colon was almost entirely enveloped in adhesions. An incision was made into the lower border of the colon at the point indicated, and the proximal end of the ileum again implanted by means of a Murphy button, supplemented by a row of Lembert sutures. The abdomen was closed and the patient put under the influence of opium. He made an excellent recovery, the button passing away on the tenth day. From this day on, the patient had daily evacuations of the bowels, being assisted by injections into the rectum. During the

first months following implantation, a large amount of fæcal matter continued to issue from the original fistula, but this discharge had almost entirely ceased when I saw the patient in October, after an intermission of half a year. Only a small amount of fæcal matter occasionally came away from the fistula, and the patient had one or two good movements of his bowels daily by the natural way. At the site of the original fistula, a large opening in the gut still existed, from which the intestinal mucous membrane protruded when the patient made violent exertions of his abdominal muscles.

On November 21st, the patient was anæsthetized for the closure of this fistula. I did not anticipate much difficulty in accomplishing this, as the condition of the parts was now much better than when I first made the attempt, inasmuch as the sinuses had closed and also the various abscess cavities around the fistula had become obliterated. The old difficulty, however, presented itself. After the intestinal loop had been separated from its adhesions for a long distance, the infiltration of the walls of the intestines was so great that no approximation of the resected edges was possible—not, at least, to such an extent that a double row of sutures could have been applied. To effect this, the ascending colon had to be liberated from its adhesions almost to the hepatic flexure, and the general peritoneal cavity opened. The intestine itself was much collapsed, its walls were very thin, and it was only recognized as the ascending colon by the longitudinal muscular fibres in its wall. In the direction of the ileum the large intestine was so firmly adherent that it was impossible to isolate it farther than about two inches from the fistula. It was now seen that the latter was in reality an almost complete transverse section of the colon. On introducing my finger into the bowel in the direction of the ileo-cæcal valve, the latter was found filled with hard fæcal concretions, although the patient had been carefully prepared for operation and his bowels thoroughly emptied. After resection of the ends of intestines a double row of sutures was applied, and the bowels were replaced within the abdominal cavity, surrounded by a small tampon. The abdominal incision was partially closed with silkworm sutures. The result of all this was that on the fifth day fæcal matter again appeared on the dressings, and in the course of a few weeks a fæcal fistula, admitting the tip of my finger, was again established, which discharged a considerable amount of fæcal matter.

On December 17th, the abdomen was again opened in the median line for several inches, to both sides of the umbilicus. A few adhesions of the omentum were found and easily separated, when the seat of the implantation done nine months ago was disclosed. At the point where the ileum was united to the colon there were no adhesions save a few strands running to the omentum. The anastomosis was perfect; there seemed to be no contraction at the line of union, nor was any cicatricial induration to be discovered on palpation. There was evidently no narrowing of the lumen at all. The first half of the transverse colon was brought outside the abdominal incision by the separation of a few further adhesions. After passing two pieces of iodoform gauze through the transverse mesocolon and tying them at a distance from each other of about two inches, the colon itself was divided transversely, and both its ends were closed by three rows of silk sutures: the gauze was removed, the bowel returned to the abdominal cavity and the abdomen closed, no tampon being introduced (see Fig. 2). This time also the patient did well. He was kept under opium for a week. During the first weeks small particles of fæcal matter escaped from the fistula. At the end of a week his bowels were first moved by small enemata, repeated at frequent intervals, and then by cathartics. The fistulous opening discharges a small amount of mucus, and an attempt to close it is not, I think, at the present indicated, but later on may become necessary as a matter of convenience for the patient.

I confess to having felt some disappointment at not being able to close the fistula after three prolonged operations, more especially after the very gratifying result in the first case which I have reported, in which implantation of the ileum into the transverse colon was immediately followed by a cessation of the discharge of fæces from the fistula. Two other cases which I have been able to find, in which a similar procedure was adopted, are reported by Koerte[1] and Parkhill.[2] In many points Koerte's case differed from the two I have reported. It was originally one of tuberculous degeneration of the cæcum, in which at a previous operation the ascending colon, the cæcum, and a small piece of the adjoining ileum had

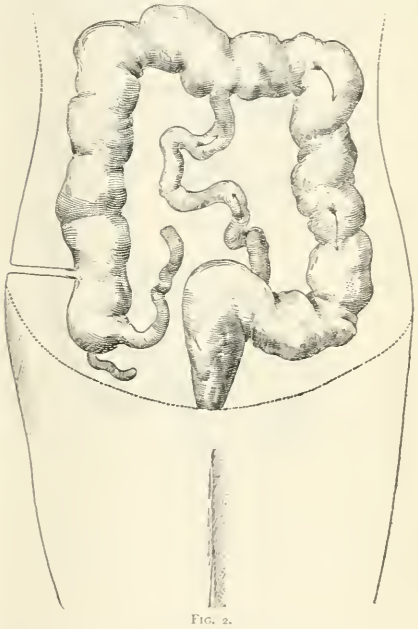

Fig. 2.

been resected, and the ends of the intestines had been implanted side by side into the abdominal wall. Application of Dupuytren's enterotome and various plastic operations were all of no avail in Koerte's case. The author then resected an additional twenty-one centimetres of colon at the site of the artificial anus, and sutured the open end. A loop of ileum was then attached to the colon about an inch from its closed end. The wound was tamponed, but on the fourth day after operation fæcal matter again appeared in the dressings, the sutures in the colon having given way. That this would have been the case, even if primary union of the colon had occurred, seems more than probable, as the divided end of the ileum was left open in the wound. Koerte, in his sixth operation on the same patient, divided the ileum, closed the distal end leading to the anastomosis and farther on to the fistula, and implanted the proximal end into the lowest portion of the descending colon. Some of the intestinal contents found their way in an antiperistaltic di-

[1] Koerte: Archiv für klin. Chirurgie, vol. xlviii., p. 717.
[2] Parkhill, l. c.

rection to the original fistula by way of the colon. In the seventh operation the colon was divided and both ends were hermetically closed by sutures, completely shutting off the fistula from the fæcal circulation. And, lastly, the entire excluded portion was successfully removed in an eighth operation, necessitated by an abundant discharge of mucus from the original fistula. I have tried to illustrate the operations in Koerte's case by the accompanying figure (Fig. 3). Parkhill's case resembles mine closely. He operated for fæcal fistula, also following a previous operation for appendicitis. After opening the abdomen he divided the ileum about three-quarters of an inch from the ileo-cæcal valve, closed the distal end, implanting the proximal end into the beginning of the hepatic flexure of the colon by means of a Murphy button. About three months after this operation the fistula had contracted to about two-thirds of its original size, and there was still some regurgitation of fæcal matter. Parkhill now resected the cæcum, closing the ascending colon near the site of his previous implantation, but found that the opening made by the Murphy button had contracted so much that he could barely introduce

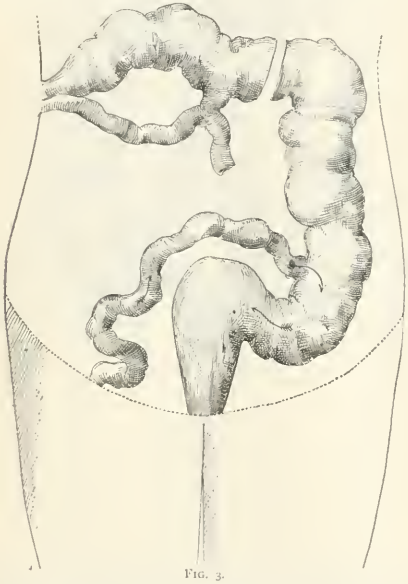

Fig. 3.

his index into the lumen of the ileum. He also introduced his index in the opposite direction, through the valve, but here "it was impossible to reach the end of the segment," showing evidently that the ileum had not been divided at the previous operation three-quarters of an inch from the valve. The ileum was closed after the cæcum had been removed, and the author leaves it an open question how much of the small intestine he had totally excluded from the fæcal circulation. His patient made an excellent recovery, and one and a half months later was entirely well, as I have previously stated.

Lateral anastomosis does not seem a rational procedure for the cure of fæcal fistula, although its efficacy in cases of inoperable neoplasms is sufficiently established, and needs no repetition here. There is no reason why the contents of the intestines should not further pass into the small intestine beyond the anastomosis, in the direction of the peristaltic wave, when there exists a point of exit for them in the fistula itself. In implantation of the ileum into the colon, with closure of the distal end of the ileum, the case is different. Here the intestinal contents will be forced to travel in a direction opposite to the normal peristaltic action, in order to appear at the fistula. That this does occur, at least to some extent, is proven by clinical observation in Koerte's and Parkhill's cases, and in one of my own. Experimental work seems to point in a similar direction. Haken[1] and Senn[2] have both done unilateral exclusion on animals, by dividing the ileum and implanting the proximal end into the colon, after closure of the distal end. Haken experimented on young pigs in pre-antiseptic times, and was successful in one such operation. He found at the autopsy, sixty-six days later, that the colon, cæcum, and small intestine, which had been excluded from the fæcal circulation on the proximal side, were very much contracted and practically empty, containing only a small quantity of intestinal mucus. Senn, in his extended experimental study, arrives at similar conclusions. In most of the records of his autopsies he mentions that occasionally excluded portions of bowel, both in operations of implantation and of lateral apposition after artificial stricture, are contracted and empty. Neither of the two authors alluded to any stasis of intestinal contents with distention or ulceration of the bowel in their experiments of unilateral exclusion; on the contrary, the intestine at the post-mortem examination was generally pale and atrophic.

Another surgeon, Reichel,[3] while criticising the successful cases of total exclusion of Baracz and Obalinski, has suggested the propriety of ileo-colostomy by implantation for the cure of fæcal fistula in the cæcal region, but he has never had occasion to perform the operation on the living human being.

I have reviewed the available experimental and clinical data at some length, as it seems remarkable that unilateral exclusion, with implantation of the ileum into the transverse colon, should not have been more frequently resorted to for the cure of fæcal fistula in the cæcum. Theoretically, it would seem to be the operation which would suggest itself in such cases. No objection to it can be made, I think, on the ground of stagnation of fæcal matter in the unilaterally excluded portion of ileum, the ascending colon, and transverse colon, for experiments and clinical observations make it more than probable that the intestines will suffer no harm from the presence of fæcal material, if an outlet (either a fistula or an open communication on one side of the excluded loop) is provided. Another consideration, which would be apt to prejudice in favor of unilateral exclusions, is the condition of the excluded portion some time after operation. It matters little, apparently, how unilateral exclusion is brought about. If we are dealing with a stricture, malignant or benign, or if a stricture be artificially produced, as in experiments, and if lateral anastomosis be done for its relief, assuming that the stricture is impermeable, there will result from this operation two unilaterally excluded portions of gut. The one leading to the stricture will generally be empty, although it has occasionally been found distended, more especially when the anastomotic opening has not been sufficiently large. The one leading from it will always be quite empty. It is with this latter portion that we are interested in the consideration of unilateral exclusion for fistula, and all experience, as I have just stated, goes to show that it will atrophy if its only outlet is at the seat of the anastomosis. All this is equally true of implantation. In forming an estimate of the value of unilateral exclusion, the next question presenting itself is: Does the excluded por-

[1] Haken, F. A.: "Allgemeine Bemerkungen zu den Hernien," Dissertation, Dorpat, 1861, pp. 95 and 99.
[2] Senn, N.: Annals of Surgery, vol. vii., p. 269.
[3] Reichel: Centralblatt für Chirurgie, 1895, p. 40.

tion undergo atrophy, and will the fæcal accumulation be avoided as well in cases of fistula—in other words, in those instances in which a second opening exists in the excluded portion? It is evident that the intestinal contents are more likely to enter the latter, if they can again leave it by another opening. I know of no experimental work to determine this point, but clinical observation seems to be in its favor. In three of the four cases in which unilateral exclusion by implantation was practised for fæcal fistula, fæcal matter continued to pass by the latter for some time, until further operations were done. Two of the cases (Koerte and Parkhill) were under observation a very short time only. In one of them the implantation was done on May 13th. On May 26th some fæces again appeared at the fistula. On June 3d the abdomen was reopened, and the transverse colon divided before the seat of implantation. In the other case, "the patient was readmitted at the end of a month, begging for a second operation. The fistula had contracted to about two-thirds of its original size, and there was still some regurgitation of fæcal matter." In the first of my two cases the effect of unilateral exclusion was a very marked one. Whereas, before the operation, all fæcal matter had escaped by way of the fistula, most of it now passed by the natural route. The same was the case in Koerte's patient. From Parkhill's statement of contraction of the fistula and still some regurgitation of fæcal matter, we must conclude, I think, that the condition of his patient was also very favorably affected by the operation. In my first case the result was a perfect one. No fæcal matter escaped from the fistula after unilateral exclusion by implantation was done. The result was so striking in this respect that the presence of a stricture between the fistula and the seat of implantation suggested itself to me, though the history of the case, both before and after the first operation, does not in the least warrant this assumption. I think we are, therefore, justified in concluding that the unilateral exclusion of a part of the ileum and the ascending colon, and part of the transverse colon, for fæcal fistula in the cæcal region, will at least result in determining the exit of by far the greater part of the intestinal contents by the natural way. Further, we are justified in assuming that this operation will be followed by atrophy of the excluded portion in a very short time, even if some fæcal matter still passes by the fistula. This was very apparent in my second case at the subsequent operation, performed some nine months after implantation, when the ascending colon was so much contracted that I at first took it to be the small intestine. And, lastly, one of my own cases has shown that, in probably very exceptional instances, unilateral exclusion is followed by complete cessation of the flow of fæcal matter from the fistula, and that a small plastic operation may permanently seal the abnormal opening.

It must be allowed that, once abdominal section and one of the methods of intestinal anastomosis are determined upon for fæcal fistula, the most radical and efficacious procedure is implantation of the ileum into the transverse colon, and total exclusion, after division of the latter, in one sitting. Then, of course, and then alone, we may feel sure that no more fæcal matter can pass by the fistula. There are, however, certain disadvantages connected with this plan. The division of the transverse colon and the suturing of its ends considerably prolong the operation of implantation, which is in itself occasionally a lengthy one, and adds an element of danger. Besides, we then have a totally excluded portion of intestine, which very often continues to secrete and discharge through the artificial opening a large quantity of matter. This, though not fæcal in character after a lapse of time, may still be the source of great annoyance to the patient, and has in some instances necessitated the removal of the entire excluded portion—a formidable operation when the latter includes the ileum, the ascending colon, and part of the transverse colon.

Such considerations should prompt us, I think, to attempt closure of a fistula in the cæcum, in the first instance, by implantation of the ileum into the colon (unilateral exclusion). If in the course of some months atrophy of the excluded portion should follow, a relatively insignificant plastic operation may be sufficient to close the fistula. Failing in this, we may at a later stage divide the colon on the proximal side of the implantation, and close both ends. My own experience seems to show that there will be little difficulty in finding the bowel in question, very few adhesions forming when a Murphy button has been used, undoubtedly the ideal method of union in end-to-side anastomosis of the ileum and the colon. If our efforts to close the fistula after unilateral exclusion by implantation have been unsuccessful, we might try to liberate the loop of intestine at the site of the fistula, and after transverse section close the distal end, leaving the proximal end open in the wound. I question whether this operation would be preferable to division of the transverse colon on the proximal side of the implantation, as previously suggested and practised in my second case, in which I was influenced by the many operative procedures which had been undertaken at the seat of the fistula, and which I reasoned had so altered the peritoneal surfaces that successful suturing would be a matter of some doubt. But if no attempts at repair have been previously made, I should be inclined to believe that the operation would be in a number of cases successful. Two advantages would accrue from this method. The patient would not be subjected to another laparotomy, and if later on the secretion from the fistula became very troublesome, a smaller piece of intestine would have to be removed to effect a permanent cure.

After implantation of the ileum into the transverse colon, we should make an immediate attempt to close the fistula at the same sitting. I have been very much annoyed in the later operation in my second case by the presence of fæcal matter in the unilaterally excluded portion of intestine, which of course could not be removed during the usual preparation of the patient for operation. It was very difficult to dislodge it after total exclusion was finally done. It seems, therefore, that we should try in the first instance after implantation, when we have still been able to effect evacuation of the contents from the entire intestinal tract, to close the fistula. If we fail in this, another attempt is indicated at the site of the fistula, as I have already stated, before total exclusion is practised.

In recommending unilateral exclusion in cases of fæcal fistula, I am well aware that it should not be resorted to in cases of malignant inoperable tumors of the cæcum or stenosis from other causes. For such cases intestinal anastomosis by lateral approximation or total exclusion, with implantation of both ends of the excluded loop into the abdominal walls, should be the operative measures applied, more especially when clinical symptoms point to ulceration and discharge into the lumen of the bowel. In such cases the risk of accumulation near an occluded end would be great. Of the two, lateral approximation, on account of its relative simplicity, should be the operation of choice. The argument in favor of total exclusion, with implantation of both ends into the abdominal wall, for the purpose of topical medication, in cases of intestinal tumors is, to my mind, of questionable value. If no ulceration is present, I think it would be better surgery simply to deflect the intestinal current from the seat of disease by lateral anastomosis than further to indulge in medical applications to the surface of the

growth. As for the prevention of further irritation by the passage of fæcal matter over the surface of the tumor, it will follow the establishing of a large lateral anastomosis, to all intents and purposes, as experiments with artificial constriction of the bowel have abundantly proven (Senn).[1]

When extensive adhesions are present, implantation will occasionally be rendered more difficult by a failure of the surgeon to recognize the direction of the small intestine. It is evident that we must be sure of implanting the proximal end of the divided ileum, or a very pronounced and undesirable condition will shortly manifest itself. In my first case for the recognition of this portion of the small intestine much dissection was necessary, and I can readily believe that with still firmer adhesions its identification may become wellnigh impossible. Prolonged efforts are surely indicated to find a loop of intestine near the ileo-cæcal junction, so that we may not only determine the direction of the fæcal stream but also prevent the exclusion of too long a piece of small intestine. If the adhesions are so firm that this is found absolutely impossible, then the only course remaining is to do an ileo-colostomy by lateral approximation, using the lowest coil of small intestine available.

The middle of the transverse colon seems to me for several reasons the best situation for implantation in the cases under consideration. It is most readily approximated to the divided end of the ileum, the ascending colon being generally so thoroughly enveloped in adhesions that it cannot be utilized for this purpose. At the same time, the greater portion of the colon being still in activity, sufficient absorption of fluids will continue to prevent the passage of liquid stools, which might occur if implantation were done low in the descending colon—an otherwise favorable position, in view of its great distance from the fistula.

A REPORT OF A PLASTIC OPERATION FOR RESTORING THE LOWER LIP.[2]

By CHARLES N. DOWD, M.D.,

ATTENDING SURGEON TO THE NEW YORK CANCER HOSPITAL.

THE patient shows the result of an operation done one year ago for epithelioma of the lower lip. There had been a sore on the lip for four years, and the growth had been advancing rapidly for a year. Not only was the lower lip involved, as is shown in the photograph, but there was extensive cancerous disease in the submaxillary spaces.

The operation was based on the method of Malgaigne, but the changes in surgical procedure since Malgaigne's time have led to a radical modification of his operation. His incisions are shown in the accompanying illustration (Fig. 3).

There are two main objections to this location of the lower incisions:

1. They do not expose the submaxillary spaces, in which diseased lymph nodes so often exist.

2. Unnecessary deformity is caused by the prominent position of the scars and the stretching of the narrow flaps.

These objections are obviated by carrying the lower incisions beneath the body of the jaw. They should extend from the tip of the chin nearly back to the angle of the jaw (see Fig. 4). Through these incisions the submaxillary spaces can be thoroughly cleared out. From this patient enough was taken from them to half fill a tumbler. In addition to a large number of carcinomatous lymph nodes, the submaxillary salivary glands were removed. I think the salivary glands need not be removed in all cases, as they are seldom cancerous, but in this instance they were

FIG. 1.—Patient Before Operation.

closely adherent to the cancerous lymph nodes and their removal seemed advisable. I have removed them from six or seven patients, and their absence occasions no perceptible derangement of the salivary apparatus.

The removal of the primary growth itself should be accomplished by incisions one-half to three-fourths of an inch from its margin. The entire lower lip and a small portion of the adjoining cheek were removed from this patient. The incisions may usually converge below, as is shown in Fig. 4. A good cosmetic

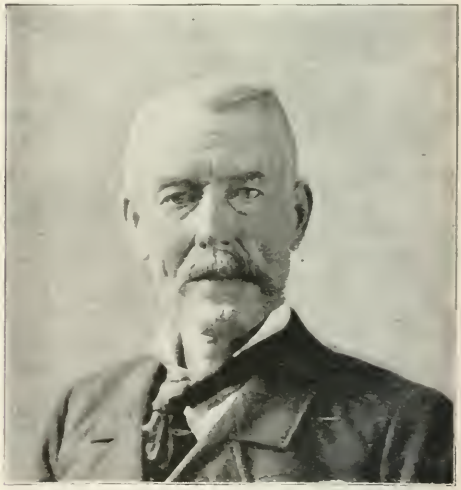

FIG. 2.—Patient One Year After Operation.

effect is promoted by leaving as much tissue as possible on the prominence of the chin; redundant tissue may be trimmed off if necessary when the stitches are taken.

The horizontal incisions from the angles of the mouth should be marked with the point of the knife

[1] Senn, M.: Annals of Surgery, vol. vii., p. 261 et seq.

[2] Patient presented before the surgical section of the New York Academy of Medicine, December 7, 1896.

before cutting, to insure symmetry. They should be carried backward two inches, or as far as is necessary to allow the approximation of the flaps. These incisions are carried down to the mucous membrane, but that is divided one-third inch higher than the skin, so that it may be laid over the edge of the newly formed lip and stitched to the skin without tension. A good vermilion border is thus formed. The excess

FIG 3.—Incisions for Malgaigne's Operation. From "Manuel de Medecine Opératoire," by Dr. J. F. Malgaigne. 9th Edition, par Léon Le Fort.

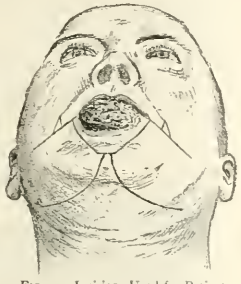

FIG. 4.—Incisions Used for Patient here Reported.

of tissue which is apparent in the cheeks above the incisions after the approximation of the flaps is remedied by the removal of wedges of skin, which are usually best taken so that the cicatrix will be in the line of the labio-nasal folds.

In liberating the flaps so as to allow their approximation, it may be necessary to divide at the mental foramen the mental branch of the inferior dental nerve. This need not be feared, as the branches of the facial nerve supply the power of motion to the newly formed lower lip, and the diminution in sensation is not troublesome. The divided nerve fibres apparently unite after a few weeks

The facial arteries and veins are usually severed in the submaxillary spaces, but the flaps are well nourished without them.

For sutures, silkworm gut may be used where there is tension—fine catgut for the mucous membranes within the mouth, and fine silk for the others.

The wound should be dressed lightly; a heavy dressing keeps it bathed in the discharges from the mouth. I have had the best results from a collodion film above, and below the chin a light gauze dressing, which is frequently changed.

For two or three days before the operation a mouth wash of equal parts of peroxide of hydrogen and water should be used every three or four hours; and after the operation the mouth should be syringed with a similar solution at the same intervals.

The patient should be able to drink fluid through a tube after the first twenty-four hours.

In this patient the wound was well healed in a week and the stitches were removed, four days later he was able to leave the hospital in the evening, and was shown at a meeting of the West End Medical Society. Two weeks after the operation he left the hospital, and soon afterward went to work. At the present time one might hold a conversation with him without noticing a deformity. The lip is of normal size, freely movable, and under good control. It has a good border of mucous membrane and a good lining of the same membrane, which extends downward below the base of the gum in the usual way, leaving abundant room between the lip and the gum. For eating, speaking, and retaining saliva, the lip is normal.

A lip which is formed from the cheeks in this way has a good lining and border of mucous membrane from the beginning, and does not show a tendency to cicatricial contraction; it also contains fibres of the orbicular muscle of the mouth. These advantages do not exist in lips which are formed by sliding up tissue from the chin.

The prospect for a permanent cure in this patient is good, as most of the recurrences appear within the first year.

I wish to urge the doing of this complete operation more generally, or of such a modification of it as permits the thorough clearing out of the submaxillary spaces. Patients are sent to the New York Cancer Hospital every year from whom labial cancers have been removed and in whom the growths have continued, first in the submaxillary spaces, then in the jaw, base of tongue, and adjacent structures, until cure is impossible.

THE ALLEGED FLAGELLATE MALARIAL PARASITE VERSUS THE AMŒBOID CONTRACTILITY OF THE RED BLOOD CELL.

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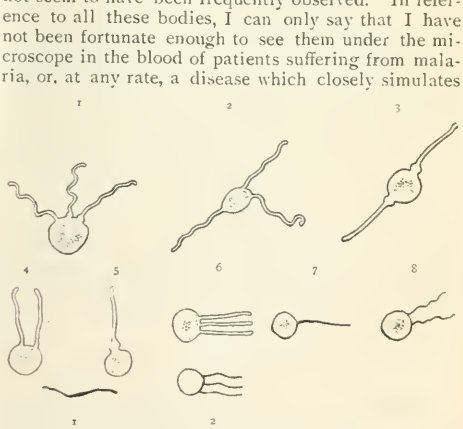
RECENT writers on the plasmodium malariæ have drawn attention to alleged peculiarities which their flagella possess. These characteristics, according to some observers, are the following: 1. The marked activity of the flagella. 2. Their symmetry as to length and form. 3. A singular dilatation at the point where the flagella arises from the body of the parasite (best seen in No. 3 of the illustration). 4. Their club-shaped extremities. 5. The fact that a flagellum may break off from the body of the parasite and circulate with a spirillum-like movement free in the blood plasma.

The figures from No. 1 to No. 8 were copied from different works on this subject, and were drawn for me by Mr. Charles Perpente, and show that all these peculiarities were not always met with. The most constant feature which they possess, and I admit that it furnishes some evidence that these flagellate bodies are parasites and not cells, is their symmetry as to length and their marked activity. In Nos. 7 and 8 of the figures it will be noted that the flagella are not club shaped and do not show the singular dilatation already referred to. The fact that a flagellum may break off and circulate free in the blood plasma does not seem to have been frequently observed. In reference to all these bodies, I can only say that I have not been fortunate enough to see them under the microscope in the blood of patients suffering from malaria, or, at any rate, a disease which closely simulates



it and is almost invariably improved by the administration of quinine. This fever occurs frequently in Maspeth, Long Island. I am inclined to believe that we may not always be dealing with the same disease. To show the similarity which the red blood cell itself may have to this parasite, I have added two illustrations, marked Nos. 1 and 2 in the third series. No.

2 was taken from a patient whose blood I frequently examined during life, and shows a red blood cell with three symmetrical or nearly symmetrical flagella, and which bears some resemblance to the alleged parasite above it (No. 6). The flagella in this cell were active, yet I cannot state that they were markedly so, a supposed characteristic of the parasite. The cell body was not pigmented. The patient was markedly anæmic during life, and I mention this to draw attention to the amœboid contractility of the red blood cell at the temperature of the air in most forms of profound secondary anæmia (carcinoma of the stomach, etc.).

In this case the autopsy was performed by Dr. Linder, and showed acute pericarditis, chronic parenchymatous nephritis, the "sago spleen," and a few tuberculous deposits at the apices of the lungs. The liver was in a condition of passive hyperæmia. No. 1 shows a red blood cell contracted like a spirillum, and was seen in a case of pernicious anæmia. I may mention *en passant* that in no other condition can the amœboid movement of the red blood cells be better seen than in pernicious anæmia. I wish to draw especial attention to this form of amœboid contractility, since it is not frequently met with, and may lead even an experienced observer into error. To designate this the spirillum-like contractility of the red blood cell may not be amiss. When I first saw this it seemed improbable that this really active cell was not some form of parasite. It seems to me that the white blood cell does not exhibit amœboid movement so frequently at the temperature of the air, I mean in diseased conditions, without the blood being kept at the body temperature, as do the red cells. They (the white cells) may do this, however, in some conditions oftener than in others. Manson has seen amœboid movement in the white blood cells (phagocytes) in malaria. Coronado studied the blood in yellow fever, and found in fatal cases just before death amœboid movement in the white blood cells—"full of phagocytic life." Amœboid bodies which stain with methylene blue have been produced in the red cells experimentally (C. Schwalbe). But whether a body like No. 3 of the first series could be produced experimentally, I am not prepared to say. It has occurred to me that what some writers describe as the endogenous (intracellular) formation of the plasmodium could be the endogenous formation of the cell itself.

In conclusion, I would state that I have not noted that symmetry and activity in the flagella of the red blood corpuscle so constant as writers depict for the alleged parasite. When the cell itself sends out two or three amœboid processes, asymmetry as to length and form is the rule. While I concede these differences, I do not regard them as sufficient evidence to prove that they are not cells. Since the plasmodium is supposed to develop endogenously (intracorpuscular), it may be unreasonable to expect their isolation and reproduction on artificial media. Laveran himself has not seen bodies which have been described and depicted as different phases of his parasite. While there may be a parasite in malaria, it ought to be, it seems to me, a morphologic unit, throughout the world. And what constitutes this unit?

158 Ross Street, Brooklyn.

Operative Route for Injury of the Kidney.—Dr. H. O. Walker is of the opinion that the most practical route to the kidney is anteriorly. The selection of the lumbar route is largely by precedent and unnecessary timidity on the part of the operator. A nephrectomy for tuberculous kidney is not always practicable. Fixation of a movable kidney by stitching its reflected capsule to the muscles is much to be preferred to that of transfixion and anchorage by stout ligatures.

DESCRIPTION OF SPECIMEN TAKEN FROM A HERMAPHRODITE.[1]

By CARL BECK, M.D.,
NEW YORK.

On July 25, 1896, I made a clinical report in the Medical Record of a case of hermaphrodism. The case concerned an individual twenty-one years of age, upon whom I had performed laparotomy for retained testicles, which had undergone sarcomatous degeneration. Excessive hemorrhage, caused by tearing the many adhesions present, rendered the patient pulseless during the operation, and compelled me to close the abdomen as quickly as possible, thereby preventing me from making the minute intra-abdominal examination that was desirable.

In view of this I hesitated to say in my former article that I was positive in having palpated and seen the ovaries, etc. But the patient acquired pneumonia eighteen days after the operation, and died three days later. The autopsy corroborated my statement in regard to the presence of the uterus, and also showed ovaries, tubes, and ligaments (see Fig. 1). Unfortunately, I was absent in Europe at the time of the autopsy, and the attention of the gentleman who made it was not sufficiently called to this most important point. Thus the ovaries, being very small, were not noticed and were cut off, only a trifle of the left one remaining with the specimen. The tubes and ligaments, however, are so well preserved that even the mutilated specimen demonstrates them (Fig. 2).

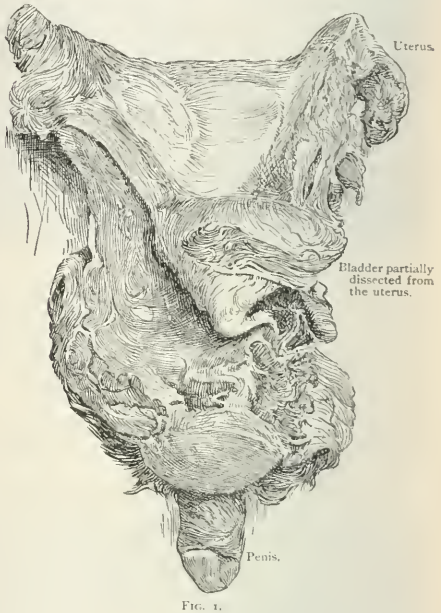


Fig. 1.

The uterus measures two and one-fourth inches in length. The fundus is one and one-fourth inches and the cervix a little less than one inch wide. It consists of the three normal strata, viz., serosa, muscularis, and mucosa. The uterine canal is two inches long and the endometrium shows ciliated epithelium down to the middle of the canal and laminated pavement epithelium below. No ostium tubæ uterinum could be made out in the fundus uteri, nor did the Fallopian tubes show the presence of a canal. An

[1] Demonstrated to the New York Pathological Society, October 14, 1896.

ampulla showing fimbriæ could be recognized on each side. The ovaries were of an elliptical shape and of unusually small size. A ligamentum ovarii was well developed on either side, as were also the broad ligaments. No parovarium was noticed. The short fragments of the round ligaments are still plainly visible on the specimen. The labia majora are extremely well developed, as is evident from Fig. 3. (The photographs Nos. 1 and 2 in my previous article, which were taken in the hospital, do not show them satisfactorily.) The inner surfaces of the labia show the presence of sebaceous glands. No trace of Bartholin's or Cowper's glands could be found. The escutcheon or arrangement of the pubic hair was not feminine, and was not continued up to the umbilicus. The urethra was of the female type. Dissection of the penis revealed the presence of two corpora cavernosa. From the inner surfaces of the tunica albuginea and of the septum a large number of trabeculæ branched off, which consisted of muscular and smooth elastic fibres and of connective tissue. There was no urethra connected with the penis, nor a corpus cavernosum urethræ. The prostate was small and very hard, but well developed. It had the shape of a small chestnut, consisted largely of connective tissue and smooth muscular fibres, and showed but few blood-vessels. Its presence gave the normally developed bladder the male type. The funnel, the posterior wall of which it formed, led into a blind pouch, while from the anterior wall the urethra branched off. No seminal vesicles were found. Still it might very well be that rudiments were present which could not be demonstrated in the spoiled specimen. The glans penis is also well developed, only the prepuce being of small size.

The tumors which were removed by laparotomy have to be regarded as testicles, according to the history. Microscopical examination alone could not show the character of the organs on account of their tissue change. Eminent pathologists, like Drs. Prudden, Ely, Brooks, and others, did not care to express any definite opinion as to the microscopical part of the question. From the microscopical report of Dr. Henry Brooks I quote the following: "The tumor is composed of mixed elements, making it in my opinion quite impossible to classify it exactly. In some portions it has the typical structure of alveolar sarcoma; in others, again, it has a dense fibrous structure, which I take for including capsule. In addition there is a number of large foci of well-formed cartilage tissue, such as is seen in the bronchi and trachea, and several larger of the smaller areas are occupied by glandular structure showing typical epithelial cells of columnar or cubical form. The bulk of the growth is composed

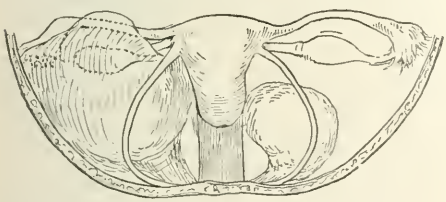


Fig. 2.—Appearance of Parts at Time of Operation.

of embryonic tissue, and I am inclined to think the growth belongs among the teratomata or so-called blastomata."

It may also be mentioned in this connection that the short pedicles of both tumors were very vascular, bearing a resemblance to the plexus pampiniformis.

It may be added that the pelvis, as well as the gluteal region and the thighs, was of the male type. The panniculus adiposus was but little developed, for which the cachexia, however, might be responsible. The larynx was not prominent. The family history of the patient was good.

It is not at all certain to me whether menstruation took place or not, as the person, who was very intelligent, did not wish to be taken for a girl. The possibility cannot be excluded, and the subject might have had a trace of it and denied the fact.

Very few cases like this are reported in literature. There is a specimen in the anatomical museum of Würz-

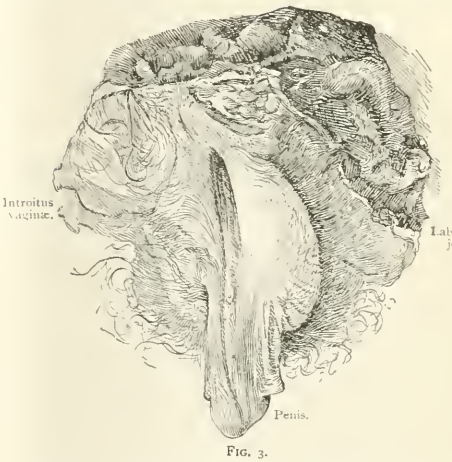


Fig. 3.

burg, in which male and female organs (penis, pars prostatica, vagina, and Fallopian tubes) were present.[1] There is another case, reported by Zweifel, showing the same condition at the autopsy. It concerned a child, six months of age. Similar cases are reported by Ahlfeld.[2] I may also refer to the well-known cases of Heppner[3] and of Meyer,[4] of Zurich. Dr. H. J. Garrigues[5] speaks of an individual, now alive, who not only menstruated, but possessed semen. The left side of this individual looked like a male, and the other side like a female.

It seems to me that such cases are more frequent than is generally supposed. During lifetime the observers must to a great extent rely upon the veracity of the patients' reports, which are but exceptionally corroborated by an autopsy. If, as in this case, there is nearly complete atresia of the vagina, which was accidentally discovered, the facts generally remain unnoticed.

In conclusion I desire to thank Drs. Prudden, Ely, Brooks, Torek, and Lusk for their kind co-operation.

Fracture of the Internal Condyle of the Humerus.—I am firmly convinced that it is desirable practice to postpone passive motion until the intermediate callus is firm enough to prevent motion at the seat of fracture. Postpone passive motion for from eight to twenty-one days, in the child; in the adult, for three or four weeks. It is by securing rest for the fracture that we diminish as far as possible the amount of exuberant callus so often in the way of an ideal functional result.—Dr. Senn.

[1] Franqué: Scanzoni's "Beitrage," Bd. 4. Koelliker: "Embryologie," French transl., 1882, p. 225.
[2] Dohrn: "Ein verheiratheter Zwitter," Archiv für Gynäkologie, 1883, p. 225.
[3] Reichert-Dubois' Archiv, 1870, page 687, analyzed in La Gazette méd. de Paris, 1872, page 29, by Dennic.
[4] Hermann Meyer: "Ein Fall von Hermaphrodismus lateralis," Virchow's Archiv, 1887, p. 4,201.
[5] Medical Record, November 14, 1896, p. 725.

Clinical Department.

DIPHTHERIA AND SCARLET FEVER.

By G. E. DALY, M.D.,

NEW YORK.

The writer desires to report a series of twenty consecutive cases of diphtheria which have come under his care since May 1st of this year. The twenty cases referred to occurred in seventeen different households. All of the affected were children, the oldest being twelve years of age, and the youngest slightly over a year. The latter child was suckled occasionally by its mother, but at other times, and more frequently, was fed from a bottle. The average age of the affected children was two years and six months.

All presented the clinical evidences (membrane, etc.) of diphtheria, and the diagnosis in each case was confirmed by bacteriological examination of the health department.

The children were, with one exception, seen on the first or second day of the appearance of the membrane. The case excepted was first seen on the seventh day of the disease.

In nineteen of the cases the plan of treatment pursued was as follows: namely, to administer to the sick children one-tenth-grain doses of calomel every hour until a fæcal evacuation had occurred, in the mean time giving every two hours liberal doses of the ordinary iron, chlorate of potassium, and glycerin mixture, and constantly applying, when the child would permit, hot flaxseed poultices to the exterior of the throat.

Further, the health department had been notified of the existence of the disease, and each sick child, as well as the non-affected children of the same household, was injected by the health department, at the solicitation of the writer, with antitoxin.

The nineteen diphtheritic patients so treated promptly recovered, though several had been affected by the severe type of the disease, having extensive exudations, etc.

There were no resulting or accompanying complications in any of the cases, excepting for a slight pharyngeal paralysis in a boy of eight years.

The twentieth case, being the second of this series, was first seen after the disease had been in existence one week. In this child's throat a very general naso-pharyngeal and palatal exudation existed, and the child was in a nearly unconscious condition as the result of exhaustion and sepsis. The case being regarded as hopeless, antitoxin was not injected, though the other measures of treatment were carried out, but without avail, as the child died thirty-six hours after the beginning of treatment. It is probable that even had antitoxin been injected the child's life would not have been saved.

The writer has observed absolutely none of the ill effects that are said frequently to follow the use of antitoxin, although he has had under observation not only the nineteen sick children in whom the remedy was used, but also twenty-four other children, members of the same families or of disease-stricken households, to whom immunizing injections of antitoxin were administered.

In support of the immunizing power of antitoxin, the writer would say that in only three households did second cases of diphtheria develop, and in two of these three cases the children who became secondarily affected were feverish and apparently already infected by the diphtheritic process before antitoxin had been used upon them. From these two examples it may be inferred that injections of antitoxin have not the power of aborting diphtheria once the infection has occurred, although slight fever may be the only evidence of the approaching disease.

The third case gives this history: On July 5, 1896, Ida C——, aged ten years, was found suffering from a marked naso-pharyngeal diphtheria. Antitoxin, etc., was used for its treatment, and the other children of the household were ordered immunized. The girl recovered without complications. On July 27th (same month) her brother, aged twelve years, was reported sick and found to be suffering from diphtheria. Upon inquiry it was learned that when the physician of the health department had on July 6th injected the other members of the family with immunizing doses of antitoxin, this boy had run off, and had therefore not been so injected, but, as above recorded, later developed diphtheria, the only secondary case that occurred or has since occurred in that household of seven children.

From such a history a possible power of immunization from diphtheria might reasonably be attributed to antitoxin injections.

The day following the writing of the preceding paragraph, one of the children referred to as having recovered from diphtheria became sick, and after ailing for twenty-four hours developed a fever of 100° F., pulse of 120, with some suffusion of the eyes, and a rash, which appeared first on the face and later on the upper and lower extremities, but not at all upon the body. It was rose colored, like that of measles, and had a distal bordering of small and discrete papules, which proximally were preceded by patches as large as a half-dollar, and these by patches which had become confluent and erythematous areas raised wheal-like above the plane of the surrounding integument. There was no itching, as in urticaria; the lateral neck muscles were fixed and rigid, and the right knee-joint was much inflamed and painful as in rheumatism. The child had never had measles.

The question presented itself as to whether the child was developing rubeola or suffering from an urticaria, such as has been reported as resulting from antitoxin injections, though in this child antitoxin had been injected but once, and that two weeks before the development of the rash in question, which latter had become manifest after a seemingly prodromal period of not more than twenty-four hours' duration. A positive diagnosis was not made. Salicylate of sodium was prescribed, and on the following day all of the rash and rheumatic symptoms had disappeared and have not since recurred. Rubeola could not have been so aborted; hence the rash, so extensive but of so temporary a character, was probably urticarial.

The question still remains as to whether it and the joint symptoms, simulating an infection of some kind, were caused by the injection of antitoxin fourteen days before, or whether they arose from some other cause.

And now referring to scarlatina. There frequently occurs in scarlatina a type of sore throat, the severity of which seems not at all to depend upon the grade of the febrile disorder, in that the throat manifestations may be quite extensive and accompanied by but a slight fever, a fleeting rash, etc.

The throat disease in question is of an exudative (?) character, and may be seen upon the uvula, soft palate, tonsils, or posterior pharynx. It has all of the usual appearances of a diphtheritic membrane, and with scarlet fever is undoubtedly the condition so commonly termed "scarlet fever and diphtheria."

The writer, having remarked for some years that when this so-called association of scarlet fever and diphtheria occurred the affected children almost invariably recovered, was at a loss to understand why, when the mortality of diphtheria alone averaged from thirty to fifty per cent. of those affected, that of the

same disease complicating scarlet fever should have a so much lower mortality rate.

Accordingly, since the first of the year, the writer, with the assistance of the health department, has had cultures made from the throats of all patients having scarlet fever in whom the throat exudations were such as would have led one, knowing nothing of the existing scarlet fever, to have diagnosed the throat condition as that of diphtheria. In all such cases, the invariable bacteriological report has been that no bacilli of diphtheria were found, but that there were found bacilli of a variety resembling those of diphtheria. If but one or two such reports had been received, considerable doubt might have existed as to whether the bacilli mentioned were not actually those of diphtheria; but as several such reports have been received, and, as already mentioned, the mortality for the conjoined (?) diseases is much lower than that of the more serious when not so associated, the writer has become somewhat doubtful as to the actual occurrence of both diseases at one time and in the same patient.

In other words, here are two diseases: one serious, the other more so, with death resulting frequently from either, and yet the attention of the physician is frequently invited to the inspection of children who are said to have survived a simultaneous seizure of both.

SOME INTERESTING VARIATIONS IN THE FLEXOR AND EXTENSOR MUSCLES OF THE FOREARM.

By EDWARD JUDSON WYNKOOP, M.D.,

LATE HOUSE SURGEON, NEW YORK POST GRADUATE HOSPITAL; DEMONSTRATOR OF ANATOMY, COLLEGE OF MEDICINE, SYRACUSE UNIVERSITY.

The following condition was noted in the flexor and extensor tendons and muscles in a male subject: The most interesting variation was the peculiar division of the flexor sublimis digitorum. The flexor sublimis digitorum arises as practically four distinct muscles or heads. The outer head or muscle arises by two heads, one from the oblique line of the radius above the insertion of the pronator radii teres, the other from the common tendon from the inner condyle of the humerus. These heads unite and become tendinous, and the tendon passes to its insertion in the second phalanx, dividing before its insertion to allow the tendon of the flexor profundus to pass through it on its way to the last phalanx. Just where these two muscular heads unite, a strong tendon is given off and passes to and blends with the flexor longus pollicis.

The next muscle or second head, from without inward, at its origin resembles more in its common characteristics the flexor sublimis digitorum. It arises from the common tendon and the internal lateral ligament of the elbow-joint, soon becomes tendinous, and when about half-way down the forearm widens out into a muscular belly which is about two inches in length. The muscle becomes tendinous again and passes to its insertion in the index finger. From the small muscular belly above referred to, a tendon arises which passes to its insertion in the little finger. The third or most internal head or muscle arises from the common tendon and passes down the forearm to its insertion as an entirely separate muscle. The insertion of this muscle is in the ring finger.

The relation of the tendons passing under the annular ligament of the wrist-joint is as follows: The tendons passing to the index and middle fingers are anterior: those passing to the ring and little finger are posterior.

The flexor profundus digitorum is normal except that it becomes tendinous very high up in the forearm.

The extensor minimi digiti is wanting. The extensor ossis metacarpi pollicis has an additional tendon which arises from the anterior and outer border of the radius.

In the foot an extra tendon was given off from the extensor proprius pollicis and was inserted into the first phalanx of the great toe.

In looking over the records I can find no account of a similar condition. To Mr. Gere, a student, I am indebted for the excellent dissection.

ACUTE ALCOHOLISM AND TRAUMATISMS.

By JOHN B. HUBER, A.M., M.D.,

NEW YORK,

FORMERLY CORONER'S PHYSICIAN OF NEW YORK COUNTY.

Mistakes in the diagnosis between acute alcoholism and traumatisms are not uncommon. The patient is supposed to have been suffering from the former when autopsy reveals extensive internal injury, to the mortification of the surgeon and the delectation of the representatives of the lay press.

An instance of the importance of this subject from the medico-legal viewpoint is the following: A medical examiner of another city, whose position is akin to that of a coroner's physician of this city, reports a case in which he found no external marks of violence. Upon such inspection and after hearing testimony which appeared to him conclusive, he, without making an autopsy, gave a certificate of death from alcoholism. After burial upon this certificate, further testimony was produced that the deceased had been struck upon the head during a drunken brawl. The body was then exhumed, and upon autopsy an extensive cerebral hemorrhage was found. It seems that the assailant's weapon fell first upon the stiff hat of the deceased, and that thus no contusion was made. Arrest, trial, and conviction followed.

The diagnosis is often difficult and at times quite impossible to make, the symptoms of alcoholism in many cases simulating those due to traumatism. Often the surgeon must decide upon the spur of the moment, while in the midst of an excited and a perturbing crowd. Or the patient may be lying in a dark or insufficiently lighted cell in a police station. Or the alcoholism may be evident enough, while the concomitant traumatism may be obscured by its presence and may thus pass unrecognized.

In uncomplicated acute alcoholism there will be the odor of the breath, the temperature will be subnormal, the pulse slow and labored, and the respiration stertorous; the pupils will probably be dilated, but may be normal or contracted: they are not likely to be unequal. The tongue will be furred, there may be vomiting of food and alcohol, the face will be bloated and flushed if the debauch has been recent, otherwise the skin will be pale and clammy. The motor power will be partially or entirely lost, and the entire muscular system will be involved in the change, and there will be drowsiness merging into insensibility.

If subjective symptoms can be elicited, headache, dimness of vision, anorexia, uneasy sensation in the epigastrium, lassitude, and depression will be complained of.

Finally there may be the familiar phenomena, delirium tremens.

As to traumatisms: First, the body should be inspected, especially the head and neck, for marks of violence; for that purpose the clothing, at least that portion covering the vital parts, should be removed. External injury suggests the possibility of grave internal lesion, and justifies the transfer of the patient for further examination. However, no mark of vio-

lence may be found upon the closest inspection; a fracture of the skull or a hemorrhage within the cranium may have no outward sign. Or a heavy wagon may pass over the body, fracturing the ribs, rupturing the liver, perforating the intestines, or injuring other vital organs without producing any external mark.

In grave internal injuries of the trunk, as indeed in all cases of severe trauma, there will be symptoms of shock. Primary shock, following right upon the injury, will exhibit a subnormal temperature and a small and fluttering pulse. The patient will be faint and trembling, there will be nausea and vomiting, the skin will be cold and clammy, and the sphincters will be relaxed. Secondary symptoms are dyspnœa and tumultuous heart action, headache, sleeplessness, and a diminution of mental powers.

As to injuries of the head: It is not within the scope of this paper to present a symptomatology of cerebral hemorrhage, brain laceration, and other results of traumatism, varying as such symptoms do with different stages and the site and extent of the lesion, and often closely simulating the signs of acute alcoholism. The phenomena about to be described are referable only to head injuries and are not likely to be found in uncomplicated alcoholism. Depressed fractures at the vertex will be detected upon palpation. Fissured fractures may be found upon inspection, with the help of an incision if necessary, or the finger nail or a probe may be passed across the surface. When the blood is wiped from a suspected part and no fresh blood appears, there is simply a suture; if fresh blood oozes to the surface, there is a fissured fracture.

In fracture of the base there will usually be found hemorrhage from the nose, mouth, and ears, and ecchymosis into the conjunctiva or subcutaneous cellular tissue; or vomited blood may have been swallowed after fracture of the ethmoid or sphenoid, followed by hemorrhage into the posterior nares. But absence of such hemorrhage does not necessarily indicate absence of fracture. A rare but positive symptom of fracture of the base is the escape of a watery fluid, probably cerebro-spinal fluid, often copious in amount, from the ears, the nose, or the mouth.

Fracture of the petrous portion of the temporal bone involving the tympanum may produce in the temporal or mastoid region a pneumatocele, a smooth, circumscribed, resonant, non-fluctuating tumor. Among intracranial affections, "cerebral irritation" presents characteristic symptoms; it usually follows a blow upon the forehead or the temple, and is probably associated with laceration of the cerebral substance, more especially, of the gray matter. The patient lies on one side, is restless, with the extremities flexed, the eyelids firmly closed. If the eyelids are forcibly opened, the pupils are found contracted and intolerant of light. The surface is pale and cool, or even cold. The pulse is small, feeble, and slow. The patient is irritable, muttering, and grinds his teeth when disturbed. The sphincters are not usually affected, and there is no stertor.

There will be a rise in temperature in head injuries, except in primary shock and in large uncomplicated hemorrhage, when the temperature is likely to be subnormal.[1]

Other signs of intracranial lesion are photophobia, with the eyelids firmly closed, intolerance of sound, the carotids beating forcibly, a blowing of the lips, and a flapping of the cheeks, rigid contraction of limbs, and clonic or tetanic convulsions. The Cheyne-Stokes respiration is found in injury to the brain and cerebral hemorrhage. The breathing becomes by degrees deeper and more rapid up to a certain point, and then subsides in the same gradual manner until there is a complete cessation of respiration, with a deep silence, the pause before the next respiration lasting a variable time.

Unilateral phenomena point to intracranial lesions; for instance, unequal pupils or ptosis of one eyelid or drooping of one corner of the mouth. In intracranial lesions there is apt to be found in the radial pulse a want of symmetry in fulness and strength upon the two sides of the body.[1]

In conclusion, when in doubt act as if the case were one of traumatism. And in a suspected case keep the patient under observation until the effects of a debauch have worn off; symptoms of head injury, which may have been masked by the acute alcoholism, may then become manifest.

72 West Forty-Seventh Street.

[1] Dr. Charles Phelps. "The Differential Diagnosis of Traumatic Intracranial Lesions."

FOREIGN BODIES IN THE AIR PASSAGES.

By CYRIL FULTON, C.M., M.D.,

Fort Covington, N. Y.

On October 6, 1896, a patient, seven years of age, was brought to my office by his father, with the following history: While playing with some shingle nails, the little fellow placed in his mouth one which suddenly slipped backward. He was seized with a violet fit of coughing. The father ran to him, saw there was something choking him, and passed his finger into his throat as far as he could, when the coughing ceased. He then brought the child to me, a distance of three miles. I examined the throat carefully but found nothing. He had no cough or difficulty in breathing, and was in no way inconvenienced. I was forced to conclude that the nail (if he had had one in his mouth) had passed into the œsophagus, providing he had not expelled it. He said the nail was an old one and slightly bent. I gave instructions to put him on a diet which would leave a large residue and carefully watch all stools for appearance of the nail.

Next day I saw the father again. He said the child was complaining of nothing. There was no cough or change in breathing.

The following day, October 8th, when passing the house, I was called in. The mother informed me that about 5 A.M. that day the child had a violent attack of coughing. They rushed to his bedside, when the coughing ceased and the child remarked: "I have spit up something about the size of a pumpkin seed." There on the bed lay a wire shingle nail, one and a half inches long, slightly bent and wet.

I carefully auscultated the chest. I found no change in respiratory murmur. He had no cough, no elevation of temperature, and no indication of anything having taken place.

I reported the case to a confrère, who is a specialist on the throat, and give the following extract from his letter to me:

"Curious to relate, the following day after I received your letter, I was told by the mother of a little patient that her child had bitten off the end of a thermometer, and, it was thought, had swallowed it, but as nothing appeared in the stools subsequently, and the child seemed in no way inconvenienced, nothing more was done until a week or ten days afterward. The child coughed it up."

This second case is apparently similar to my own, the only difference being that the foreign body was retained longer.

It seems almost impossible that the articles were lodged in the trachea. In the first place we would look for greater spasm of the glottis on the entrance of the foreign body, and secondly, it would give rise to more

[1] Ibid.

pronounced symptoms when nature attempted its removal, especially in the first case, since the parent's finger may have aided the introduction. We know that the symptoms of entrance of a foreign body into the larynx gives rise first to a violent suffocation, which subsides as soon as the body sinks into the chest, but is renewed every time it is coughed up into the larynx. The absence of symptoms is due to the difference in the innervation of these parts. The mucous membrane of the larynx and the laryngeal aspect of the epiglottis are supplied by the superior laryngeal nerve, while the lingual aspect of the epiglottis receives its feeling from the glosso-pharyngeal. The epiglottis acting as a valve in the act of swallowing, closes the air passages, and any article may come in contact with its upper surface without giving rise to any discomfort.

On the other hand, if the slightest particle of food or a drop of liquid slips past and touches the mucous membrane of its under surface, or of the larynx itself, then we get violent coughing, and, if a foreign body gain admission to the larynx, immediately come on spasm of the glottis, suffocation, lividity of the face, and appearance of impending death. The mucous membrane of the trachea and bronchi is less sensitive, being supplied by other branches of the vagus given off lower down, and a foreign body may lie there, giving rise to no symptoms until inflammation sets in. The same spasm that we get on its introduction will be repeated, however, every time the foreign body is coughed back into the larynx, and we should hardly expect such an easy removal as we have had in both these cases.

Query: Where had the foreign bodies been?

REMOVAL OF THE OVARIES IN INSANITY.

By FRANK BLAISDELL, M.D.,

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The following case may be regarded, I think, as a contribution to the statistics of removal of the ovaries for insanity, although the operation was done for diseased conditions, and not for the express purpose of benefiting the mental condition.

C. F. M——, aged twenty-seven years, was admitted to the Hillsboro County Hospital on October 16, 1895. She had been in good mental condition as a child, and remained so until her marriage and the birth of a child in 1893. At this time she had domestic troubles, became melancholy, and developed soon after an acute mania. She became destructive and restraint being necessary, she was sent to the hospital.

Soon after I took charge of the hospital in October, 1895, my attention was called to her by the nurse, as she was complaining of abdominal pain and was fast becoming bedridden. This pain had persisted since the birth of her child.

Efforts were made to relieve her by medication, but failed, and a thorough examination was made which resulted in finding both ovaries enlarged to the size of lemons and exquisitely tender, and also an enlargement of the right tube. Removal was advised and consented to by her friends, and on March 25, 1896, assisted by the hospital staff, I did a double oöphorectomy with a left salpingotomy. The uterus was healthy and was let alone; both ovaries were in a bad state of cystic degeneration, as was the left tube, and they were removed. Recovery was uneventful, the pulse never going above 90 nor the temperature above 100° F.

After the first week a most gratifying change was noted in her mental condition. Her mind recovered its natural balance, and she is to-day mentally sound, and is presiding over her own home, a happy wife and mother.

PSYCHICAL SEIZURES IN EPILEPSY.

By L. PIERCE CLARK, M.D.,

ASSISTANT PHYSICIAN, CRAIG COLONY, SONYEA, N. Y.

It has come to be a fairly well-established fact that neurologists who fail to take into account the mental characteristics of epilepsy fail to study the disease in its entirety. Not only is it necessary to take into account the kind and degree of mental change to form an accurate opinion of the prognosis in a single case, but it is also essential that we study the mental characteristics in order to treat the case understandingly.

Much has been written during the past few years upon psychical epilepsy: it is sometimes considered to be a distinct psychological entity, but much proof is still wanting. Again, mental disturbances are supposed to take the place of a true convulsion, and this gives us the form of epilepsy known as epilepsia larvata or masked epilepsy. The writer is not aware of any neurologist or alienist who as yet maintains that this form of epilepsy is still more than a hypothesis which lacks much of true demonstration. Leaving out this so-called psychical equivalent in epilepsy, we have yet a very important and delicate manifestation of epileptic phenomena which it is the writer's purpose to consider in this article.

Psychical attacks might properly be termed that form of disorder of consciousness seen in epileptics in whom no muscular convulsion is perceptible. It is very difficult to recognize these attacks and properly to diagnose them if they are seen in any subject who is not also afflicted with other forms of seizures, such as grand mal and petit mal. Indeed, there is no doubt that many of the so-called homicidal attempts which come to light in the criminal courts are attacks of this kind, which may be very uncommon in the subject's life but are associated with certain forms of excitement or stimulation. It is rare for an epileptic to have nothing but psychical attacks, as they are generally associated with petit mal and occasionally with grand mal.

Let us look at some illustrations of true psychical seizures.

Case I.—H. G——, a patient recently admitted to the Craig Colony. She states that she has seizures in which she has a feeling of constriction across the forehead, and during these attacks her conception of the arrangements of the room in which she happens to be and of the people who chance to be in the room at that time is different from that which she has in the normal state which just precedes them. She further states that she is not entirely conscious of what she says and does at these times, and is very apt to express ideas antithetical to those which she really entertains. In the period of normal consciousness which immediately follows these attacks, she remembers what she has said and often makes an effort to correct the wrong ideas that were expressed. Psychologically such attacks must be similar to alternating states of consciousness known as double personality. In this case, psychical attacks are three times as frequent as regular grand-mal seizures. She rarely has an attack of petit mal. Probably consciousness suffers only a slight disorder or attenuation, and is not entirely lost throughout the whole attack.

Case II.—R. K——. Patient is afflicted with psychical attacks which are described as follows: When you happen to ask her a question, she does not answer it, but after the attack has passed she is certain to ask you what your query was about. She recollects that you have spoken to her, but she fails to grasp the meaning during the attack. The onset and course of these attacks are often described in such words as "They come and go like a wave," which is a very accurate and satisfactory description. This patient often

has a psychical aura which consists of the words "nicht wiedersehen." It has preceded her light attacks for the past year. Occasionally the words "auf dem reirdem" are present as an aura. She further states that there is no apparent connection between the recurrence of these words and normal thought of every-day life; she does not even know the meaning of the phrases and the cause of their recurrence at such times is inexplicable. The true explanation is probably this: In early life, prior to the onset of her epilepsy, she has associated with Germans and her mind has been surcharged with German phrases, and now, when consciousness is partially lost, these phrases rise to the surface of normal every-day thought—an illustration of morbid unconscious cerebration. She never has insistent ideas, word dominance, or phrase rhythm in her normal state. At no time have these recurrent phrases been present after the attack or in the interim.

Case III.—W. P——. Patient has such slight attacks that they are perceptible to no one. He states that he frequently has a slight attack while reading a single line of print, and that before he has finished the line normal consciousness will have returned. He says that he is made aware of having had an attack by suddenly realizing that he has not understood the last three or four words of the line he has been reading and is obliged to reread them for the lost thought.

These seizures I regard as typical ones of psychical attacks. They are occasionally classified under the broader type of petit-mal epilepsy, but would seem of sufficient importance and distinction to merit a separate classification. We find closely associated with these psychical seizures many of those varied disordered states of consciousness known as epileptic vertigo, somnambulism, and automatism. At times they shade off into each other, and it is difficult to find any distinct line of demarcation.

Many authorities state that these psychical seizures are necessarily of a more severe and disastrous nature because these disturbances are in the higher realms of cerebral activity. They also state that dementia and disturbances of the normal mental processes are a more frequent sequence to such epilepsies. This is not borne out by clinical observation. It is not infrequently observed that attacks of epileptics of the grand-mal type, when under proper care and treatment by bromide, pass into the petit-mal variety, and finally shade off into psychic seizures. To all appearances the subjects are on their way toward improvement and recovery. Many cases of epilepsy in which psychical seizures predominate show but little dementia or other evidences of mental degeneracy, although they may have had their psychical attacks for several years. It seems to prove that such attacks are slight and are not in the higher realms of cerebral activity. The severity of an epileptic seizure is best indicated by the degree and length of time that the disordered consciousness obtains than by any other symptom in epilepsy.

The principal reason why psychical seizures have been classified with the severer forms of epileptic attacks, and most to be dreaded, is because they frequently occur in neurotic families in which there is a marked heredity to convulsive diseases. In such cases epileptic mania and dementia are not far distant.

In regard to the prognosis of epilepsy in which psychical attacks predominate, it is unfavorable as to recovery, but a far better prognosis can be entertained as regards life in such epilepsies. Epileptics having psychical attacks are not subject to as many injuries and complications resulting from falls and exposures, as are ordinary grand-mal epileptics. Again, if psychical seizures make their appearance in epileptics who have no bad heredity, the chances for recovery would seem to be fully as good as in cases of other forms of epilepsy. Mental disturbance is not necessarily a more frequent sequence in such attacks. It would seem, therefore, that there are two distinct kinds of psychical seizures: 1st, those seen in epileptics of neurotic family, in which the first attacks are psychical; in such, the prognosis for recovery is bad; 2d, those grand-mal or petit-mal epileptics whose psychical attacks become more frequent as the case improves.

The treatment of psychical seizures is very simple. They are but little or not at all modified by the administration of drugs. The moral treatment is undoubtedly of great value, especially that which is embraced in some regular manual labor daily performed to the point of bodily fatigue. All things which have a tendency to stimulate the higher mental activities are especially to be avoided in the treatment of psychical epilepsy, as such epileptics are prone to mental excesses. The patient must be relegated to a simple mode of life and made to perform ordinary manual labor, and the diet should be very simple and non-stimulating. Long hours of sleep should be enjoined. Massage and cold douches in the cervical region are sometimes of benefit. As such epileptics are often subjects of exaggerated self-feeling, it is essential that they be made to perform work that will require their attention to such a degree that they will have less opportunity for self-commiseration. All things which exalt the emotional side of life should be positively forbidden.

ALCOHOLIC CHOREA.

By W. MOSER, M.D.,

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Alcoholic chorea, as its name implies, is caused by excessive indulgence in alcohol. The attacks are usually seen in individuals shortly after a prolonged debauch. The individual who goes on a "spree" now and then is more apt to be attacked than the habitué. Choreiform movements may persist after an attack of delirium tremens.

Symptoms.—The symptoms resemble the chorea sancti Viti or St. Vitus' dance, so frequent in children. Owing to clonic contractions in the muscles, involuntary movements now of one part of the body, then of another, are constantly taking place. In the few cases under my observation, the patients could not keep their hands quiet; they were incessantly making peculiar movements with them and tossing them about. Contrary to infantile chorea, they often placed their hand on the throat, as if something were choking them. When asked why they do this, they answer that there is "something" in their throat choking them, which they vainly endeavor to force either up or down. In one case this symptom was very prominent. Whether this symptom is dependent upon a clonic spasm of the laryngeal muscles I am not prepared to say. When a child with St. Vitus' dance is told to stop being so restless, the mother will say "the child can't help it." The same answer is given in this class of cases, and one man said to me, when I requested him to stop tossing his hands about, "I wish I could." The head is sometimes tossed about. These irregular clonic convulsions were associated with the characteristic alcoholic tremor, especially when they were told to hold out their hands.

Sleeplessness is a prominent symptom in these cases. As in infantile chorea, the movements cease during sleep. While hallucinations may have occurred during the debauch, in the cases of so-called alcoholic chorea which I have witnessed, the mind remained clear. Headache is not infrequent. Any excitement on the part of the patient aggravates the movements.

The diagnosis is comparatively easy When the patient will not admit that he has been drinking heavily, it could then be confounded with hysteria. The peculiar choking sensation in the throat which these individuals have reminds one of the globus hystericus. But the sleeplessness, headache, and tremor may be of aid in the diagnosis. It could be confounded with cases of severe paramyoclonus multiplex. Paramyoclonus multiplex usually follows some great emotional disturbance, as fright, etc., and usually occurs, according to Friedreich, who first described it, in young male adults. The tremor and other symptoms of alcoholism are absent.

Treatment.—As restlessness and sleeplessness are prominent symptoms, bromides and chloral are indicated. Hypodermic injections of strychnine are valuable. These should be followed by administering tincture of nux vomica, tincture of capsicum, compound tincture of cinchona, as in a favorite prescription of Loomis, for allaying the craving for drink.

The prognosis is influenced by the treatment and subsequent care of the patient. The movements may persist for a long while.

In conclusion I would state that I felt justified in giving this a special description, as some writers have done for alcoholic multiple neuritis, alcoholic paraplegia, or alcoholic epilepsy.

158 Ross Street.

Progress of Medical Science.

Progressive Multiple Localized Neuritis (Mononeuritis Multiplex).—Remak (*Deutsche medicinische Wochenschrift*, January 28, 1897, p. 68) describes as progressive multiple localized neuritis, or mononeuritis multiplex, a condition in which inflammation of several peripheral nerves remote from one another takes place successively, and he relates an illustrative case. A compositor, fifty-seven years old, presented progressive painless weakness, wasting, and sensory disturbance of the left hand of rather more than a month's standing. The previous health had been good, there was no history of syphilis and none of alcoholism; and there had never been any evidence of lead poisoning. Examination disclosed the existence of an amyotrophic process limited to the peripheral distribution of the left ulnar nerve. The muscles of the first interosseous space especially, and in less degree those of the hypothenar eminence, were wasted. The ring and little fingers occupied a slight claw position. Adduction of the thumb, abduction and adduction of the fingers, as well as extension of the terminal phalanges, were executed feebly, while the movements controlled by the muscles of the thenar eminence were well performed. Pain sense and temperature sense, as well as tactile sensibility, were diminished upon the ulnar aspect of the dorsum of the hand and upon the hypothenar eminence and the little finger. The ulnar nerve displayed no special tenderness upon pressure. Faradic and galvanic irritability of the nerve in the arm and in greater degree at the wrist were diminished, while the muscles of the hand supplied by the median nerve reacted normally and those supplied by the ulnar presented reactions of degeneration. For this condition no cause could be positively determined and it was concluded to be due to pressure during sleep. Improvement followed treatment with the galvanic current, but in a short time symptoms of a similar nature appeared in the distribution of the right crural and obturator nerves and progressively advanced. The urine was examined repeatedly, but no abnormality was found. Meanwhile the little finger of the right hand began to assume a claw position, with weakness in the adductors of this digit and also of the thumb, together with wasting and numbness and diminished electric irritability.

The Treatment of Ozæna.—Bruck (*Berliner klinische Wochenschrift*, January 18, 1897, p. 53) discussed the procedure recommended by Gottstein in the treatment of ozæna and describes a modification of his own. He points out that the object of local treatment in this disorder is not only the removal of adherent secretion, but also the prevention of its reproduction and desiccation, with the formation of crusts and the development of the characteristic fœtor. These ends can be best attained by periodically introducing into the nasal cavities tampons of absorbent cotton accurately adapted to the mucous membrane on which the secretion appears and the crusts form. The tampon acts by stimulating nasal secretion and by absorbing the discharge, thus preventing the formation of crusts and the resultant fœtor. The pledget of cotton is to be replaced by a fresh one as soon as it is saturated. A similar plan of procedure may be followed in cases of empyema of the antrum of Highmore, providing the discharge is not excessive. Only one nasal chamber is to be tamponed at a time, in order to avoid mouth breathing. Bruck has found that a useful purpose is subserved by maintaining a continuous tamponade, *i.e.*, the introduction into one nasal chamber of a folded strip of absorbent gauze not entirely occluding the naris, while the tampon of absorbent cotton is introduced into the other. In this way the inspired air is filtered, warmed, and rendered moist. This plan of treatment is only palliative, the effect continuing as long as the applications are made.

Resection of the Cervical Sympathetic in the Treatment of Exophthalmic Goitre and of Epilepsy.—Jonnesco (*Centralblatt für Chirurgie*, January 16, 1897, p. 34) has been led by the success attending partial resection and division of the cervical sympathetic in the treatment of exophthalmic goitre and of epilepsy, and by the frequency with which lesions of this portion of the nervous system are found in association with the diseases named, to undertake complete and bilateral resection. The first case operated on was one of exophthalmic goitre. The upper and middle cervical ganglia and the strand connecting them were resected on both sides. The good result (disappearance of exophthalmos, diminution of goitre, absence of grave manifestations, led to the repetition of the operation and the complete extirpation of the cervical sympathetic, *i.e.*, all three ganglia. Nine cases were thus treated: two of exophthalmic goitre, three of true epilepsy, one of chorea and hystero-epilepsy, one of brain tumor with epileptiform convulsions, one of hysteria, and one of progressive paralysis. The results were as follows: In both cases of exophthalmic goitre the protrusion of the eyes disappeared and the goitre diminished in size: the tachycardia diminished in one and persisted in the other. In the three cases of epilepsy improvement was noted during the five months that followed operation: in none did the convulsions recur and in but one infrequent and transitory attacks of vertigo took place. In the other cases no special effect was observed. As a result of the experiences gained in these cases Jonnesco concludes that total bilateral resection of the cervical sympathetic may be practised without secondary evil results. The operation, while not easy, is worthy of trial. In cases of exophthalmic goitre, whose symptoms are largely referable to the cervical sympathetic, resection is an absolute indication, even if supplemented by ligation of the vertebral artery. In cases of epilepsy both physiologic experiments and observation in a case of hemicraniotomy demonstrate a disturbance of the cere-

bral circulation in conjunction with the attack. The results thus far secured justify further trial of the operation.

The Relationship Between Tetany and Rachitis.—In an endeavor to determine the nature of tetany, and especially its relationship with rachitis and laryngospasm, Cassel (*Deutsche medicinische Wochenschrift*, January 28, 1897, p. 69) has made an analytic study of 6,822 cases that came under observation in his outpatient service for the treatment of diseases of children at Berlin. Among this number a diagnosis of tetany was made in 60 cases—in 37 boys and 23 girls, all infants between the ages of four weeks and nine months, the majority being less than two and a half months old. Six were exclusively breast fed; 6 received partly breast milk and partly a mixture of cow's milk and amylaceous food; the remaining 48 received cow's milk and a variety of other food. The state of the nutrition was good in 14, moderately good in 13, poor in 23, and atrophic in 10. All presented spontaneous intermittent spasm, which could also be induced by pressure upon the large nerves and vessels of the affected member; in all but 3 the facial phenomenon (shock-like contraction of the facial muscles on tapping the facial nerve) was present; frequently there was also increased irritability of other muscles. Only 2 of the 60 exhibited laryngospasm and both of these presented also craniotabes, in addition to other symptoms of rachitis. Convulsions were noted in four cases, also in children with rachitis or with craniotabes. Without exception the children were nervous and irritable and their sleep was disturbed. Fourteen exhibited fever, in 9 as a result of complicating conditions, in the remainder without obvious cause. The outcome of the disease could not be learned in 36; of the remaining 24 recovery ensued in 17 and death in 7. In 21 cases digestive disturbances immediately preceded or appeared simultaneously with the tetany: in 5 there was chronic dyspepsia of long standing; in 4 the disease was attended with digestive disorders; in 6 there was obstinate constipation with meteorism; and in 4 there occurred habitual vomiting. In no case was albumin found in the urine; occasionally indican was found. Rachitis was present in 52 of the 60 cases, 82.6 per cent.; in the majority only in slight degree. In 8 there was no trace of rachitis on careful scrutiny. Cases of tetany were seen throughout the entire year, although the largest numbers appeared to occur in spring and the late autumn. The distribution was as follows: In March, 10; in December, 9; in June, 7; in January, February, and May, each 6; in April and November, each 5; in August, 4; in July and September, each 1; and in October none. There was no suggestion of epidemic occurrence of the disease, nor was there any close parallelism between the frequency curves of tetany, rachitis, laryngospasm, and craniotabes, although there was some similarity among the curves. Laryngospasm was observed in 116 cases, especially in the spring. Of this number all but 2 were rachitic. Only 2 suffered from tetany and these 2 were rachitic and also presented craniotabes. Of the 116 cases, 30—26 per cent.—presented craniotabes. In the way of treatment phosphorus had no objective influence upon the rachitis, although it exerted a favorable influence upon the attacks of laryngospasm in two-thirds of the cases. Also on tetany the drug appeared to have no effect. The best treatment of this condition was found to consist in prolonged warm baths of a temperature of from 28 –30° C. (82.4° –86° F.), for twenty minutes, morning and evening. In case of restlessness at night a grain or a grain and a half of chloral hydrate were given at intervals of an hour or two. Of course complications received appropriate treatment and attention was given to dietetic and hygienic conditions. The conclusion is reached that tetany is neither a complication of rachitis nor a result of digestive disturbances, but that it is dependent upon unfavorable conditions of living, and especially improper nutrition and vitiated air—conditions similar to those that are responsible for the development of rachitis.

Hereditary Appendicitis.—Dr. Faisans remarked recently that it was evident that certain families presented a veritable predisposition to appendicitis, which was admirably explained, since, as Dieulafoy had shown, it was a question, in these cases, of a veritable appendicular lithiasis depending upon constitutional and hereditary gout. In the majority of the cases which had come under Faisans' observations the appendicitis had presented itself under the relapsing form and had terminated in perforation, with fatal septic peritonitis. He concluded from this that ablation of the appendix was indicated in all cases, even in the most benign, as a preventive measure. Talamon reported the case of a little boy who had had five attacks of pain in the right iliac fossa during a period of three months. Four years before, a little brother had died from perforating appendicitis, and the mother had consulted him on the advisability of a preventive operation. When Talamon had seen the patient during the last attack he had ascertained by deep pressure the presence of a painful spot a little above the Fallopian arch at the lower external part of the right iliac fossa. The abdomen had been slightly distended, but there had been no puffiness or appreciable tumefaction near the appendix. There had been no fever, but the tongue had been somewhat coated. Three days later pressure revealed the presence of more pain in the right iliac fossa. The diagnosis had appeared certain, said Talamon, and an operation had been decided upon. After three weeks of absolute rest in bed the operation had been performed by Jalaguier, who had found the appendix to be of abnormal length and of the size of a large crow quill; it had not been dilated and had not seemed to be inflamed on the outside. Filamentous adhesions had united it at its upper third to the cæcum. On palpation, a small hard body, which moved under the finger, could be felt about two centimetres from its lower extremity. The lumen of the canal had been free, and the mucous membrane had been covered with a small quantity of a yellowish-brown liquid. The foreign body, which had been arrested toward the lower end of the appendix, was a small oval-shaped mass somewhat like a grape seed in size and in appearance. The results of the operation had been perfect, said Talamon; there had been some vomiting for about ten days, which had been due to the chloroform, but at no time had the temperature exceeded 99.1° F. Talamon thought that the following conclusions might be drawn from the foregoing case: 1. That in certain cases relapsing appendicitis might be due to the displacement of a scybalum in the appendix. 2. That, in view of the hereditary appendicular history, the least pain felt in the right iliac fossa should be considered important, and if the pains recurred at short intervals the involvement or the formation of a scybalum in the appendix should be feared, even if palpation did not distinctly reveal the presence of a local tumefaction. 3. That the only means of preventing the graver symptoms, which probably would not fail to manifest themselves, was ablation of the appendix. Talamon stated that in three hundred cases of appendicitis an hereditary influence had been ascertained in forty per cent., and this, he thought, showed that heredity played an important part in the etiology of this disease.—*New York Medical Journal.*

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VACCINATION AGAINST TYPHOID FEVER.

We have only passed the threshold of the domain of orrhotherapy and are confronted by almost unlimited possibilities. The therapeutic efficacy of the antitoxin of diphtheria appears to be reasonably established, and the testimony is quite strong as to the successful treatment of hydrophobia, tetanus, cholera, and streptococcous infection upon analogous lines. Evidence further is not wanting of activity in other directions. We have made no material advance beyond the experiences of the brothers Klemperer in the antitoxic treatment of pneumonia, and the problem as to the similar treatment of tuberculosis has not been finally solved. On the other hand, considerable progress seems to have been made in the application of the principles of orrhotherapy to the prophylaxis of typhoid fever. Investigation in this latter direction has been stimulated and at the same time facilitated by the discovery of the influence exerted by the blood of persons who are suffering or have recently recovered from one of the infectious diseases upon the specific micro-organisms of the respective disorders, as manifested by their agglutination and precipitation, their loss of motility, and by their final devitalization. One of the most recent contributions to the literature of this very important subject has been made by Wright and Semple (*British Medical Journal*, January 30, 1897, p. 256), professor and assistant professor, respectively, of pathology in the Army Medical School at Netley, England. These investigators describe briefly the method of antityphoid vaccination that they have gradually elaborated in the course of the period of more than a year during which they have prosecuted their inquiry.

The method employed consists in the inoculation of measured quantities of dead but still poisonous typhoid bacilli. Agar cultures of the bacilli that have been kept for twenty-four hours at blood heat are emulsified by the addition of measured quantities of sterile broth. The resulting emulsion is then sucked into sterile and duly calibrated pipettes, the capillary ends of which are sealed in the flame. These capsules are then placed in a beaker of cold water, which is brought up to a temperature of about 60° C. and there kept for five minutes. When the vaccination is to be practised the capsule is first thoroughly shaken in order to distribute the bacteria through the fluid, and the contents are drawn aseptically into a suitable syringe. The injection is made into the flank.

In later experiments a typhoid culture was employed of such a strength that one-fourth of a tube of a twenty-four-hour culture when injected hypodermically constituted a lethal dose for a guinea-pig of from three hundred and fifty to four hundred grams. When small doses (from one-twentieth to one-sixth of a tube) were employed, the symptoms were comparatively slight and passed off in twenty-four hours. The local manifestations consisted in a little circumscribed tenderness; the constitutional manifestations in a subjective feeling of chilliness two or three hours after the inoculation, with a very slight rise of temperature and a little restlessness at night. With larger doses (one-fourth of a tube) the symptoms were more severe and continued for forty-eight hours. The tenderness increased in intensity and extent, and about the site of inoculation a patch of congestion two or three inches in diameter developed. The related lymphatics became reddened and swollen. Fainting, collapse, nausea, and vomiting appeared in the course of three or four hours, followed by anorexia, fever, and disturbed sleep. Each subject received from forty-five to sixty grains of crystalline calcium chloride for the purpose of preventing undue decrease in blood coagulability and œdema.

Having determined that sedimentation of the bacteria is the phenomenon that will best serve as a criterion of the specific power of a serum, observations were made upon eighteen persons, mostly medical officers of the army or Indian medical service or surgeons upon probation. The results of these observations show that the blood of individuals that have submitted to antityphoid inoculation becomes in some measure inimical to the typhoid bacillus, as manifested by immobilization and agglutination. Experiment showed, however, that an individual whose blood possessed this power of sedimentation is not absolutely protected against typhoid fever, although the inference seems warranted that the blood of a vaccinated person will, short of killing the bacilli, exert such a deleterious influence on them as will result in the effectual protection of the individual against typhoid fever, viz., will render him bacteria proof. To account for the fact that typhoid patients who succumb show the specific sedimentation reaction, it is assumed that every infected animal is working its way up to the acquirement of immunity, from the very moment of infection to the time at which its struggle with the disease finally ceases. The degree of immunity that appears late in the disease, *e.g.*, at a time when the examination is made, while it might have been ample at an earlier period, is insufficient to save the patient at this time.

Inasmuch as the vaccinations can be practised without risk and their adequacy can be easily controlled by examinations of the blood, it is suggested that it would be expedient for all those to submit to vaccination who are likely to be frequently exposed to the risk of typhoid infection, *e.g.*, young soldiers going abroad to typhoid-infected districts, nurses in attendance upon typhoid patients, and persons living in a district that is being visited by an epidemic of typhoid.

THE COMING MEETING OF THE BRITISH MEDICAL ASSOCIATION.

The meeting of the British Medical Association in Montreal in August next promises to be, and we trust will be, a most successful affair and one which will be a credit and an encouragement to our Canadian confrères. We in this country cannot but be glad that this historic association has consented to accept the hospitality of its American daughters, and we doubt not the profession in this city and Boston will welcome cordially any of the British delegates who may pass through either place on their way to Montreal. But here, it seems necessary to remind some of our brethren, our participation in the event should rest. This is not, as some of our enthusiastic and hospitably inclined friends are in danger of assuming, a Pan-Anglican medical congress. It is a little family feast of our British cousins, and one to which we should be very careful not to go without a distinct invitation. Some of our readers may recall an experience which they had in 1890. A number of Americans on the way to the Berlin congress thought it would be convenient and pleasant to stop over in England and attend the meeting of the British Medical Association in Birmingham. They did so, but their reception was marked by a frigidity such as only the Englishman can use to resent what he regards as an impertinence, and there were some heartburnings in consequence.

When the news was received that the association would meet this year in America, we remarked, while expressing our pleasure at the decision, that the matter was one in which we had no official concern. This is a point which seems to have been forgotten by some in the United States, for we have heard that many, especially in the West, propose to neglect the meeting of the American Medical Association in Philadelphia, reserving their time and their money for the trip to Montreal. Several of our Canadian contemporaries have hinted as politely as possible that the doctors this side of the line had better stay here, and we may use stronger language than they would and tell our brethren that if they go where they are not invited they may expect a snubbing. Let them take heed to the warning expressed by the *Canada Lancet* in the following:

"Since our last issue we have received from England the exact wording of the resolution of the council of the association, stating who are and who are not eligible to be members and to attend the meetings of the association. This resolution was passed two years ago, and inasmuch as we hear on all sides that very large numbers of our profession in the United States are proposing to attend the Montreal meeting, it may be well again to point out that, however much the local executive desires to welcome American practitioners, its hands are tied. Those visiting Montreal must either be members or invited guests if they are to enjoy the privileges of the meeting, and only British subjects can be members."

There are to be two large and important medical gatherings in the United States this year, namely, the congress of American physicians and surgeons in Washington in May, and the semicentennial meeting of the American Medical Association in Philadelphia in June. These, with the annual or semi-annual meetings of the various State societies, will afford to every man who has anything of importance to say full opportunity of saying it. The Medical Record will present its readers, as usual, with a full report of the scientific work of the Montreal meeting, but we sincerely hope no American will be seen in Montreal at that time who does not go as an official delegate from some society empowered to send him or in response to a personal invitation from some one in authority. It seems necessary to speak thus plainly, because there is evidently a misconception in this country as to the character of the Montreal meeting. We wish it every measure of success, but, as we said before, it is a strictly family party, to which distant cousins are not invited, and from which, if they wish to retain their self-respect, they had better stay away.

THE HEALTH BOARD AND ITS OFFICIAL DIAGNOSIS.

Physicians of this city are sorely puzzled to know just where they stand in relation to the board of health. The question has arisen during the past week, and in a most disagreeable manner for the physician, as to whose diagnosis of a private case of sickness is to stand—that of the physician who is treating the patient or that of the board whose examiners have made a bacteriological examination in connection with it. The instance in point relates to a child presenting the clinical appearances of diphtheria. A tube was inoculated and sent to the board, while at the same time antidiphtheritic remedies were employed. A report was received from the board leaving the matter in doubt and asking for a second culture. This was sent and the same course of treatment was pursued, but now, the child's condition growing more alarming, the physician administered antitoxin, fearing the consequences of delay. The child recovered and the physician ceased his attendance. Some time after this the parent went to the board to secure disinfection and permits for his children to return to school, when he was informed that there had been no diphtheria in his house and that the doctor had made a mistake in diagnosis.

Upon the strength of this information the physician was told that he might consider himself no longer the family physician, and payment of the bill was refused on the ground that he had treated the child for a disease which it did not have.

It seems clear from the statements of the case as we have received them that the board physician overstepped his duties, and, in perhaps a thoughtless manner, did an injustice, not alone to one physician, but to the whole profession. His removal from office will not efface the injury, but may point an example for future conduct to his successors.

When it is a question as between the clinical and the bacteriologic showing—especially that of the board of health unsupported by other examination—

the rule must be that the clinical diagnosis should stand. In any case, too, it would be far better for the continued existence of harmony between physicians and the board that the latter should refrain from expressing diagnostic opinions to the layman, but should confine their communications, as far as possible, to the physician in attendance.

A PROFESSOR WANTED.

THE Vienna correspondent of *The Lancet* sends a bit of gossip, under the caption "Dishonorable Conduct of a Medical Man." We agree with him that it was quite wrong to collect seventy dollars as the "professor's fee," and give the supposed professor only six-sevenths of it, retaining one-seventh for himself.

The fact of introducing to the patient as "professor" the consultant who held no professorship will not, however, appeal seriously to New York physicians as an unpardonable sin. The terms consultant and professor are synonymous in many quarters of the town. Then, too, professors are so numerous here that such a mistake would be hardly possible. Indeed, should a patient here insist upon having a real professor called, as seems to have been the case in the Vienna incident, the gentleman chosen by the attending physician would in all probability have himself appointed to one of the colleges before the consultation rather than lose the case.

News of the Week.

Hospital and Dispensary Abuse. — The president of the County Medical Association has, by request of fifteen members, called a special meeting of the association for Tuesday evening, February 23d, to consider the hospital and dispensary abuse.

The Board of Health and Tuberculosis.—At the coming meeting of the County Medical Association, March 15th, action will be taken on resolutions condemning the board of health for placing tuberculosis on the list of communicable diseases under the control of the board.

The Plague and the Mecca Pilgrims.—During one of the recent sittings of the international sanitary board in Constantinople, Dr. Hagel directed attention to the imminent danger of the spread of the plague by the Mecca pilgrims. He urged that the pilgrimages from India to Mecca should be entirely prohibited this year. The foreign delegates on the board unanimously seconded his proposals, but they were opposed by the Turkish delegates, who declared that the pilgrimages, being a religious observance, must not be subjected to any restrictions. The *Politische Correspondenz* suggests that it is the duty of the English government to forbid the pilgrimages, and that other European States whose Mohammedan subjects are accustomed to take part in the excursions to Mecca should adopt the same course. The Russian government has done what it can in this direction, having forbidden pilgrimages of Moslems to Mecca through Russian territory, and has also forbidden Russian Christians to visit the shrines in the East. Military cordons have been assigned to watch closely the Russian frontiers to prevent the introduction of the plague.

A Quieting Remedy. — A nurse at the Kings County Hospital was recently dismissed by the superintendent, for trying to stifle the outcries of a delirious patient by pressing a pillow over his mouth.

The Red Cross in Cuba.—It is proposed that a Red Cross expedition be sent to Cuba to aid the sick and wounded in both armies. A large donation was recently declined because it was stipulated that it should be used wholly for the relief of the Cubans. The society could not bind itself to aid only those of one side, but we greatly doubt whether it will be permitted by the army of occupation to render any assistance whatever to the insurgents.

Dr. Perry Millard, of St. Paul, Minn., died on February 1st, in the private ward of the Johns Hopkins Hospital, of pernicious anæmia. He had been there for nearly two months, and though at first hopes were entertained of his recovery, he has lately been failing rapidly. Dr. Millard was one of the most prominent members of the profession in the Northwest. He was one of the first promoters of the Association of American Colleges, and he had been for many years dean and professor of surgery in the University of Minnesota. His labors as an educator helped greatly to advance the curriculum of studies in the medical schools of the West.—*Maryland Medical Journal.*

Cocaine has been declining in price very rapidly of late, owing to heavy shipments of the leaves of the Erythroxylon coca plant from Peru and Bolivia. The drug is now quoted at $2.50 an ounce. Only a few weeks ago it was nearly $4 an ounce.

Dr. James P. Mann has been elected clinical professor of orthopædics in the Medico-Chirurgical College of Philadelphia. Dr. Mann was graduated from Jefferson Medical College in 1887, soon afterward becoming resident physician in the Jefferson College Hospital, and since having maintained active relationship with the department of orthopædic surgery. For two years he performed the duties of clinical professor of orthopædics, on account of the illness of Dr. H. A. Wilson, resigning recently because of criticism of his action in sympathizing with the students in opposing a change in fees during the collegiate session.

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on February 10th. Dr. F. A. Packard read a paper on "The Signs of Thoracic Aneurism," and exhibited illustrative cases. Dr. T. S. K. Morton demonstrated the following cases: 1. Gunshot wound dividing the right subclavian artery; hæmothorax; location of the bullet by, and dangerous burning from, the *x*-rays. 2. Traumatic rupture of the middle meningeal artery; trephining; removal of a huge clot; ligation of the vessel. 3. Diffuse osteomyelitis of the femur; profound sepsis and large metastatic abscesses of the lung; hip-joint amputation; complete recovery. He reported also a case of double popliteal aneurism, in which successively both femoral arteries were li-

gated; and also a case of penetrating stab wound of the abdomen, with five wounds of the intestine and the mesentery, which were sutured. In both of these two recovery ensued. Dr. Edward Jackson read a paper entitled "The Hospitals, the Doctor, and the Community." Dr. John B. Roberts, president of the Mutual Aid Association of the County Medical Society, offered a resolution for the appointment of a committee of the County Society to confer with the executive committee of the Aid Society, for the purpose of increasing the resources and enlarging the usefulness of the latter.

Report of the State Board of Health.—The State board of health submitted its report for the year 1896 to Governor Black a week ago. During the year 124,600 deaths were reported, making a death rate for the State of 18.50 per 1,000 of population against 18.60 in 1895. There was one death in 54.20 of the population. This has been the average mortality rate for the past ten years. In the eight sanitary districts into which the State is divided the death rate varied from 21.80 in the maritime district, which includes the metropolis, to 13.10 in the sparsely settled Adirondack and northern district. Through the rural central parts of the State a rate of 14.50 prevailed for the year, and in the more populous manufacturing districts from 16.00 to 18.00. Thirty-three per cent. of the deaths were of children under the age of five years. Under the head of infectious diseases there were 19,510 deaths, only three from smallpox, all occurring in or about New York City. Typhoid fever caused 1,600 deaths—less than usual—the highest number being in the southern tier and Hudson Valley districts, and the lowest, as usual, in the maritime district. Diphtheria caused fewer deaths than during the past ten years—4,600. Scarlet fever caused 771 deaths, the average number of deaths annually for the ten years preceding being 1,600. Measles was more than usually prevalent, but chiefly in the eastern part of the State. The total reported mortality from this cause was 1,617. Whooping-cough caused about 1,000 deaths. Diarrhœal diseases caused nearly half of the zymotic mortality. There were 8,764 deaths from them, and the pretty uniform annual average is about 9,000 deaths. In July nearly one-fourth of the reported mortality was from this cause, and 7,400 of the deaths occurred in the months of June, July, August, and September. The maritime district is by far the largest contributor to the death rate from this cause. Pulmonary tuberculosis caused 13,257 deaths during the year, a greater number of deaths than occurred from any other single cause. The largest relative mortality was in the maritime district. Acute respiratory diseases, which include pneumonia, bronchitis, and other acute affections of the respiratory organs, caused 17,106 deaths, a number below the average for the past seven years.

Commission of Charities.—Hospitals under the charge of the charities commission are to be improved at an expenditure of a million of dollars. Among the improvements promised are six new pavilions for the almshouse, an enlargement and increase in the number of pavilions for the insane department at Bellevue; a new hospital in the Harlem district, probably to be located at Madison Avenue and One hundred and thirty-fifth Street; and two new contagious wards for Randall's Island.

City Hospital.—According to the present plans of the commissioners it is stated that much needed improvements are to be made at the City Hospital at an expenditure of about $100,000. The kitchen is to be placed in the dome. The distance of the kitchen from the wards has been one of the serious objections to the present arrangement.

Hospital Extortion.—Charges of certain irregularities at the Gouverneur Hospital are being investigated by the commissioners of charities. It seems scarcely credible that an ambulance surgeon could be guilty of extorting money from the poor for services which the city provides. So far it would seem that no evidence of such misconduct has been brought forth.

Obituary Notes.—Dr. Henry Hartshorne, of Philadelphia, died in Tokio, Japan, on February 10th, at the age of seventy-three years. Six years ago Dr. Hartshorne went on a tour of Japan. He remained a couple of years, and formed a liking for the country. Returning to the United States, he consented two years ago to return to labor in connection with the missions of the Society of Friends. Dr. Hartshorne was graduated from Haverford College in 1834, and took his degree in medicine at the University of Pennsylvania six years later. He was elected professor of the institutes of medicine in the Philadelphia College of Medicine in 1853, and in 1859 was chosen as professor of the practice of medicine in the University of Pennsylvania. He became professor of hygiene in the latter institution in 1866, and in 1867 succeeded to the chair of organic science and philosophy in Haverford College. He also held professorships in the Pennsylvania College of Dental Surgery, Girard College, and Woman's Medical College, all of Philadelphia. He was the first person to ascertain by experiments on himself and others, in 1848, the safety and effects of the internal use of chloroform. He was also the author of a number of medical works.—Dr. Edwin A. Bourgoin, of Paris, died on February 10th, at the age of sixty years. He was professor of chemistry at the School of Pharmacy, and attained some prominence a number of years ago on account of his opposition to Pasteur and his teachings.—Dr. Philip H. Fuller died in Brooklyn on February 12th, at the age of thirty-five years. He formerly practised medicine in Vermont, and removed to Brooklyn only a few months ago.—Dr. A. Van Nest Baldwin died in New Brunswick, N. J., February 14th, after a two weeks' illness with pneumonia. He was a son of Dr. Henry R. Baldwin, a prominent physician of New Jersey, and was born in New Brunswick, November 16, 1858. In 1879 he was graduated from Rutgers College, and from the College of Physicians and Surgeons in this city, in 1882. At the time of his death he was secretary of the board of health and sanitary inspector, and was serving his second term as a member of the board of education. A wife and an infant daughter survive him.

Addition to a Municipal Hospital.—An annex to the diphtheria pavilion and an administration building for the Municipal Hospital of Philadelphia have just been completed, and were opened for inspection on January 21st. The new pavilion contains two wards, each forty feet long by twenty-five feet wide, and four private rooms, two of which are thirteen by thirteen feet, and separated from the wards by a wide vestibule, which opens upon a large porch, twenty-five feet long, enclosed in glass, which may be removed in the summer season. At one end of the new pavilion are a porch and corridor, nine feet wide and thirty-eight and one-half feet long, connecting the pavilion with the administration building, which separates the large and small pavilions. The space between each pavilion and the administration building is twelve feet long by nine feet wide, and is enclosed in glass, which can be removed when desired. The new pavilion is supplied with air drawn from a stack some fifty feet from the building, and conveyed underground through a tunnel to a chamber where it is heated by steam coils and then propelled by a fan into the wards and private rooms. The foul air is driven out of the apartments by a fan operated by an electric motor.

Unsanitary Bakeries.—At a meeting of the Woman's Health Protective Association of Philadelphia, on January 26th, a report from a committee previously appointed to investigate the sanitary condition of bakeries stated that in many instances these are located in cellars, are unventilated, and often are so near to outbuildings that the contents of the latter ooze through the walls and trickle into the shop: sewers frequently become choked, and their contents are sent back into places where the bread is made that is sold in the store above. In some places the men wore scarcely enough clothes to cover them. As a rule, no air shaft or other means of ventilation is provided, and the odor in many places is extremely offensive. The hours of labor were seven days in the week, and from fourteen to twenty-four hours a day. Dr. William H. Ford, president of the board of health, stated that a bill is being prepared for presentation to the legislature, prohibiting work on Sunday, as well as the employment of persons suffering from transmissible diseases, together with provision for other sanitary measures.

The Ohio State Medical Society will hold its fifty-second annual meeting in Cleveland on May 19, 20, and 21, 1897. The president of the society is Dr. F. C. Larimore, of Mount Vernon; the secretary, Dr. Thomas Hubbard, of Toledo.

The Connecticut Humane Society.—According to the annual report, recently issued, this society relieved during the past year 1,150 persons and 3,522 animals. During the year it received $52,197, including a legacy of $42,487 from Anna F. Brown, of Quincy, Ill., and has now invested funds of $42,171.

Caveat Pransor.—The Supreme Court of Illinois has decided that a restaurant keeper is not responsible for the quality of the food which he serves (*Journal of the American Medical Association*). If he fails to exercise ordinary care in the furnishing of food to his patrons, or conducts his business in a careless or negligent manner, and damage results, he is liable therefor. But as to food served at a restaurant, such as oysters, ice cream, and the like, the court says that it is not aware that there ever existed a rule establishing liability similar to the one which makes innkeepers presumptively liable for losses which happen to the goods of their guests.

Legislation Concerning Nursing-Bottles. — The municipal authorities of Buffalo, at the urgent request of the health officer, Dr. Wende, recently passed an ordinance forbidding the sale of nursing-bottles with tubes, because of the difficulty of keeping them clean.

The Gouverneur Hospital.—The plans for the new Gouverneur Hospital, which have recently been adopted, call for a four-story brick and terra cotta building with limestone trimmings. The structure, which will be in the form of an L, will extend one hundred and sixteen feet along Water Street and one hundred and thirty-seven along a street not yet opened. The first floor will contain the offices, the toilet rooms, and a spare room. The second and third floors will contain, besides the wards, the dining-room and sleeping-rooms for nurses and attendants. The laundry, kitchen, store room, and operating-room will be on the top floor. The building will cost about $200,000.

A Nun Doctor.—According to the *Catholic Standard and Times*, Sister Raphael, M.D., a member of the religious order of the Sisters of St. Joseph, is a practising physician in Kalamazoo, Mich. The same journal states that one of the inmates of the Gray Nuns' Convent in Montreal is a regularly qualified dentist.

British Medical Ethics.—As a corollary to the discussion that has been going on in this journal and elsewhere, a correspondent sends us the following newspaper cutting relative to "the Adelaide Hospital squabble": "The select committee appointed to inquire into the management of the Adelaide Hospital sat again this evening, and Dr. Cecil Corbin was cross-examined by the chief secretary. The witness referred to a certain operation, and said he was disgusted with the treatment of Dr. Napier. He was asked by the chief secretary why, when he saw what he thought was a glaring blunder being performed by Dr. Napier, and knowing a patient's life was in danger, he did not interfere. He replied that, in the interests of the greatest number, he hoped to see the man die on the operating-table, so that Dr. Napier's reputation might be damned."—*The Medical Press.*

Money in Twins.—Plural births have not usually been looked upon with favor in the popular mind, but this may be changed, if a new scheme recently announced is found to be all it claims to be. The *British Medical Journal* says that there is now an insurance company in London which undertakes to insure the risk of twins. Every subscriber of one shilling is promised £6; of two shillings, £12; of three shillings, £18; and so on up to £30 for five shillings.

It is added that the insurance must be completed one calendar month before accouchement, but the subscription insures for eight months from the day of application. This generous offer, a correspondent writes, deserves publicity. The average frequency of twins is about one in eighty, so that this new and invaluable system of insurance offers odds of one hundred and twenty to one against an event, the actual odds in fact against this event being only eighty to one. Further, if the pregnant woman happens to consult her doctor during the seventh or eighth month of pregnancy, he may be able to ascertain with certainty the presence of twins, and enable his patient to get odds of one hundred and twenty to one against a certainty. It may be, although the advertisement does not say so, that the money is paid only on the birth of living twins. The mortality of twin births has, we believe, never been very exactly worked out, but is generally reckoned at between ten and fifteen per cent., so that the difference of the odds in favor of the patient would be less by this extent.

Increase of Medical Students in Ten Years.—In 1883–84 the number of regular schools of medicine in the United States was 88; in 1893–94 it was 109. Homœopathic schools in 1883–84, 13; in 1893–94, 19; and eclectic, 9 in 1883–84, and 9 in 1893–94. The number of students increased in this period from 10,600 to 17,601.

An Insane Family.—In Skibbereen, Ireland, recently, two brothers and three sisters, all living in the same house, suddenly developed acute mania. No cause for the outbreak could be discovered.

Political Appointments to Hospitals.—Chicago suffers, like New York, from the patronage of doctors by politicians. The *Chicago Medical Recorder* says that the annual disturbance between the medical profession and the county commissioners is now on in that city. Seventy-five men have been appointed to the advisory staff of the county hospital, three being appointed by each commissioner. The size of the staff and the manner in which appointments are made have robbed the position of all honor, dignity, and desirability.

Chicago Surgeons are Overworked, if the reports of their movements, published from time to time in the journals, are correct. The *Texas Medical News* says that Dr. Senn is in Texas, he having been ordered South by his physician to recover his health, which has become impaired as a result of professional overwork. The *Fort Wayne Medical Journal-Magazine* announces that Dr. J. B. Murphy has recently sailed for Europe, where he goes in the interest of his health, which, under the severe strain of professional work, has become impaired.

Eye Infection through Borrowed Spectacles.—It is stated in the *Journal of the American Medical Association* that it has for some time been a growing custom for ophthalmologists and opticians to lend London-smoked or other tinted coquille spectacles to patients under mydriasis. The spectacles are returned after the passing of the mydriasis and are again lent to other patients. The editor says that he has known of cases of infection not readily explainable except as due to the wearing of glasses that others have used. We trust this custom will not spread, for it is a dirty and, in these days of asepsis, a most reprehensible practice.

The Tuberculosis Commission in Connecticut.—There has been dissatisfaction among the dairymen and farmers in Connecticut in regard to the use of tuberculin in the diagnosis of disease in cattle, and a few days ago a resolution was introduced in the legislature suspending all powers and duties of the tuberculosis commissioners until the committee on agriculture can prepare a new bill.

The Berlin Congress, which meets this year from June 9th to 14th, will have as general questions of discussion, chronic articular rheumatism, epilepsy, and Basedow's disease.

Reducing Fees.—It is regarded as undignified, if not unprofessional, for a medical consultant in the West End of London to accept any fee less than a guinea. The result of this is that the younger men get nothing, and all the guineas go to those of established reputation and fame. It is now proposed, however, to recognize as strictly professional the acceptance of reduced fees, even as low as seven shillings, or $1.75.

Greek Medical Women.—Even in the beginning of the present century the Greek ladies whom Byron admired were obliged to walk veiled, after Asiatic fashion, through the streets of Athens, and they were not allowed their due share in the intellectual culture of the renascent Hellas. It is interesting to learn that a few days ago two young Athenian ladies, the sisters Angelica and Alexandra Panagiotatos, passed their medical examination with brilliant success, and each received her diploma as doctor. The elder is aged twenty-two, the younger twenty. They are natives of Corfu, where they made their first studies, continuing them later in the French school at Athens. They matriculated afterward at the University of Athens.—*The Westminster Gazette.*

The Notification of Consumption.—If the effectiveness of compulsory measures for the prevention of the spread of consumption were plain and indisputable, and, therefore, did not meet with decided objections on the part of many members of the medical profession, the protective compulsory measures adopted by the New York board of health and recommended by the St. Louis board of health might be admissible, even if the chances of recovery of many consumptives would thereby be jeopardized. The fact, however, is that men thoroughly acquainted with the known biologic characteristics of the tubercle bacillus consider the contemplated compulsory measures inadequate and unnecessary. It is to be hoped, therefore, that in this respect St. Louis may not follow into the footsteps of New York, and we firmly believe, moreover, that the medical profession of New York will, after due consideration, not indorse the action of the board, and that the new measure will have but an ephemeral existence.—*Medical Review.*

Reviews and Notices.

SYSTEM OF DISEASES OF THE EYE. By American, British, Dutch, French, German, and Spanish Authors. Edited by WILLIAM F. NORRIS, A.M., M.D., and CHARLES A. OLIVER, A.M., M.D., of Philadelphia, Pa. Volume I., Embryology, Anatomy, and Physiology of the Eye, with 23 Full-page Plates and 362 Text Illustrations. Philadelphia: J. B. Lippincott Company. 1896.

IT has evidently been the design of the editors and publishers of this work to spare no effort or cost to make it as complete as possible. In their stated endeavor to produce a system of diseases of the eye which at this time will compare favorably with the "Handbuch" of Graefe Saemisch at the time of its publication they have set a high mark, which they will attain if the excellence of the present volume is manifested in the volumes that are to follow. The names of the distinguished contributors are a sufficient guarantee of the high quality of the work contained in Volume I., which comprises six hundred and seventy pages, printed in large type and profusely illustrated.

The article on the development of the eye was contributed by the late John A. Rider, Ph.D. Although admirable in many respects, it does not express the latest views regarding the development of some of the parts of the eye: for example, the capsule of the lens, the posterior portion of the cornea, and the suspensory ligament of the lens. The statements regarding the capsule of the lens and the posterior portion of the cornea are corrected in the article on the microscopical anatomy of the eye, but the views regarding the suspensory ligament of the lens, as advocated by E. Treacher Collins and Schoen, which are now quite generally accepted, are here rejected for those of older writers. The contribution by Thos. Dwight, M.D., LL.D., "The Anatomy of the Orbit and the Appendages of the Eye," contains much of value; however, some small omissions are noticeable and the original illustrations are not up to the excellence of those that have been embodied from other works. The part devoted to a description of the anatomy of the eyeball and of the intra-orbital portion of the optic nerve, contributed by Frank Baker, M.D., Ph.D., comprises one hundred and eight pages and is very elaborate. Extensive discussions of disputed points are included and a large bibliography is appended. An exceedingly interesting chapter is that by George A. Pearsal on the microscopical anatomy of the eyeball, particularly because of the full discussion of the recent great advances in the views regarding the formation of the retina, due to the work of Cajal, Dogiel, and others. Except in regard to the suspensory ligament, the views expressed in this paper are fully up to date. The editors are to be congratulated on securing so valuable a contribution to the work. The anatomy of the intracranial portion of the visual apparatus is fully and well treated by Alex. Hills, A.M., M.D. This is followed by an article on congenital malformations, which completes the consideration of the tissues of the eye contained in this volume. The chapter on the dioptrics of the eye is clear, concise, accurate, and not too much encumbered with formulas. Articles devoted to the consideration of light, binocular vision, normal color perception, and the photo-chemistry of the retina, all admirable in their way, complete the volume.

When a number of monographs on kindred subjects are embodied in a work it is scarcely possible to avoid some overlapping of statements, some of which may conflict; in the volume under review but little of this exists, and what there is is not conspicuous.

DISEASES OF THE EYE. A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College, etc., etc. With 256 Illustrations and Chromo-Lithographic Plates. Second Edition, Thoroughly Revised. Philadelphia: W. B. Saunders. 1896.

THE work is comprised in a single royal octavo volume of six-hundred and seventy-four pages. It is printed on heavy paper and the type is of good size and clean cut. Some of the illustrations are of little value, but as a whole they are very good. As stated in the preface, the work is particularly adapted for the student and practitioner who desire to begin the study of ophthalmology. This is more manifest in the chapters devoted to diseases of the eye than in those devoted to optical principles and physiological optics. These chapters, which are excellently written by Dr. Jas. Wallace and revised by Dr. E. Jackson, are sufficiently comprehensive to merit perusal by the practising ophthalmologist. An exhaustive exposition of ophthalmology cannot be comprised within the pages of such a volume. This has been fully realized by the author, who has eliminated as much discussion of the subjects considered as is possible without impairing the value of the work. Short, concise descriptions of diseases, their causes, symptoms, treatment, etc., sufficiently separated and classified to be easily grasped, has been the rule. The advice given in the chapter on refraction and on the treatment of diseases is well chosen and perfectly safe to follow. The meagre remarks on pathology are fully justified by the scope of the work. Short but valuable chapters are found which treat of the adjustment of spectacles, the use of Javal's ophthalmometer, and of Stevens' tropometer.

MANUAL OF DISEASES OF THE EAR, INCLUDING THOSE OF THE NOSE AND THROAT IN RELATION TO THE EAR. For the Use of Students and Practitioners of Medicine. By Thomas Barr, M.D., Lecturer on Diseases of the Ear, Glasgow University, Senior Surgeon to Glasgow Hospital for Diseases of the Ear, etc., etc. Second Edition, with 229 Illustrations. New York: The Macmillan Company. 1896.

THIS work is comprised in an octavo volume of four hundred and fifteen pages. The type for the greater part is sufficiently large, but some minor portions are printed in smaller type which is somewhat trying to the eyes. The illustrations are good and well chosen. The manual is designed for the use of students and practitioners, and it is certainly admirably adapted for this purpose. Separate chapters are devoted to symptomatology, causes of ear diseases, and methods of treatment, apart from the consideration of these topics accompanying the discussion of the individual diseases. This plan usually necessitates repetition, but in the way the subjects are treated by the author of this work there is little repetition and much has been gained in clearness by the manner of association. An appendix, devoted to the consideration of otalgia and a few pages of formulas, is found. A few pages at the back are devoted to a full general index, an index of authors, and an extensive bibliography. It is seldom that a work so compact, so complete, and so masterfully written, on any subject in medicine, is offered to the student and practitioner.

THE CELL IN DEVELOPMENT AND INHERITANCE. By EDMUND B. WILSON, Ph.D., Professor of Invertebrate Zoology, Columbia University. 364 pages. New York: The Macmillan Company. 1896.

THIS work is the fourth in the Columbia University series, and an elaboration of a course of lectures given at Columbia University several years ago. It is a *résumé* and critical digest of the work done on the lines of cellular investigation during the last few years, in which a number of investigators have invaded the African regions of the ultimate elements of the organic structures, to find there a wide geographical territory as yet unexplored and unnamed. These Stanleys of cellular science overwhelm the student who has no tkept pace with these histological researches, not so much by what has already been determined as by the great possibilities of future discoveries. The hypotheses of to-day will form stepping-stones to the new hypotheses of to-morrow. It is hoped that it will be possible to worry out of the ultimate protoplasm and its ultimate nucleus, the hidden and ever-evading secret of life itself and the transmission of physical inheritance. According to these researches, the cell, which we have been accustomed to regard as the ultimate element, may be "a congeries of self-propagating units of a lower order."

The reader will turn with eager interest to see what Professor Wilson and his authorities have to say in regard to the relation of the cell to heredity. Inheritance, he says, is the recurrence in successive generations, of like forms of metabolism. The nucleus alone suffices for the inheritance of specific possibilities of development. It is also an organ of metabolism, and so concerned in the process of construction, the egg cytoplasm being the result of nuclear activity dependent upon the nucleus for development

The writer confesses that one is unable to explain development and inheritance, beyond referring this power to the in-

herent organization of the germ. He expresses a hope that the splendid achievements of cell research in the past twenty years stand as a promise of its possibilities for the future, and that step by step the way may yet be opened to an understanding of these problems, inheritance and development.

The book is well written, well printed, well illustrated, and will be welcomed by biologists, whether agreeing with the conclusions reached or not, as comprehensively reviewing and bringing together at the present time the researches on cell structure and development upon which so much work has been done in the last five years.

ROENTGEN RAYS AND PHENOMENA OF THE ANODE AND CATHODE. Principles, Applications, and Theories. By EDWARD P. THOMPSON, M.E., E.E. Concluding Chapter by PROF. WILLIAM A. ANTHONY. 60 Diagrams. 45 Half-tones. New York: D. Van Nostrand Company.

IN this work the principles and practical application of the Roentgen rays are fully and clearly explained, as also "the phenomena occurring between and around charged electrodes, separated by different gaseous media at various pressures. The specific aim is the treatment of the radiant energy developed within and from a discharge tube, the only source of *x*-rays." The book is profusely illustrated with pictures of apparatus and of skiagraphs. It also contains a photograph of Professor Roentgen and a picture of the physical institute of the University of Würzburg, where Roentgen lives, lectures, and conducts his experiments.

FOOD IN HEALTH AND DISEASE. By I. BURNEY YEO, M.D., F.R.C.P., Examiner in Medicine at the Royal College of Physicians; Professor of Clinical Therapeutics in King's College, London, and Physician to King's College Hospital; Author of a "Manual of Medical Treatment," etc. Philadelphia: Lea Brothers & Co.

THIS is a revised edition of Prof. Burney Yeo's work, which appeared first in 1889. The author has taken the opportunity to make a few changes and to add a number of pages in the part devoted to feeding in disease. The subject of the sterilization and pasteurization of milk receives attention in an appendix. All who are acquainted with Dr. Yeo's excellent work, and there are few to whom it is not known at least by reputation, will welcome the appearance of a new edition.

PRACTICAL DIAGNOSIS: The Use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics in Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital, etc. Philadelphia: Lea Brothers & Co. 1896.

IN this book the author takes up the various symptoms located in parts of the body or organs, such as paralysis or spasms in the hands or feet, hemiplegia, headache, vomiting, cough, pain, and the like, and discusses the conditions which may give rise to these manifestations. This plan is greatly to be preferred to that usually followed, in which the symptoms of a special disease are grouped together under that head. In the old method the reader was obliged to know the disease, or at least to guess at it, before he could verify his diagnosis by means of the description in the book before him. By Hare's method, on the contrary, the physician takes the symptoms which he sees and, using them as catch words, hunts up the disease in the treatise. The latter serves, therefore, as an index of disease. The plan is rational and the author's execution of it is good.

VETERINARY HOMŒOPATHY IN ITS APPLICATION TO THE HORSE: Including a Code of Common Suggestive Symptoms. By JOHN SUTCLIFFE HURNDALL, Member of the Royal College of Veterinary Surgeons, England. Philadelphia: Boericke & Tafel. 1896.

THE terms employed in the descriptions of the varied diseases to which the horse is liable have been chosen, the author says in his preface, so as not to confuse a layman; hence this work can be utilized by all who desire to combat these affections by homœopathic remedies and are deprived of veterinary skill. The author says that the blood of a horse supposed to have died of anthrax may be rubbed into a cut on a rabbit's ear to determine the matter, but aside from this he strongly opposes vivisection or this class of experiments. "There is no proof," he says, "that the millions of animals which have been cruelly tortured and sacrificed to the whims of fanciful scientists have ever produced the slightest benefit to science, inasmuch as the results obtained from such experiments have never saved a single life." Recognizing the strength of this language and boldness of expression, he believes it "capable of distinct proof." The chapter on "Diseases of the Ear" is like that of the celebrated one on the "Snakes of Ireland." It occupies four lines, but they are of interest and importance: "We have never in the course of our experience come across a disease of the ear in the horse, and, with the exception of occasional injuries, there would appear to be nothing calling for special treatment in the organs of hearing among the equine race."

A list of prominent suggestive symptoms is a useful feature of the work, added as an appendix, and a good index will help out the lay reader.

LA BICYCLETTE. By DR. JUST LUCAS-CHAMPIONNIÈRE, Honorary President of the "Touring Club de France." Paris: Léon Chailley.

THIS is an address in favor of bicycle exercise.

EINLEITUNG IN DEN CURSUS DER DERMATOLOGIE. By DR. A. POLOTEBNOFF, O. Professor in St. Petersburg. Berlin: Aug. Hirschwald. 1896.

A BROCHURE of forty-seven pages of excellent print, being an address delivered at the opening of the dispensary for syphilis and skin diseases at the Marien-Krankenhaus.

THE MEDICAL NEWS VISITING LIST. Record of Practice for Thirty Patients per Week. 1897. Philadelphia: Lea Brothers and Company. 1896.

THIS year's record of practice contains much that is of value to the busy practitioner, such as "Therapeutic Reminders," "Examination of the Urine," "Table of Eruptive Fevers," "Important Incompatibles," "Poisons and Their Antidotes," etc. It is arranged for thirty patients a week, bound in leather, not too bulky, and has a thumb index for its various departments.

OM DE PAPILLÆRE OVARIAL-KYSTOMER. Af OSCAR SEMB. Kristiania: Steenske Bogtrykkeri. 1896.

A BROCHURE of about one hundred pages upon the papillomatous cysts of the ovary, with a few illustrations.

OPHTHALMIC OPERATIONS AS PRACTISED ON ANIMALS' EYES. By CLARENCE A. VEASEY, A.M., M.D., Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic. With 56 illustrations. Published by the Edwards and Dock Company. 1896.

THIS work purports to be an aid to the student of ophthalmology in performing operations on animals' eyes, with a view to fitting the individual for general ophthalmic operative work. In a limited way the volume is of value; however, it is extremely elementary and not sufficiently minute in description to advance the student to any great degree. Such works cannot supplant the instruction that may be obtained by the student who takes an operative course in the surgery of the eye upon the cadaver and upon the eyes of inferior animals under the immediate supervision of a competent instructor.

Hyperchlorhydria in Early Life.—1. Hyperchlorhydria may be observed in quite young infants. It is rare in nurslings, but seems relatively more frequent in those weaned prematurely and put upon an inappropriate diet. 2. Clinically it is not revealed by any differential sign which may distinguish it from the other forms of dyspepsia of early life. 3. Chemically it is revealed by the presence of free hydrochloric acid, which normally is wanting in youthful age, and also by an acidity which is at times marked. 4. From a therapeutic point of view hyperchlorhydria interferes with caseification, which takes place again when the excess of hydrochloric acid is neutralized by alkalies.—ODDO *and* DE LUNA, *Revue de Thér.*

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 4, 1897.

JOSEPH D. BRYANT, M.D., AFTERWARD E. G. JANEWAY, M.D., IN THE CHAIR.

Valedictory Address by the Retiring President.—DR. JOSEPH D. BRYANT, on retiring from the presidential chair, which he had occupied the past two years, reviewed the business affairs of the academy. That which now gave the academy its greatest lustre was its library. The interest taken in this was manifest from the fact that within the few months since the special committee had been appointed to secure a hundred-thousand-dollar endowment fund, a very considerable proportion of this amount, one-half, would be at the academy's command as soon as it should secure additional subscriptions to the amount of twenty thousand. Surely the immediate use of this sum was an object worth working for. The number of volumes in the library was forty-six thousand, of which ten thousand were duplicates. There were six hundred and eighty medical journals, representing the medical achievement and thought of twelve different nations. By advertising the binding of journals, etc., it was thought that from thirty to fifty per cent. could be saved on the stationery bill. It was intended to improve the heating and ventilation of the building: to print the corrected by-laws and rules: to take steps, if possible, toward paying off the remaining indebtedness of the academy, $10,000. The resident membership was eight hundred and seventy. All doctors in honorable standing, having the welfare of the profession and of the academy at heart, were invited to join it. Every one must appreciate the foresight of Dr. Loomis, in donating a sum to be devoted to increasing the good fellowship of the academy. Mention was made of the successful and pleasing celebration of the academy's semicentennial. Dr. Bryant then introduced his successor, Dr. Janeway.

Inaugural Address by the President-Elect.—DR. EDWARD G. JANEWAY, president-elect, said he had hesitated to become a candidate for the office, feeling that there were others in the profession who deserved the honor by reason of greater scientific attainment, seniority, and ability to promote the interests of the academy. But when he was assured that his election was likely to be unanimous, the interpretation was forced upon his mind that it was the purpose of the members to work in harmony with him for the further upbuilding of the organization of the academy, its influence for the good of the public health, and advance of s ientific medicine. From this point of view he had not felt himself at liberty to decline the high honor, but to accept it with sincere thanks, and with it the laborious duties which it implied.

In the course of his address Dr. Janeway suggested as a new field of effort the establishing of a laboratory department as a workshop for the members, and mentioned the necessity for completing the endowment fund of $100,000 for the library.

Referring to the achievements of American medicine, he mentioned the names of Wells, Jackson, Simpson of Edinburgh, and Morton in connection with anæsthesia, and expressed the opinion that Morton deserved special honor for demonstrating that it was possible to do surgical operations without inflicting pain. Further, he said, let us to-night do honor to our associate, Dr. Joseph O'Dwyer, for introducing intubation.

There should be placed upon the walls of the large room of the academy portraits of all of its presidents, and throughout the building portraits of more of the distinguished members of the profession, that their friends might recognize their faces as well as profit by their writings. Among ex-presidents, one missed a painting especially of Dr. Alonzo Clark, and it would be a graceful act of recognition if the profession and medical students should contribute toward procuring a portrait of this unpretentious but most distinguished teacher and practitioner: and also one of the late Dr. Austin Flint. Difference of opinion in regard to medical politics could make none inappreciative of the scientific merit of the departed. Among other ex-presidents whose portraits were wanting were Dr. John T. Metcalf, who was still living: and Drs. Cox and Alfred C. Post.

In reply to the question what could the academy do during the next two years in its own interest and that of the public, the president suggested that a committee be appointed to consider the question of the best method of presenting medical expert testimony in courts, and report its conclusions in a paper before the academy.

It was often said that reforms should begin at home. Dr. Janeway was not sure but what he was himself partly to blame for a condition of things relating to medical colleges and hospitals which ought to be changed. In the past the duration of the course in our medical colleges may have been too short to permit of carrying out the curriculum and allow time for sufficient out-of-door exercise and recreation to maintain reasonable health. Now that the course had been lengthened, the evil should be corrected. The second matter concerned hospitals and hospital internes. The atmosphere of hospitals after a time exerted a depressing influence on those within them, and the older the institution the more hospitalism there was. Under present regulations the number of internes was too small to enable them to do the work in the hospitals properly, without breaking down or injuring their health under the excessive strain. Yet there were many competitors for every position, and the rejected candidates not infrequently were as well qualified for the places as those who were appointed but who happened to pass a somewhat better examination on the questions propounded. It would seem that some plan might be devised which would enable a larger number of graduates and undergradates to obtain coveted hospital experience, and thus also relieve, at least in a degree, the overworked internes. A committee might be appointed, composed, if it were desired, entirely of college and hospital men, to suggest some practical method for bringing about the needed change.

The recent munificent gift of a million dollars to an existing hospital institution in this city deserved mention, and the president doubted not that he expressed the sentiments of the members in thanking the donor for his gift. The multiplication of new institutions was to be deplored; the upbuilding of the old was to be praised.

The president hoped that during the term of his office the remaining debt of the academy, $10,000, would be paid off. Personally he disliked debts, and desired to see institutions in which he might be interested freed therefrom, in order that new aspirations might arise to stimulate effort.

Portrait of Dr. J. W. Schmidt.—DR. LEWIS A. SAYRE presented, in the name of the donor, Mrs. James E. Andrews, an oil portrait of her father, one of the founders of the academy, Dr. John W. Schmidt. Dr. Schmidt was born in South Carolina in 1811, was graduated from the Geneva Medical College about 1830, and died in 1858, at the age of forty-six. He was a friend of Dr. Mott, and was one of the first surgeons in the city during his time.

Dr. Samuel S. Purple presented the diploma of Dr. Schmidt, granted by the Geneva Medical College, which, he said, had on its faculty during the four years of its existence more distinguished men than any similar institution in this country. A more disgraceful piece of legislation was never enacted than when this college was enacted out of existence.

Portrait of Dr. Alfred L. Loomis.—Dr. William M. Polk presented, in the name of the family of the deceased, an oil portrait of the late president of the academy, Dr. Alfred L. Loomis. Dr. Loomis, he said, was one of the strong men of the profession. He came to the city a friendless boy, almost from the outset was threatened with tuberculosis, yet he threw himself into the midst of the turmoil incident to metropolitan life, and step by step advanced to positions of highest professional eminence. If there was one thing above another which characterized him it was that he knew what he wanted, and, knowing it, he had courage to work for it. He had concentration, which enabled him for the time to lose sight of all side issues and throw his full energies into the work before him. He had said to the speaker on one occasion: "You waste too much time in side issues. Devote yourself wholly to that which will lead to your professional success. If you prepare a paper, let it be upon the dearest professional wish which you have in mind. If you speak upon any subject, if you think upon any subject, let it be all in that direction." And thus it could almost be said that even while he slept he kept himself in touch with the thing which was dearest to him—his professional success. When Dr. Loomis began to interest himself in the affairs of the academy, it was at a time when the code issue was thrown upon it. All remembered the part which he took in that controversy, and he took it because he felt that the very life of the academy depended upon the issue being in the direction of liberality. Under such honest, noble, broad lines, this organization had developed as he had wished it, until it had become the mouthpiece of the profession in matters concerning the public health as well as all related to medical science.

Dr. Fordyce Barker.—A tablet to accompany the portrait of Dr. Fordyce Barker was presented by Mrs. Barker.

On motion of Dr. A. Jacobi, a vote of thanks was extended the several donors for their generous and valued gifts.

The academy then went into executive session.

Special Meeting, February 11, 1897.

Edward G. Janeway, M.D., President, in the Chair.

Traumatic Neurasthenia and Hysteria.—The meeting was arranged by the section on neurology, Dr. Pearce Bailey, chairman. The paper with the above title was read by Dr. Philip Coombs Knapp, of Boston. It would be seen that he had limited his paper to two of the commoner and more definite types of nervous trouble of apparently functional nature following traumatism, but in considering only traumatic neurasthenia and hysteria he did not mean to imply that other neuroses could not have such an origin.

The paper was based on an analysis of two hundred cases of traumatic neurasthenia and hysteria in the hospitals of Boston. Of these, one hundred and three were not, so far as he knew, subjects of litigation. Of the other ninety-seven, most of them were sent him for the purpose of getting his opinion for use in court. He had rarely been consulted in any litigation cases for injury involving one or more peripheral nerves, and seldom for injury pointing definitely to spinal disease. The explanation was hard to make, for cases of spinal injury and injury of peripheral nerves were not infrequent in hospitals. Possibly in litigation cases of this class the symptoms were so definite that they were settled in or out of court without consulting specialists. The author differed from Strümpell, who claimed that the genesis of most of the trouble in the litigation cases was psychical, the questions which constantly worried the patient's mind being: "Shall I get damages? How much shall I get? Shall I be able to work afterward?" Notwithstanding the malevolent psychical influences attending these cases—the desire for gain, the desire for putting the best foot forward, the gloomy prognostications heard on the witness stand—he could not accept Strumpell's view for reasons, some of which follow: 1. Under conditions precisely similar one saw the symptoms of traumatic hysteria or traumatic neurasthenia in non-litigation cases, in which the factors referred to were absent. 2. The symptoms developed almost immediately after the accident in many litigation cases, before these factors could have acted. No doubt, however, factors connected with litigation aggravated the symptoms somewhat. Further, the relative frequency of the symptoms in the litigation and the non-litigation cases was about the same. In other words, he could find no symptoms in the one class of cases not present in the other and which would warrant the term litigation hysteria or litigation neurasthenia. In many, but not all of the litigation cases, the patients had worried about the lawsuit; but in the non-litigation cases the patients had also been disposed to worry, though about something else.

Dr. Knapp thought Strümpell had given insufficient weight to the physical influence and too much to the psychical. He classified the two hundred cases according to the nature of the injury, the symptoms, etc. The injuries took place from railway accidents, getting on or off tramways, getting in or out of carriages, etc. In but few instances were bones broken. On the whole, the circumstances attending the two classes of cases, litigation and non-litigation, did not differ greatly, and since the symptoms were very similar, the conclusion was drawn that the desire for gain in the one class played only an insignificant part in the genesis of the trouble.

The author stated that psychical shock alone might produce hysteria or neurasthenia, but it was more difficult to answer the question whether physical injury alone, unattended by psychical shock, could do so. His own belief was that psychical shock played a subordinate part, and that physical injury was the important cause. Neuropathogenic heredity, upon which the French laid stress, he had found of minor importance. He was able to obtain a neurotic history in eight cases of hysteria, in seven of neurasthenia, and in a few there was a history of previous ill health.

Dr. Knapp then spoke of the symptoms, and said that traumatic hysteria and traumatic neurasthenia had many symptoms in common, the boundary line not being in all instances very clear. Among symptoms mentioned were inability to work mentally or physically, headache, vertigo, pain in the back and limbs, paræsthesia, rapid pulse, loss of appetite, diminution of urine, exaggerated reflexes, congestions, coldness of extremities, etc. The differential points between neurasthenia and hysteria were mentioned, particularly those relating to contraction of the visual field, hemianæsthesia or local anæsthesia, and disturbances of special senses of a nature usually regarded as diagnostic of hysteria. While attaching weight to these evidences of hysteria, the author did not regard them as always diagnostic. For instance, in four of the cases of neurasthenia there was contraction of the visual field, without other stigmata of hysteria. But the ma-

jority of cases which presented cutaneous anæsthesia and contraction of the visual field were cases of hysteria.

Regarding the prognosis, there had been difficulty in following up cases to determine the ultimate result. In 28 cases of hysteria, 18 of them were litigation cases, 10 non-litigation cases. In the former, 1 patient recovered completely, 5 patients improved considerably, 7 very little, 5 died. Of the 5 that died, 1 died of unknown cause, 1 had improved considerably but died of intercurrent pneumonia and delirium tremens, 1 steadily grew worse and died of a low form of pneumonia, 2 grew worse and died in exhaustion. It would seem from Dr. Knapp's observations that the remarkable recoveries which one heard of taking place as soon as damages were obtained did not appear. A number of cases had continued six to twelve years; they might improve, but still present some distinct symptoms. There seemed to be no direct connection between the intensity of the hysteria and the gravity of the prognosis. The longer the hysteria lasted, the less likelihood of complete recovery. Some cases of neurasthenia progressed more favorably under treatment than hysteria, and, on the whole, he thought the prognosis was more favorable. But he had seen some cases of eight, twelve, and even twenty years' duration.

The author then touched upon treatment. He thought some occupation was to be preferred to allowing these patients to brood over their troubles while doing nothing, yet judgment was required, lest they do too much or worry under the labor and anxiety of making a living. These people were apt to be looked upon as extortionists, but facts showed that the accusation was unjust. A considerable number of them never recovered their health, and the amount received in damages was, in the author's experience, inadequate, especially if the expenses of litigation were deducted. In thirty cases the average damages had been about $5,500; at least half was used in litigation, and very few cases came to trial before two years, some not for ten years. The law ought to be amended to hasten the court proceedings, as delay added to the gravity of the prognosis. It was best to urge prompt settlement out of court, whenever it could be done without too great sacrifice.

How to Avoid Litigation Cases.—Dr. M. Allen Starr opened the discussion. He would give a few of the points in the fourteen cases of traumatic neuroses (including both the hysteria and the neurasthenia cases under that term) which had come under his observation during the past two years. He did not see many of these cases, because when asked to examine them it was usually with the expectation on the part of the patient or the corporation that he would be biassed toward that side, and he refused. The first effort on the part of the physician should be a correct diagnosis, more especially in determining whether the case were one of organic lesion or of functional disturbance. As a rule, the prognosis would be more serious in the former. Three of Dr. Starr's cases were in foot-ball players; the trauma was received while they were playing football; the symptoms of neurasthenia following the accident were marked and had not disappeared in from two to five years, and in none of the three was there a question of suit for damages.

Regarding the symptoms, the pain was likely to be referred to the point of the original injury, as the back or head, and not to a distant part which received its innervation from the seat of the trauma. The reverse was the case in organic lesions. This was an important differential symptom between the two classes of cases. Among the symptoms in the order of frequency in traumatic neuroses were intense headache, tenderness along the spine, general weakness, fatigue on effort, insomnia, frightful dreams, palpitation of the heart, morbid fears, numbness or tingling on one side of the body, tremor, increase of knee jerks, some irritability of the bladder. In none were there objective signs of paralysis or complete anæsthesia, there was no loss of control of bladder or rectum. In but two cases was there any question of damages, and therefore that element could be excluded in etiology and duration of the symptoms. He was quite convinced that cases which developed traumatic neuroses were cases predisposed to neuroses before the injury, just as was true of occupation neuroses. Hysterical anæsthesia had a different distribution from anæsthesia of organic disease. The perineum and genitals were spared, and there was absence of paralysis of rectum and bladder.

Litigation More Injurious than Trauma.—Dr. Charles L. Dana said that ten years ago, perhaps five years ago, he would have agreed entirely with the conclusions of the author, but the last few years the tide of litigation had risen, and seemed more frequently to play an important part in what was known as traumatic neuroses—traumatic hysteria, traumatic neurasthenia, or a mixture of the two, or some other neuroses. While he believed these people were often wronged through the delays of the law, still he refused to take part in any given case until he had made a thorough examination into the symptoms and history, in order to determine how far the affection was genuine. The question was mainly one of diagnosis. He did not think it was so hard to distinguish between a functional disease which was real and an organic disease, as it was to distinguish in functional disorders how much was simulation or exaggeration. A great many of these people were really hurt and were neurasthenic, but many of them were not very badly hurt, and under the excitement and anxiety of litigation their symptoms were intensely increased, not only increased, but they finally became real, so that the patients became as much injured through the psychical effect of litigation as they were through the original injury, if not more. We saw some distressing cases of delays, obstinacy, and cruelty on the part of corporations.

A case was more apt to be genuine in the old or in the young, under eighteen years. Dr Dana thought females were less likely to simulate in these cases than men, although usually they might exaggerate a little. He was more suspicious of men. Traumatic neurosis was unlikely to occur in a man of steady habits, never known before to be nervous. But the diagnosis would have finally to rest on the objective symptoms of hysteria and neurasthenia. He had the absolute conviction that hemianæsthesia, limitation of the visual field, and involvement of special senses all on the same side were pathognomonic of hysteria. He had certainly seen twenty cases of that type, in which the symptoms had finally disappeared. One important point in differentiating between the anæsthesiæ of hysteria and of organic disease of the cord was the fact that in the former there was an uneven sliding away into the normal area of the anæsthesia to pain, temperature, and touch, whereas in organic cases the boundary line was sharper.

Dr. Bernard Sachs agreed with the author in the main, yet he thought there were some pure and some mixed litigation cases, and we should counteract that tendency as much as possible. While we should have feeling for the injured, we should search for the exact truth. He believed the better part of the medical profession, like the better part of the legal profession, tried to prevent litigation when fair settlement could be made out of court. He objected to the term traumatic neurosis. If the word were used at all, it should be in the pleural—neuroses. Many cases should be put down as traumatic hypochondriasis. While he agreed as to the importance of the sensory test, he thought it had been overstated. Hysterical conditions following injury were often more serious in

preventing earning a living than some minor organic lesions.

Dr. Frederic Peterson thought that in the same way as we made classifications of functional cases into hysteria, neurasthenia, hypochondriasis, etc., without traumatic history, the same divisions could be made in traumatic cases. In litigation cases care was necessary, for in many there was exaggeration of the symptoms, and personally he had seen a good many cases of simulation.

Evolution of Names.—Dr. J. Arthur Booth observed successive steps of advancement in the use and dropping of such terms as spinal concussion, brain concussion, railway spine, railway brain, traumatic neurosis, and the present subdivisions into traumatic hysteria, traumatic neurasthenia, and their combinations. As to narrowing of the visual fields in hysteria, it was found less frequently than on the other continent. He believed simulation and malingering were rare, but that exaggeration was frequent.

A Family of Simulators.—Dr. Pearce Bailey related the history of a family by the name of Freeman, three or more members of which, including mother and two daughters, had brought numerous fraudulent lawsuits for alleged accidents, usually in railway or tram cars, in Chicago, Boston, and New York, the past few years. In most instances, even when simulating spinal paralysis involving the lower extremities, bladder, and rectum, they had accepted one hundred or a few hundred dollars as settlement out of court. Finally they had been clearly exposed.

SECTION ON GENERAL SURGERY.

Stated Meeting, February 8, 1897.

W. W. Van Arsdale, M.D., Chairman.

Recto-Urethral Fistula.—Dr. James P. Tuttle presented two men whom he had cured of recto-urethral fistula by operation—a rather rare condition and one generally conceded to be very difficult to heal. The chief interest in the cases was that they had been cured by one operation. In one, however, preliminary inguinal colotomy had been performed. This patient's recto-urethral fistula had existed about four years, and operations performed for its cure by other surgeons before he saw the patient had failed. In the other case the fistula had existed six months. One patient had been presented before the genito-urinary section in December last. The operation was, as far as he knew, novel. The mucous membrane of the rectum on each side of the fistula was dissected back three quarters of an inch; connective tissue was trimmed off; going back into the soft tissues, he dissected off a short flap on each side with which to make a new urethra at the sloughed portion. Having closed the urethra, he sutured the mucous membrane of the rectum over the soft tissues which had been used to repair the urethra. The lower end of the urethra was not closed, but was carried forward in order to make thorough perineal drainage of the pocket. Thus the case took the course of an ordinary perineal section. In one a catheter passed through the urethra was kept in the bladder for three weeks; in the other only twenty-four hours.

Enormous Hernia Cured by Bassini's Operation.—Dr. George E. Brewer presented a man whom he had cured of the largest inguinal hernia that he had ever seen treated by the Bassini method. The hernia extended to the knees, was nearly two feet in circumference, contained eleven feet of intestine and about two pounds of omentum. Seven inches of the intestine were firmly adherent to the bottom of the sac. Hemorrhage was severe, and it was necessary to fold up in towels and apply hot salt solution for two hours before returning to the abdomen. The patient was told that the operation would probably result only in improvement, not cure, but sixteen months had elapsed without any sign of recurrence.

Removal of Large Bony Callus Following Fracture of Clavicle, for Relief of Paralysis; Cure.—Dr. Brewer presented a man who two months ago had come to the hospital with the most marked deformity following fracture of the clavicle that he had ever seen. A large callus had formed at the angular junction of the fragments and had involved the brachial plexus, producing partial arm paralysis. Only after the man had signed a written statement that he would not hold the surgeon or the hospital responsible for the result did he consent to operate. He removed the bony callus, then brought the divided ends of the clavicle—separated by a space of at least an inch—together with wire. The paralysis disappeared, and the result was in every way successful, although the clavicle on that side was shorter than its fellow by more than an inch.

Further Observations on Fracture of the Neck of the Femur in Childhood.—Dr. Royal Whitman presented two patients and read the paper. He also presented illustrative anatomical specimens and skiagraphs. In 1890 he had first presented a case of fracture of the neck of the femur in a child, four others in 1892, and since then he had seen five more cases. The accidents, which had caused certain symptoms, had been of a nature that might produce this fracture, and in 1890 the diagnosis of fracture of the neck of the femur was made largely by exclusion, but to-day could be confirmed by skiagraph. In nearly all instances the patients were brought by the parents with the supposition that they were suffering from hip-joint disease. The subject was not yet considered in the text-books separate from the same accident in adults. The author considered the subject under four heads: 1, the immediate diagnosis and effects; 2, differential diagnosis from hip disease during recovery; 3, diagnosis between fracture and epiphyseal separation; 4, the remote effects of fracture.

The difference between the early and the remote effects of fracture of the neck of the femur in childhood was well illustrated in the two cases presented. In the one of injury from a fall of some feet about a year ago there was still scarcely any deformity; only slight elevation of the trochanter on the affected side, slight shortening, slight eversion of the leg, slight inclination of the body toward that side. There had been no treatment. The shortening did not exceed half an inch. The other child, now aged seven, had sustained a fall from the fourth story about four years ago. There was little effect on the leg at first; only slight pain and limping. Since a month later the child was still limping somewhat and had a little pain, it was brought to the hospital, where the diagnosis of fracture of the neck of the femur was made. To-day the case illustrated the important point brought out in the paper, namely, that fracture of the neck of the femur in childhood caused the neck to assume a more nearly horizontal line, weakened it, and in this position it sagged more readily than in the normal oblique position under the weight of the body. As months and years passed, the trochanter continued to rise in relation to the head of the femur, there were shortening and limp, the nutrition of the limb suffered, and it became smaller relatively to the other leg. It was the future effects of the fracture which led him to suggest treatment with a view to breaking up the partial impaction and restoring the upward direction of the neck, which was the natural protection of the bone from injury. Dr. Whitman thought fracture of the

neck of the femur in childhood occurred more frequently than was supposed, because of failure to recognize the true nature of the injury.

Anomaly of the Femoral Artery.—Dr. Brewer showed an anatomical specimen lent him by Professor Huntington, of the College of Physicians and Surgeons, in which there was very great enlargement of the sciatic artery, taking the place of the femoral in that limb, the femoral in the other limb being present and of normal size. There were only about ten cases on record of a similar anomaly.

Operative Surgery at the City Hospital, with a Completed Report on the Study of Wound Infection.—Drs. George E. Brewer and Philip H. Hiss were the authors of the paper. Dr. Brewer was the reader. During the first period of Dr. Brewer's work at the City Hospital there was want of a modern operating-room, and this fact and faulty operative technique led to wound infection in practically every case. They set to work to correct this condition of things, and had gradually worked up to the point where they had two properly equipped operating-rooms and had adopted a technique which during the latter part of 1896 had given results which compared favorably with those of other hospitals. The present report contained a summary of 109 operations: 9 on the head, 11 on the trunk, 7 on the thorax, 8 on the abdomen, 20 on the ischio-rectal region, 8 inguinal, 20 on the upper extremity, 30 on the lower extremity. Of the 109 patients 87 were discharged cured; 9 died. Of the 9 deaths only 1 could be fairly attributed to the operation—an osteo-plastic operation upon the skull for epilepsy.

The paper described the technique, particularly the antiseptic and aseptic technique, carried out during the three or four periods into which the cases were separated. The improvement had been gradual, but finally to a great extent satisfactory, and the elaborate technique had been adopted on account of the unusual difficulties of securing non-suppurative healing in this particular hospital among this particular class of patients. Many of the patients were syphilitic, were in depressed general condition, and had led unclean lives. Dr. Hiss had made a bacteriological study of the operative technique and of the air and dust of the operating-room with a view to perfecting the results of treatment. Among the facts brought out was that while the operating-room was modern there was open communication with the wards, through which a draught set in from the wards toward the operating-room. A study of the dust from pans of a given area and some minutes' exposure in the air of the operating-room showed by culture test some germs and moulds. This had led Dr. Brewer to keep trays containing instruments and dressings under a small canopy stretched over a wire framework, one side flap hanging free to permit of ready access to the instruments. Bacteriologists had shown that it was impossible to render the hands of the surgeon or the skin of the patient entirely sterile. For this reason all assistants were required to wear rubber gloves which could be rendered sterile, so that the operator's hands alone came in contact with the wound. For sterilizing the operator's hands and the patient's skin they had adopted practically the Fürbringer method, which included much scrubbing and the use of alcohol and carbolic acid. Of the last forty-three cases ninety-one per cent. had run a perfectly aseptic course.

Dr. Hiss made some verbal remarks, in which he stated that the stopcock of the steam sterilizer should not be turned immediately if one would get the full effect of high temperature under pressure.

Dr. Dawbarn did not think there was much danger of contamination through the air. He liked the Fürbringer method of preparing the hands, because it did not hurt them. The patient's skin should be treated for twenty-four hours, a wet antiseptic cloth being left on during that time.

Dr. Wiggins, one of the surgeons of the City Hospital, said they were much handicapped by the fact that the staff rotated every six weeks. Dr. Brewer was to be congratulated on his good results.

Dr. Coley thought this second paper by Dr. Brewer showed that the question which arose during the discussion on his former one, whether the patient's condition had to do with the development of sepsis, must be answered in the negative. In his hernia operations he allowed no hand to touch the wound except his own, and he obtained primary aseptic union in ninety-six per cent. of the cases. This was in an amphitheatre where pus cases were constantly being operated upon by Dr. Gibney.

Dr. Gallant called attention to the fact that Lister in his recent address had given up all his former ideas regarding infection taking place through the air, and had come to believe that infection nearly always took place from the hands and dressings. Dr. Gallant allowed only one assistant to touch instruments. During his early training in hospitals he had observed the antiseptic technique of many surgeons; it had varied in the hands of each, and the one who had obtained the best results was he who gave particular attention to asepsis and scarcely any to antisepsis—using only green soap, alcohol, and water. Dr. Gallant looked upon the exudate of serum in the wound as an excellent pabulum for bacteria. By using a dressing which absorbed that and by keeping the edges of the wound together, sepsis was avoided and primary union resulted. The castor-oil dressing, to which he had referred at a recent meeting, fulfilled that purpose. He did not have stitch-hole abscesses, not even in septic cases in tenement-house surroundings.

Dr. George Woolsey referred to the investigations of certain German surgeons, which showed that in some cases in which there was absence of bacteria in a section of skin removed from the edge of the wound sepsis occurred, while in some others in which bacteria were found primary non-suppurative union occurred. This showed that the presence of bacteria in the skin did not signify that there would necessarily be sepsis or want of primary union. Staphylococci were found in some of the cases. Dr. Woolsey thought the stitches used in closing the skin should be superficial ones. During four months' service at Bellevue last winter he had had but one case of infection.

Dr. R. A. Sands thought that on analyzing the Fürbringer method scrubbing seemed to be its main characteristic. He had no doubt that the removal of germs was due largely to the mechanical act of scrubbing, and that bichloride and alcohol acted a very small part. Bichloride, 1–1,000 or 1–500, had little power of sterilizing the hands, as he had himself demonstrated. It hurt the hands. The permanganate and oxalic method required a number of dishes, ten minutes' time, and cut the hands; it was impractical. Lawson Tait relied mainly on mechanical means for cleansing, and Dr. Sands had not the slightest doubt that the basis of his success was scrubbing with sterilized water.

Dr. Howard Lilienthal said germs were in every open wound, still we should do all we could to secure asepsis. The surgeon must show mechanical ingenuity to close wounds if possible, but if space were left he should drain.

Cancer of the Breast.—Dr. Torek presented a cancer of the breast removed by the radical method from a woman who first noticed the tumor five years ago.

SECTION ON GENITO-URINARY SURGERY.

Stated Meeting, February 9, 1897.

RAMON GUITÉRAS, M.D., CHAIRMAN.

Fibroid Sclerosis of the Corpora Cavernosa.—DR. R. W. TAYLOR presented a patient illustrating this condition, and read a paper containing the histories of a number of others. He thought the term fibroid sclerosis was more appropriate than the older one of chronic circumscribed inflammation of the corpora cavernosa, for there were no evidences of inflammation connected with it. While it had long before been described by Peroni, Kirby, and others, the subject had not been in very presentable shape until Keyes read his paper in 1874. A great deal had been added since that time. After presenting one patient and giving brief histories of four others seen by him since May, 1896, an unusually large number in so short a time, the author described the condition as it usually presented itself clinically. The minute pathology of the condition had been little studied. The patient seldom consulted the surgeon until the condition had advanced to the point of deforming the penis on erection. The presence of the fibroid sclerosis or plate of fibroid tissue after a time interfered with uniform congestion of the organ, permitting of erection in one part, of partial flaccidity in another, and causing curving which interfered with or prevented coitus. The plaque, one or more, nearly always began at the median line, might involve one or both corpora cavernosa, very rarely the corpus spongiosum; exceptionally the morbid process extended downward into the trabeculæ; it might attain a length of two inches, but he had never seen the whole length of the organ involved; the feel was very dense, but usually somewhat elastic, not bony. The form was usually saddleback. He had seen only two or three cases in which the plate was unilateral, and in them the penis when erect had a lateral bend. There was no case on record in which the sclerosis had disappeared. As the patients were usually over forty-five years of age and the sexual powers were on the decline, they bore their inability with fortitude. It caused no pain. There was no particular treatment. The diagnosis was from syphilitic tumors and perhaps carcinoma. In gummata, of course, treatment promised more. The cause of fibroid sclerosis was unknown. Diabetes played no part in the author's experience. In several cases there was no venereal history, no history of trauma.

Was It Carcinoma?—DR. SAMUEL ALEXANDER related a case which was treated at Bellevue in 1894. He supposed it was one of fibroid sclerosis, since all the points in the case corresponded with the description given by Dr. Taylor and others. The tumor was on the dorsum of the penis, was movable, elastic but hard, of saddle shape, about three and a half by two and a half centimetres, with a thickness of one and a half centimetres. It caused the penis to bend up during erection. He told the man no harm was likely to result from removing it, although he could promise no benefit. He was anxious to get the specimen, and with the man's consent removed the tumor. It had been examined by three pathologists in Carnegie laboratory, all of whom were inclined to the opinion that it was carcinoma of the corpus cavernosum, although there were some evidences of epithelioma. As far as Dr. Alexander was informed, carcinoma of this part was very rare.

DRS. KLOTZ, LADOWSKI, GUITÉRAS, and others made some remarks or gave some experience with fibroid sclerosis of the corpora cavernosa. Dr. Goldenberg, of the University laboratory, was of opinion that the specimen under the microscope of supposed carcinoma of the corpora cavernosa presented by Dr. Alexander was not carcinoma nor epithelioma, but fibroid degeneration. He asked for a section that he might study it more carefully, and Dr. Taylor hoped a section would also be sent the laboratory of the College of Physicians and Surgeons, since the case was an important one and, as it stood, might be supposed to throw some doubt upon the clinical diagnosis of fibroid sclerosis of the corpora cavernosa as heretofore made.

Mycosis Fungoides.—DR. LADOWSKI presented a man illustrating the rare skin affection called mycosis fungoides. When presented, the numerous circular spots over the body were of chocolate color. In the successive several attacks they had commenced as itching; then there was a red eruption, followed by fever and weakness; the spots later coincided and changed to brown color. There was no history of malaria, syphilis, or kidney disease.

Kollmann's Urethral Dilator and Urethroscopic Tube.—DR. FERD. .C. VALENTINE, in presenting Kollmann's urethral dilator and also his urethroscopic tube, referred briefly to the development and perfection of instruments for dilatation and irrigation treatment of urethritis, and said that those who had followed this treatment appreciated the fact that humanity was indebted to Oberländer and more recently to Kollmann for its introduction.

DR. J. P. TUTTLE thought one instrument served the purpose for nearly every part of the urethra.

DR. GUITÉRAS thought the Oberländer dilator was the most ingenious dilator ever invented, and furnished the best method for dilating the urethra.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 25, 1896.

JOHN SLADE ELY, M.D., PRESIDENT.

Bacillus Aerogenes Capsulatus.—DR. JAMES EWING presented specimens from a fatal case of placenta prævia, occurring at the Sloane Maternity Hospital. Accouchement forcé had been done for a median placenta prævia, and immediately after the operation, and again two hours later, a considerable quantity of salt solution had been infused. The subject died four hours after delivery, apparently from acute anæmia and shock. The autopsy was made within fifteen hours after death. There were no signs of cadaveric decomposition, but the anæmia was extreme. There was an entire absence of rigor mortis. In the region of the uterus, on the right side, was a considerable extravasation of blood in the broad ligament, and the tissues in this region were very emphysematous. There was a smaller degree of emphysema on the left side. The spleen was enveloped in what appeared to be a loose membrane, but which proved later to be its capsule, which had been distended by the gas or air found in the region of the right broad ligament. The capsule was almost stripped off from the spleen. The surface of the liver showed a considerable number of small air vesicles. On section, there was distinct crepitation. The kidneys showed slight acute degeneration, and in a few places these same air vesicles or blebs. On opening the heart it was noted that no air escaped, and no lesions were found except just below the aortic valves, where the endocardium was slightly stripped from the myocardium by exceedingly minute air blebs. The vessels in the neighborhood of the uterus were slit up as far as the inferior vena cava. All of these vessels contained frothy blood. The vessels in the neighborhood of the site of the injection were free from air. The cause of death was undoubtedly the acute anæmia. The chief point of interest was the development of this quantity of gas in the

course of a very few hours. From the quantity of air present, it seemed as if air embolus could be fairly excluded, and that the condition was probably due to the bacillus aerogenes capsulatus. Dr. Norris had succeeded in isolating this bacillus, and growing it.

The speaker said that this subject was now exciting considerable attention. It had been admirably condensed in an article by Dr. Welch in the first number of the *Journal of Experimental Medicine*. Welch had first published the observations on this bacillus in the *Johns Hopkins Hospital Bulletin* for 1893, but Fraenkel, independently of Welch, had identified a similar bacillus as the cause of malignant œdema. Welch stated that the bacillus had been undoubtedly seen again and again before he discovered and isolated it, but he had found no record of such a discovery. In 1889 Dr. R. G. Freeman had presented to this society a case in which the bacteriological examination had been made by Dr. Prudden. The growth had been attempted on gelatin, but had proved negative. In sections of the liver which were distended with these air blebs he had found large masses of a bacillus corresponding with the description given by Welch. It was not known at that time that the bacillus was anaerobic. Not long after the publication of the articles of Welch and Fraenkel, it was shown that this germ could be found during life, as well as post mortem. Fraenkel, in 1893, isolated it from gaseous phlegmon, and about this time a case had been reported in which a patient died of acute septicæmia after an abortion, and all the tissues had been found extremely emphysematous. From this case a pure culture had been obtained of the bacillus aerogenes capsulatus. Welch had seen several cases of bullet wounds and railroad crushing injuries, in which in from sixteen to twenty-four hours after the injury the patient had been affected with the usual symptoms of septicæmia, but they were associated with the development of gas. These cases had usually proved fatal. He mentioned six cases of gaseous phlegmon, one of fibro-purulent peritonitis due to rupture of an ovarian cyst, two of peritonitis due to rupture of typhoid ulcers, and two of pneumo-peritonitis from typhoid fever, without rupture of the intestine, thus indicating that the bacillus could travel through the unbroken peritoneum. Another case, reported by Welch, followed a strangulated hernia; and another a hemorrhagic infarction of the intestine. It had been found in pleurisy when there was no possibility of infection from without, and it had been known to follow infarction of the lung, and to occur in one case after pneumonia. These cases showed that the bacillus in question had a very wide distribution, and might, therefore, complicate any ordinary case of septicæmia.

Dr. Charles Norris presented a number of culture tubes showing the growth of the bacillus aerogenes capsulatus, and also exhibited under the microscope a smear made from the liver. One of the cultures had been made on an agar plate in an atmosphere of hydrogen for three days. It exhibited the typical colony, with the branching processes from the borders.

The President said that these were the first cultures of this germ that had been made in this city. He asked if there were any association of this germ with the subcutaneous emphysema sometimes noticed —a condition often transitory. The condition was apparently not inflammatory. He recalled seeing in Bellevue Hospital such a case. In this case there was a sudden development in an individual of an emphysema, appearing first in the groin and abdomen, and then extending down nearly to the knee. After about twenty-four hours it disappeared, without having given the patient any special inconvenience.

Dr. Ewing replied that he had never seen such a case. The introduction of this bacillus into the human system was always marked by fever and other pronounced constitutional disturbances. He desired to emphasize the fact that the three cases observed at the laboratory of the College of Physicians and Surgeons had been in connection with parturition and operations on the uterus. In two of these there had been very severe hemorrhage. The growth of the germ is extremely rapid, for when the liver was removed it contained only a few vesicles, yet within one hour the air vesicles were large and very numerous. The medico-legal bearing of this subject should be mentioned. Welch had called attention to the importance of making a bacteriological examination to determine the presence or absence of this bacillus in cases of supposed air embolus. Air embolus had always stood as a diagnosis in medico-legal works, yet Welch thought it probable that many of these cases had been really infections with the bacillus aerogenes capsulatus.

Chondroma of the Finger.—Dr. J. S. Ely presented two tumors of the hand. The first one presented was a chondroma removed from the left little finger at the metacarpo-phalangeal articulation. The patient, a man twenty-three years of age, had noticed a small lump about ten years prior to the removal of the tumor, at the right metacarpo-phalangeal articulation. Similar tumors developed at all of the joints of the little finger and ring finger of the right hand, and at the left metacarpo-phalangeal joint on the left hand—in other words, the tumor presented was the last one to develop. These tumors were quite large, but were painless, and did not interfere with the movements of the fingers. He would consent only to the removal of the tumor on the left hand This tumor measured about three by two and one-half centimetres. The section presented showed the typical structure of a chondroma. This structure was interesting, as illustrating the extreme lawlessness of tumor growths in general

Recurrent Giant-Cell Sarcoma of the Hand.— Dr. Ely then exhibited a recurrent giant-cell sarcoma of the hand. He said that on January 1, 1896, Dr. Dawbarn had brought to him a tumor for examination, which had been removed from a man of twenty-five years. The specimen was the fourth finger of the left hand, the third and fourth metacarpal bones and surrounding tissues, and a small tumor situated at the end of the third metacarpal bone in the tissues between it and the base of the fourth finger. The tumor was spheroidal, and measured three by three by two centimetres. It was quite freely movable and rather hard. No attachment to adjacent metacarpal bones could be made out. On section it was fleshy in appearance, lobulated, and rather sharply circumscribed. This tumor was a recurrent growth, the third finger having been removed about six months before. Microscopical examination of the recurrent tumor showed it to consist for the most part of spindle cells, closely packed together and lying in the meshes of a fine reticulum of fibres, scattered through which were many giant cells of variable size and shape. There was no sign of degenerative change in any part of the tumor. The first tumor removed was a finger greatly enlarged and almost destroyed at its base. From a study of this last specimen he thought there was but little doubt that the giant-cell sarcoma originated in the proximal phalanx of the finger, and probably from its periosteum. A rather interesting feature in this case was that there was absolutely no involvement of the skin. The tumor had grown from the remnant left at the first operation. The healing of the wound was perfect, and there was no subsequent breaking down of the cicatrix, as was so often the case with recurrent sarcomata. Ziegler considered the hand the most frequent site of chondromata in general. An examination of

the recurrent tumor seemed to indicate that there was no liability of its recurrence again unless there had been a metastasis prior to this last operation. He did not consider such a tumor very malignant.

Dr. Ewing recalled a tumor of similar appearance in a similar situation. It had been removed in a not very radical manner, and there had been a recurrence in a short time. Just before a second operation had been contemplated, the tumor had begun to disappear, and had ultimately been entirely absorbed. There had been no further recurrence. He would like to ask Dr. Ely if he considered these giant cells to be derived from the osteoclasts.

Dr. Ely replied in the affirmative. He said that if a tumor were not sharply circumscribed, one was justified in attributing to it a more malignant character than to a distinctly encapsulated tumor like the one just presented. Even in the worst cases, giant-cell sarcoma was not so malignant as a melano-sarcoma. He thought that giant-cell sarcomata were quite frequently encapsulated. These tumors usually destroyed bone very rapidly, yet he did not recall ever having seen a distinct metastasis from a giant-cell sarcoma.

The society then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PROPOSED HOSPITAL BOARD—GODSON ON ANTISEPTIC MIDWIFERY—ACTION FOR ALLEGED NEGLIGENCE—SORE THROAT OR DIPHTHERIA?—LORD LISTER AT BELFAST.

London, January 29, 1897.

The proposal to establish a central hospital board for London was discussed at a meeting summoned for the purpose on Monday last by the Charity Organization Society or rather by its council. Medical men were invited by post cards, and a large number attended, as several leaders were announced to speak on the occasion. There seems little doubt that a considerable number of people is impressed with the idea that some centralization is desirable for the purpose of preventing hospital abuses. But then the different institutions have diverse interests, and, though overlapping might be prevented, it is not easy to see how responsible managers are to be superseded or restrained. The Charity Organization Society is certainly not the body to which many would willingly submit. Indeed I doubt if it has done any good hitherto. Its *raison d'être* seems to be to provide a comfortable post for its one chief official, and to cultivate the art of interfering with other people's affairs. Certainly it makes inquiries at times and reports to subscribers on individual applications for help. But this plan of charity by deputy is not likely to commend itself to the really charitable. To return to the meeting. It was presided over by Lord Stamford, who pointed out that the hospitals were founded for the benefit of the suffering poor, though other interests have arisen in connection with them, and that there exists a general feeling that the present state of things is not just what ought to be.

Sir William Broadbent moved a resolution in favor of a central board on a representative basis, and appointing a general committee of about one hundred and fifty members with power to add to its number and appoint an executive committee. He said nothing in the meeting was hostile to hospitals and spoke very moderately about acknowledged abuses. He did not deny the good work of the special hospitals which were started, because the larger institutions were too slow in recognizing the necessity of departments which had since been established. This is no doubt true, but by no means the whole truth, and if the scheme for a central board is carried out the smaller hospitals are almost sure to suffer. Even the Sunday fund has caused the greatest dissatisfaction in this respect by its partiality, and there has often been talk of a revolt against its iron-bound rules. But the Sunday fund has no control beyond deciding what charities it will assist and to what extent. The proposal of the Charity Organization Society is more extensive, and might only result in giving its officials better position and better pay. Sir William referred to the rumor that the Prince of Wales might lead the celebration of the Queen's reign by an effort to benefit hospitals. In that case there would be a central board *ad hoc*, and if it gave general satisfaction it might be the commencement of a permanent organization with all the influence of royalty to back it up. Certainly that would be a thousand times better than a committee formed by the self-elected Charity Organization Society. The resolution was seconded by Mr. V. Horsley and two amendments were proposed. These, however, were negatived and the original resolution was carried by a large majority.

Dr. Clement Godson has been fortunate in the choice of a subject for his valedictory address to the Gynecological Society, if one may judge from the full reports and comments he has secured in the several journals. Quoting a recent utterance of Dr. Bantock, a past president of the society, Dr. Godson proceeded to state the experience of the City Lying-in Hospital before and after the antiseptic era. This hospital is one hundred and twenty-four years old, and it was quite a common occurrence for it to be closed on account of puerperal fever, while many thousands of pounds have been sacrificed in structural alterations, sanitary remodelling, demolitions, and rebuildings carried out under the superintendence of the best scientific advice. All efforts had, however, failed to bring about more than temporary reduction of the mortality prior to the introduction of antiseptics. Since then puerperal fever has become, in the words of Dr. Cullingworth, a preventable disease. Dr. Godson has given long service to the hospital, and could therefore speak from painful experience succeeded by a happier time. In 1870 drainage and other renovation reduced for a time the frightful mortality of 1 in 19. In 1877 it was necessary to close the hospital again and £4,500 was spent. After sixteen months' closure the mortality was reduced to 1 in the first 278 cases admitted, but by 1880 the old figure of 1 in 19 had again been reached. Closure followed and a further outlay of £1,000. The same process was repeated again and again with similar results. In 1886 the use of corrosive sublimate was begun, and from July of that year to September, 1887, 480 women were delivered in the hospital without a single death. During the last ten and a half years out of 4,608 deliveries there were only 11 deaths—a mortality of 1 in 419. In the five years from January 1, 1892, to December 31, 1896, there were 2,892 deliveries with 3 deaths, and these 3 not due to septic infection but 2 to eclampsia and the other to embolism. These statistics only confirm those of Dr. Boxall, Dr. Cullingworth, and Sir J. Williams. Dr. Godson was able to state that in not a single instance had there been the slightest symptom of mercurial poisoning, so that fear may be dismissed as far as midwifery is concerned; at any rate when sublimate is used in the way described, viz., in a vaginal douche of 1 in 2,000 at a temperature of 115 F. immediately after the delivery of the placenta, and three similar douches subsequently at morning and evening. Afterward iodine is substituted. This is very different from strong intra-uterine douches and could easily be car-

ried out in general practice. Dr. Godson requires one-half gallon of a solution of 1 in 1.000 to be at the house, labelled "To be used with an equal part of hot water as a lotion," and this plan could always be adopted.

An important action for alleged negligence has been brought against Dr. Edwards, of Bangor, by a solicitor whose child died. The death was duly certified as from malignant sore throat, but the solicitor alleged that the diagnosis was wrong and that his child had diphtheria. Mr. Lennox Brown went down to support this contention. He had not seen the patient, but from what he heard was quite satisfied the child had malignant diphtheria. Dr. Edwards and Dr. Farley, who attended the child, both gave evidence that it was not diphtheria, and they were supported by Dr. Lloyd Roberts, consulting physician of the Manchester Infirmary and Dr. Ashby, physician to the same and lecturer on children's diseases at Owens College. The judge said there was no evidence that the defendant had not used reasonable care, and gave judgment for him with costs.

Lord Lister took a trip to Belfast last week to help Queen's College, on the occasion of the opening of the new buildings devoted to physiology and pathology. He could well speak in praise of these studies, and he expressed a hope one day to see a Pasteur institute in connection with the college. With this and the new hospital which will be completed in a few months Belfast will indeed be to the front. Lord Lister, according to the newspapers, said he hoped that the time will shortly come when Belfast will have its own university, a true teaching and graduating university on the lines of the Scottish and continental universities. He rejoiced to be present at the celebration of the jubilee of the college and had thoroughly enjoyed the proceedings.

LOW FEES AND DISPENSARY PRACTICES IN ENGLAND.

To the Editor of the Medical Record.

Sir: A hot discussion has once again arisen in England over the question of medical fees, and, in relation to fees, what are known as dispensary or cash practices. The *Daily Telegraph* has opened its pages to the ventilation of the matter, and harrowing tales are being told of the privations to which unfortunate medical practitioners are subjected in order to gain a living, together with the loss of professional dignity and self-respect, and of the state of almost degradation to which many of them are reduced in their struggle for existence. The writer can speak with experience as to the manner in which dispensary practices are worked. For a period of about a year he was in charge of one of the largest in the East End of London. There can be no doubt that the dispensary practice system in England, as it is now carried on, is a grave scandal to the medical profession, but it is difficult to conceive what the remedy for this state of affairs should be. The East End of London is the original home of the dispensary practice. It has certainly spread to the suburbs and taken root in all the large towns of the United Kingdom, but it is to the East End that one must go to view it in its highest or rather lowest state of development. When it is considered that the population of this district of London numbers something like two millions of poor people of varying degrees of poverty, it will be easily understood what a fruitful field there must be for this description of practice. It is here that the bad effects of the sharp competition among doctors is most fully shown and under its most unpleasant phases. In order to gain patients, charges are cut down to the lowest extent possible and advertising dodges of all kinds are resorted to. The outside of the office or doctor's shop, as it is termed in the East End, is made as attractive as can be. The charges for attendance are blazoned on the windows, which are large and similar to those of a druggist's store, and usually painted in some glaring color. In many instances the sum of but eight cents is charged for medicine and advice, and for a visit the charge is seldom more than twenty-five cents. Midwifery cases are treated at from three and a half dollars to five dollars. Tooth extracting, twelve cents; vaccination, twelve cents. In connection with these practices it may be mentioned that a member of Parliament, Dr. Ambrose, runs one in the Whitechapel Road. A scandal which at one time was very prevalent in the East End was the system of what is termed "covering." By covering is meant that an unqualified person occupies a house on which figures the name of a qualified man, who probably lives at a considerable distance from this house. Deaths may happen and certificates are given in the name of this surgeon, although the cases have been seen only by the unqualified man who represents himself as a doctor. This form of procedure is dying out, owing to the fact that the laws regulating the granting of death certificates are now very stringent, and partly also because there are plenty of qualified men willing and eager to take these assistantships. From the foregoing account it may occur to readers that the class of medical men in the East End of London must be of a low standard, but, whatever may have been the case in times past, it is by no means so at the present time. The men who practise there are (with but comparatively few exceptions) well qualified, better probably than the ordinary run of country practitioners. They are simply forced into this style of work in order to live, and perhaps with the hope of making enough money to be enabled to get away and set up a practice in a more desirable locality. In truth, with regard to the medical profession in England it has come to this pass, that if, when a man has qualified, he has not sufficient capital to buy a practice or exist until patients come, he must either take a wretchedly paid assistancy or start a dispensary practice in the slums. Strange to relate, fortunes are made sometimes, and quickly too, in the East End; for instance, at the branch over which the writer presided. The average weekly takings were more than one hundred and fifty dollars. Drugs are the chief item of expense, and it may be taken for granted that cheap ones are mostly used. One advantage that these cash practices have over the ordinary practice is that no credit is given. Nevertheless, when all is taken into account, the doctors who make a fortune in them are few, while the majority struggle on, leading a miserable from-hand-to-mouth existence. The reason for this unhappy condition of things is of course largely due to the acute competition caused by the supply of medical men being much greater than the demand, and at present there seems to be no reasonable hope that this oversupply will be checked to any appreciable extent. The lengthening of the medical course in Great Britain to five years and the greater severity of the examinations may serve as a slight remedy, but after all it will only be a slight one. When it is granted that the evil is largely due to competition, it must also be allowed that the *raison d'être* of the dispensary practice was the establishing of provident or self-supporting dispensaries, practitioners in the poor neighborhoods where these were introduced were compelled in self-defence so to reduce their fees as to be able to compete with them on equal terms. The question of provident dispensaries has been already pretty well threshed out, the members of the higher branches of the profession being in their

favor and the general practitioners against them. There are many arguments both for and against, and it is very difficult to arrive at a just conclusion on the matter. However, this much may be said, that while these dispensaries may have benefited the poor, they have certainly been instrumental in reducing medical fees. In the same way that co-operative stores have compelled retail tradesmen to lower their prices, so these cheap dispensaries for paying patients have reduced medical fees, and, if they continue to be conducted in the way in which they are being conducted now, must in the long run reduce these fees to a minimum. It has been truly said that everything of which the community stands in continual need has a market value except medical service, and the fault of this lies with the doctor himself. There is one point to be particularly noted, and that is that it has not been the leading men who have suffered; they can take care of themselves, but it has been the rank and file of the profession. In many districts it has led, and sooner or later it will lead, to an irremediable reduction of the already low scale of medical fees over the whole of Great Britain. If the medical profession in England had possessed the moral courage to speak out boldly on the subject of medical fees, and protested against this cheapening of its services, something might have been done. Now it is to be feared that the time for protesting has gone by. The medical men of America may esteem themselves fortunate that as yet the dispensary practice has not been introduced. If they are wise they will take warning by the misfortunes of England and take every precaution against such a system gaining a hold. It should also be remembered that the introduction of self-supporting dispensaries was the thin end of the wedge. If provident dispensaries had not been popularized, there would have been no need for doctors to advertise in their windows advice and medicine for eight cents.

London February 1, 1897.

THE INHERITANCE OF MUTILATIONS, AND OTHER INHERITANCES.

To the Editor of the Medical Record

Sir: Since the publication of Dr. Lockwood's experiments in breeding tailless mice, it rather seems accepted as true by the profession that a mutilation has but to be inflicted on an indefinite number of successive generations to insure its heredity. While this is indisputably proven regarding mice, yet facts within the observation of all cause one to doubt whether the same is true with other animals. The dehorning of cattle has been practised for quite a time, yet I have known no hornless offspring of decornutated ancestry. My own family has occupied the same lands for nearly a century—four generations. Each in succession has marked hogs with the same mutilation of the ears. Yet none has seen a single pig born with mutilated aural appendages. And it is conceded that our stock hogs are of the same general ancestry on one side, improvement being sought by changing the sire, which also invariably suffered the same mutilation. The custom of cutting off the tails of young lambs is as old as the settlement of this State, was brought hence from Virginia, where it obtained since her colonization, coming thence from England, extending I do not know how far back, at least to the era of Little Bo-Peep. I have made careful inquiry of both breeders and buyers of sheep, and have learned of but two instances of lambs born without tails. Since I have myself observed more than a like number of tailless calves at birth, I fairly reason that these were freaks of nature rather than instances of the heredity of mutilation. These examples afford fair grounds for belief that the mouse is less tenacious of racial characteristics than any other of the lower animals affording means of observation regarding the transmission of mutilations, if indeed they do not absolutely show that the inheritance of mutilations is a legacy peculiar to the mouse among all the lower animals. That there is no such inheritance in the human race, we have a proof as indisputable as can be imagined. The Jews are probably of all races the least miscegenated. They have practised circumcision since the time of Abraham. Yet by "tale or history" we know of no offspring of that race denied the said rite by reason of congenital absence of the foreskin. While the inheritance of mutilations seems exceptional, and even disproven regarding many animals from fairly extensive observation and experiment, the transmission of mental impress is much more susceptible of proof. Mr. Railey, a noted horseman of this county, had a mare and a stallion both well trained in the "high school" and "park" gaits. Their sires probably had received the same education; I know nothing as to their dams. I have seen a colt of these two go "high school" in the pasture, of his own free will and inclination, before he ever knew bit or rein. The sire in question became the property of Mrs. Joe Emmet, and is, I think, to be seen in your city to-day. Another instance of this kind of heredity has been seen by all. What is known as the "pointing" or "sitting instinct" in dogs is but the development through heredity of that ecstatic pause that the presence of quarry excites in beasts of prey. It is to be observed to a slight extent in all members of both the dog and cat family. The pause or "crouch" of the lion or tiger before springing is not so much for pose of limb for that purpose as it is the transient hypnosis from imminence of prey. This hypnosis of sight or ecstatic expectancy, developed by education and fixed by heredity, is surely the most reasonable explanation of the distinguishing characteristic of our bird dogs. It has had no development in the cat for sufficient reasons. She is the most uncivilized of all domestic animals. What she originally was and what she is now are one and the same, except as influenced by environment. The cat is unsusceptible of education. Such things as further her physical needs she takes advantage of, not from the influence of man, but merely as she would have done had she found the same conditions in nature. As I have seen elsewhere mentioned, she will rub her back against a man's legs as formerly against a tree, prefers the shelter of a fireside to that of the forest, food freely bestowed to the chances of the chase; but in native instincts she is in no wise changed or developed from her aboriginal state, and even in color constantly tends to the mottling of the mingled lights and shadows that proved her protection in the pristine forests.

S. M. Worthington, M.D.

Versailles Ky.

UPON "APPENDICITIS" AND OTHER MEDICAL BARBARISMS.

To the Editor of the Medical Record.

Sir: As all of us should do, the writer heartily approves of efforts toward a purer nomenclature. The class of men which prefers—to name a few examples—the term cœliotomy to laparotomy, colpitis to vaginitis, proctitis to rectitis, amygdalitis to tonsillitis, will not willingly continue using the word appendicitis. Nevertheless, I fear this hybrid term has become enough of a fixture to be with difficulty dislodged.

Dr. Gerster's recent letter in the Medical Record upon this subject has therefore a motive with which I am in sympathy: and as I studied surgery for years under him I hesitate to differ from a gentleman for

whom I entertain so great a respect. However, his proposition, which is that we use the words scolex and scolecitis, scolecectomy, etc., seems to me rather a waste of inventive energy, because there is already a term of pure Greek derivation covering this field, and one that is already occasionally used by purists in medical terminology.

I allude to ecphyas, meaning an offshoot (of the bowel, here), hence ecphyaditis, ecphyadectomy, etc.

The word ecphyas I have found in a very old medical dictionary in my possession, and also in the very recent ones, Foster's, for instance. The word is said to have been Galen's term for the appendix. It is fairly euphonic, I think more so than that suggested by Dr. Gerster, though possibly this may be a matter of taste; and since it is already of such established antiquity and authority, one need hardly go afield in search of another.

In order to accomplish anything, concerted action is necessary. If the members of the New York Surgical Society would agree to drop the word appendicitis and in their discussions substitute ecphyaditis (or scolecitis), that would go far toward popularizing the proper term with the profession.

Just such work is being at this time accomplished by the Association of American Anatomists, particularly in brain nomenclature.[1] Many of the more absurd terms have been dropped by them, and more correct ones unanimously substituted. As a result, the rising generation of students at all our colleges will learn, especially in neuronymy, a brain which differs so greatly in its terms from that of our day that unless we who learned our anatomy many years ago keep "brushed up" we shall not know what in the world the boys are talking about. Nevertheless, these changes in the so-called "fixed" science of anatomy are all in the right direction, and should have been made long ago. And there are many terms, too, in surgical use which might with equal propriety be overhauled in some such authoritative way.

A trifling contribution of this nature I made at a recent meeting of the New York Surgical Society, namely, in reference to the term hallux valgus, which disease was the subject of the paper of the evening. There is no such Latin substantive as *hallux* (though it is given in the medical dictionaries) but there is a *hallex*, one meaning of which is the pollex pedis, or great toe.

This little mistake in Latinity has been copied from one text-book to another continually. When first the writer noted it, some ten years ago, the point was referred to Prof. Harry T. Peck, professor of Latin in Columbia University, and he stated that hallex is the proper term. Accordingly Dr. F. J. Brockway's "Anatomy," issuing shortly after, printed it correctly; but no other has it so. The long extensor muscle of the hallex should hence be extensor proprius hallicis (not hallucis).

Of course this is a trifling point—which is why I put it at the very bottom of this letter; but we may as well be accurate.

ROBERT H. M. DAWBARN, M.D.
105 WEST SEVENTY-FOURTH STREET, NEW YORK,
February 2, 1897.

EMESIS AND INTUBATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In reply to Dr. Hubbard's letter in the MEDICAL RECORD of February 7th, on emesis and intubation, I can say positively that vomiting while a tube is in the larynx—that is, with an open glottis—is not at all uncommon, notwithstanding the teaching of physiology to the contrary. Whether this act is more difficult or not under these circumstances, I am not prepared to say, as I am free to confess that my attention had never been specially called to this subject before. It is true, as Dr. Hubbard states, that the most powerful emetics fail to act when dyspnœa is extreme, which failure he attributes to the inability to suspend respiration by closing the glottis, even for a moment. The more probable explanation of this phenomenon is the inhibitive action of carbonic-acid poisoning on the gastric portion of the vagus centre, because emetics administered without effect during the suffocative stage of croup often act vigorously when free respiration is restored by intubation and in spite of an open glottis. This was a more common experience in the pre-antitoxin days, when emetics were generally given before calling an intubationist.

The foregoing is not the only instance in which clinical facts prove physiological teaching to be in error. Foster, in describing the mechanics of respiration, says: "It need hardly be added that when the pleura is punctured and air can gain free admission from the exterior in the pleural chamber, . . . the effect of the respiratory movements is simply to drive air in and out of that chamber, instead of in and out of the lung. There is, in consequence, no renewal of the air within the lungs under these circumstances." If this teaching were true, no case of empyema with a free opening into the pleural cavity could terminate in recovery, when it is a notorious fact that these patients rarely recover without opening and drainage, and as rarely die if a free opening is made in time and maintained. Air gets into the lung on the affected side and expands it to its full capacity, in spite of an opening in the pleural cavity, however free and unobstructed.

J. O'DWYER, M.D.

CAUSE OF UNTOWARD EFFECTS ASCRIBED TO *X*-RAYS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It has been my fortune to observe certain cases of dermatitis, loss of hair, etc., in patients who have been exposed to the action of *x*-rays. Numerous other instances of burning, depilation, and bleaching have been reported by different observers. These annoying and unlooked-for accidents tend to lessen the frequency of resort to a method of investigation which I believe to be too valuable to be thus limited. Let me, therefore, call attention to what Mr. Tesla has said in a recent number of the *Electrical Review*. He believes the evil effects are not due to the *x*-ray itself, but to the incidental formation of ozone. Since the appearance of the contribution to the *Review*, he has kindly expressed himself further on the subject to the writer. He says in a recent letter: "Since I made those statements (in the *Electrical Review*) I have gained additional evidence that the *x*-rays themselves are incapable of producing the actions reported, and that they are due to ozone and possibly nitrous acid. I wish to add that also heat may be to a certain extent responsible." He goes on to state that the effects always follow long exposures at short range, and he believes that the long-continued heat may cause desiccation of the skin, with subsequent dermatitis. As to avoiding the chemical effects, Mr. Tesla goes on to say: "I have suggested a remedy, consisting in static screening of the person in any way. The most perfect way is to make a conducting enclosure of wire or thin sheets, and connect the latter to the ground. The person should then be in that chamber, and the bulb outside of it." He goes on to say that in his experience this method will guard against ill effects. Aluminium, which is transparent

[1] See the Journal of Comparative Neurology, for example; vol. vi., No. 2, pp. 131–132.

to *x*-rays but which will not allow chemical substances to pass, might be used to make the screen.

Mr. Tesla attributes most of the reported accidents to the use of insufficient instruments, necessitating too close and too long exposures.

The writer, in confirmation of Mr. Tesla, desires to call attention to the occasional occurrence of bleaching, which is a characteristic effect of ozone.

HOWARD LILIENTHAL, M.D.

NEW YORK, February 7, 1897.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 13, 1897:

	Cases.	Deaths.
Tuberculosis	153	122
Typhoid fever	15	3
Scarlet fever	160	17
Cerebro-spinal meningitis	3	5
Measles	174	9
Diphtheria	219	38
Laryngeal diphtheria (croup)	15	7
Chicken-pox	22	0

Congenital Teeth.—Dr. J. W. Ballantyne gives an acccount of several cases which have come under his observation, also of his researches in regard to this anomaly. His conclusions are as follows: 1. Congenital teeth form a rare anomaly, but one which has long been known both to the profession and to the public. 2. Their presence has often an ill effect upon lactation, partly on account of the imperfect closure of the infant's mouth, and partly by the wounding of the mother's nipple; sublingual ulceration may also be a result, and infantile diarrhœa and atrophy are more distant consequences. Sometimes, however, symptoms are altogether absent. 3. Congenital teeth have probably little or no prognostic significance as regards the bodily or mental vigor of the infant carrying them. 4. The teeth usually met with are lower incisors, but sometimes upper incisors may be seen, and very rarely molars of either the upper or lower jaw. Other facial or buccal malformations may occasionally be met with. 5. They are caused by the premature occurrence of the processes which normally lead to the cutting of the milk teeth; in a few cases it would seem that the anomaly is due to a true ectopia of the dental follicle and its contained tooth. 6. In a few instances a hereditary history has been established. 7. As congenital teeth are usually incomplete and ill-developed, and likely to be more an inconvenience than an advantage to the infant, they are best removed soon after birth, an operation which can be easily and, except in very rare instances, safely performed. 8. The occurrence of premature teeth in certain well-known historical personages is an interesting fact, the importance of which has been much exaggerated.—*Edinburgh Medical Journal.*

Would Asexualization of Chronic Criminals, Sexual Perverts, and Hereditary Defectives Benefit Society and Elevate the Human Race?—Dr. Stuver (*Texas Medical Journal*, November, 1896) concludes his interesting paper as follows: "1st. By removing or modifying their exciting causes and favoring circumstances it (asexualization) would greatly limit the dissemination of disease, vice, and crime. 2d. It would furnish a humane and rational punishment for a large and continually increasing number of criminals, and satisfy the demands of justice. 3d. Owing to the innate repugnance toward this condition, it would be a powerful deterrent, and thereby limit the prevalence of crime and protect society against the criminal. 4th. By removing the procreative capacity of defectives and criminals, it would do more to diminish their numbers and protect society against their ravages, while at the same time raising the physical, intellectual, and moral standard of the race than all other punishments combined. 5th. It would be the humane and rational method of treating these classes, because it would protect them against harsh and brutal punishments, and by removing the cause of their obliquities transform many of them into useful and productive citizens."

Pigeons and the Plague.—It is said that the pigeons in Bombay are dying just as the rats did in the epidemic of Hong-Kong.

An Instance of Extraordinary Hereditary Prolificness.—Valenta (*Wiener medizinische Wochenschrift*, January 16, 1897, p. 103) cites an apparently authenticated case of a linen weaver's wife, forty years old, and married twenty years, who bore in eleven pregnancies thirty-two children, as follows: In the first labor, quadruplets; in the second labor, triplets; in the third labor, quadruplets; in the fourth labor, twins; in the fifth labor, triplets; in the sixth labor, twins (stillborn); in the seventh labor, triplets; in the eighth labor, triplets; in the ninth labor, twins; in the tenth labor, triplets; and in the eleventh labor triplets (two stillborn). Twenty-six of the infants were males, and six females. The father was one of twins, and the mother one of quadruplets, of a mother who had borne thirty-eight children. The woman had been epileptic from her fifteenth year, the attacks recurring unchanged during successive pregnancies. The woman was in the third month of her twelfth pregnancy when this report was made.

An Unusual Collection of Foreign Bodies in the Stomach; Removal by Gastrotomy. — Fricker (*Deutsche medicinische Wochenschrift*, January 21, 1897, p. 56) has reported the case of a woman, thirty-two years old, who, during an attack of mental aberration, swallowed a number of articles, such as spoons, forks, crochet needles, hairpins, keys, etc., some of which had been passed by the bowel, and it was thought that a number had been retained. The patient asked that she be operated upon to secure relief from her suffering. She had also lost a good deal in weight. For a period of two weeks a sensitive tumor had become apparent upon the left side of the abdomen. Its surface was smooth and its consistency firm, except at the summit, where it appeared to be softer and to yield fluctuation. When the abdomen was opened by an incision over the swelling, an abscess cavity was found, having for its posterior boundary the anterior wall of the stomach. Investigation showed that this cavity had resulted from the perforation of the stomach by a crochet needle. The stomach was next opened in an uninvolved portion, and from its cavity were evacuated the following articles: a key, two teaspoons, a fork, two pieces of wire, two hairpins, twelve pieces of glass, a window hook, a steel pen, nine sewing-needles, a piece of graphite, a shoe button, a grape seed, two beads, and the crochet needle already noted. The interior of the stomach was carefully irrigated with sterile salt solution, and the wound in its wall closed by a double row of sutures. The abdominal wound was packed with gauze, and, in the absence of complications, was closed after several days. For five days the patient was sustained by nutrient enemata; afterward the administration of food by the mouth was begun. Recovery was perfect, and the woman gained considerably in weight after the operation.

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Original Articles.

CONSTIPATION AND DIARRHŒA AS SEQUELÆ OF SOME GASTRIC AFFECTIONS.[1]

BY MAX EINHORN, M.D.,

NEW YORK.

THE digestive tract of man consists, as is well known, of a continuous tubular system, into which the stomach is inserted, forming a large sacculation. If, therefore, disturbances of the stomach and of the intestines are found associated, it will not astonish any one. In fact, certain processes often take place in the intestine as well as in the stomach. Thus, for instance, acute gastritis is frequently associated with inflammatory processes of the superior part of the small intestine. Likewise, atonic conditions of the stomach and the intestines are often met with together. Occasionally, however, the features of disease in the stomach and intestine are not of the same nature, although they are, nevertheless, dependent upon each other; or, in other words, the condition of one organ is the consequence of the disturbed function of the other.

Constipation and diarrhœa are the evident symptoms of the disturbed function of the inferior part of the intestine. Both conditions may appear primarily due to affections of the small or large intestine. Sometimes they may be associated with diseases of the stomach. Occasionally, however, they may be met with as sequelæ of chronic affections of the stomach, the large and small intestine, in reality, showing no lesion whatever. The latter conditions appear to be of great interest, first, because they have as yet not been sufficiently studied; secondly, on account of their great practical value. For this reason, permit me to discuss this subject before you.

That an abnormal condition of the chemical function of the stomach may be the cause of a faulty state of intestinal peristalsis is quite easily comprehensible; for the normal peristalsis of the gut depends, as is well known, upon certain chemical and mechanical stimuli which the chyme produces upon the ganglionic cells and nerve plexuses in the intestinal wall (the ganglions of Meissner and Auerbach). The abnormal chemism of the stomach produces new and heterogeneous qualities of the chyme, be it chemically or physically. If there be, for instance, a superabundance of gastric juice and the latter be too strong (hyperchlorhydria), then the chyme reaching the small intestine is too acid, poor in undigested albumin, and richer in unchanged starchy products. If, on the other hand, we have to deal with achylia gastrica, the albuminates, as is well known, do not undergo any changes whatever in the stomach, while free starch is converted into maltose too quickly; most of the starch being encased in an albuminous membrane, it cannot be changed before the latter has been opened. Thus the food particles leave the stomach in quite an unchanged condition and reach the small intestine in a coarse form. In this manner, there is here mechanically too great and chemically too small a stimulus.

Although these abnormal conditions are mostly corrected by the regulating mechanism which is always at the disposal of our organism—thus, in hyperchlorhydria the intestinal and pancreatic juices are probably richer in alkalies, caused by the secretion of a great amount of acid radicals within the stomach, the blood thereby becoming for a while more alkalescent, and are thus enabled to neutralize the acids of this chyme and also to change the starchy products into maltose; in achylia gastrica, on the other hand, there appears a greater activity of the small intestine, the food thereby being here more thoroughly digested—notwithstanding this, it is easily conceivable that we shall meet in these conditions abnormalities of the intestinal peristalsis more often than elsewhere, on account of the small intestine working under difficulties. Whenever the conditions are not favorable, abnormal symptoms appear.

In fact, constipation as well as diarrhœa is met with accompanying gastric affections, frequently being a mere sequela of the disturbed and altered digestion of the stomach, without any real lesion of the bowel.

When does constipation and when does diarrhœa occur?

Although there are no strict rules with regard to this point, the following statement may, however, be made: Conditions of hyperchlorhydria are often accompanied by constipation and only seldom by diarrhœa; while achylia gastrica and also severe protracted cases of chronic gastric catarrh are more frequently associated with diarrhœa.

In my paper, "A Further Report on Achylia Gastrica,"[1] I have described several cases of this affection, in which the diarrhœa was the most prominent symptom—in fact, in some instances, the only complaint of the patient. In my book, "Diseases of the Stomach,"[2] I have divided the cases of achylia gastrica in the three following groups:

"1. Patients without any subjective symptoms whatever and enjoying perfect euphoria.

"2. Patients presenting a variety of gastric symptoms associated with mild intestinal disturbances.

"3. Patients without any apparent gastric symptoms, but with severe and obstinate intestinal disturbances."

With reference to the last group, I may be permitted to give the following quotation from my book:[3]

"The third group, without gastric symptoms but with intestinal disturbances, forms, according to my experience, at least one-fifth of all the cases of achylia gastrica. In this group there may be either no gastric disturbances whatever or very slight ones (as, for instance, occasionally slight pressure in the gastric region—or belching). The appetite is either normal or somewhat increased. The principal symptom in most of these cases is obstinate diarrhœa, or diarrhœa alternating with periods of constipation. Some of these

[1] Read before the German Medical Society of New York, February 1, 1897.

[1] Max Einhorn: "A Further Report on Achylia Gastrica," MEDICAL RECORD, July 6, 1895.

[2] Max Einhorn: "Diseases of the Stomach," 1896, p. 325 (Wm. Wood & Co., New York).

[3] *Ibid.*, pp. 328 and 329.

cases present symptoms similar to those met with in diabetes: constant thirst, frequent micturition, extreme weakness, great loss of flesh: in some, however, these symptoms are less marked, or there may exist merely a feeling of weakness and lack of energy."

Oppler[1] has also recently made observations on the occurrence of these cases of diarrhœa, and pointed out the importance of a chemical examination of the stomach in affections of the intestines. This author[2] has also described the association of constipation with the condition of hyperchlorhydria, and has thoroughly discussed this subject.

As I have already remarked, I will speak this evening only of those cases of constipation and diarrhœa which must be considered as resulting conditions of a digestive disturbance of the stomach, without any real lesion of the intestines. The question presents itself: What means have we of excluding a true lesion of the intestine?

Practically, we may answer this question as follows: That when chronic constipation or diarrhœa exists, together with a disturbed chemical action of the stomach, and by a rational treatment of this organ the intestinal symptoms disappear, then can the latter be said to be conditional upon the faulty digestion of the stomach. Were the disease processes existing independently in the intestines, they could not be so quickly improved simply by correcting the functions of the stomach.

Taking this as a guide, I shall describe a few cases, which will clearly demonstrate these relations between the stomach and intestines.

Case of Hyperchlorhydria with Constipation.—Henry O——, aged eighteen years, for the last two years has suffered with tolerably severe pain in the stomach, which usually appeared about two hours after eating; there have been frequent attacks of vomiting during the last five months, and the patient has lost fifteen pounds during the past year.

Present condition: Color of lips and cheeks, white; tongue somewhat coated; lungs and heart normal. Palpation of abdomen shows no point of pain on pressure; splashing sound easily brought out in the region of the stomach. By the aid of this phenomenon one can locate the greater curvature from two to three fingerbreadths below the navel. The same is confirmed by gastrodiaphany. Knee reflex present. Urine contains neither sugar nor albumin.

Examination of the stomach contents one hour after Ewald's test breakfast shows: HCl +: acidity = 100; free HCl = 80; no remnant of food taken the day before.

The treatment consisted in giving one-half drachm of bicarbonate of sodium three times a day, two hours after eating, and in the regulation of the diet. The vomiting quickly ceased and the bowels became regular, without resorting to laxatives.

Cases of Hyperchlorhydria with Diarrhœa.—Case I.—November 12, 1891. Robert P——, aged twenty-seven years, musician. Patient was scrofulous until his ninth year, and since has always had a weak stomach: could bear no fat; always inclined to diarrhœa. In 1883 patient was confined in bed fourteen days with dysentery; afterward patient had a feeling of weakness in the limbs, with off and on a craving appetite. From 1885 to 1889 he was tolerably well; later there occurred sudden frequent stools, besides stomach complaints, sour regurgitation, flatulence, gas, but only little pain. He continued in this condition without treatment for nine months. Then the patient had a severe diarrhœa, ten movements during the night, and was treated for nine months afterward with opium. As long as he took this drug he felt very well, but as soon as he stopped the powder his weakness reappeared, combined with shivering and diarrhœa. There was always during the disease a bad taste in the mouth; appetite was usually small, occasionally alternating with craving hunger; he felt compelled to drink a great deal, particularly at meals.

Present condition: Stomach dilated. Examination one hour after test breakfast shows: HCl + traces; acidity = 100; organic acid +. The patient was given one-half drachm of bicarbonate of sodium three times a day, two hours after eating. The stomach was, besides, treated with direct faradization, according to my method.

After two or three weeks the symptoms improved, the patient increased in weight, and the diarrhœa ceased. The treatment was continued for three months, and since that time the patient has remained well.

Case II.—February 8, 1894. Frank D——, aged twenty-six years. Was always well until about two years ago, when he was taken with diarrhœa and suffered pain after eating. Vomiting was never present; there was, however, frequent eructation. The number of stools daily was from five to eight, and they were almost always of a pappy or watery character. No slime was ever observed by the patient. During these two years he lost twenty pounds in weight, and felt so miserable that he could scarcely attend to his business.

Present condition: Lips and cheeks somewhat pale: tongue slightly coated; lungs and heart normal. Palpation of the abdomen brings out tenderness over the upper part: splashing is easily demonstrated in the region of the stomach. By the aid of this phenomenon the lower border of the stomach is found to extend three fingerbreadths below the navel. The right kidney is movable and quite easily felt after deep inspiration. The urine is free from sugar and albumin.

Examination of the stomach contents one hour after Ewald's test breakfast shows: HCl +; acidity = 100; free HCl = 82.

The patient was treated with intragastric faradization, also taking half a teaspoonful of bicarbonate of sodium three times a day, two hours after eating. After fourteen days' treatment the patient had gained six pounds in weight and the movements became normal. By way of trial, the bicarbonate of sodium was omitted for a week. During this time the diarrhœa returned a few times and the patient ceased to gain in weight. The bicarbonate of sodium was again resumed, and the patient showed for two months a constant gain in weight. The diarrhœa has not appeared again, all the complaints of the patient have disappeared, and he has since remained well.

Case III.—December 6, 1896. Harry H——, thirty-two years old, was always well and robust until about a year ago. Since then he began to suffer from diarrhœa. The movements numbered five to eight daily. The patient has never observed any mucus in his stools. Patient does not complain of pains, although the latter occasionally appear in the abdomen shortly before the evacuations. The appetite is good, and there is no uneasy sensation after meals.

Present condition: Patient well developed and of strong bony structure: appears well nourished. Tongue is pretty clean and moist. Chest organs intact. Palpation of the abdomen does not reveal any painful spots on pressure. The stomach can be followed by means of the splashing sound down to two fingers' width below the navel. Knee-jerk is present. The urine does not contain any sugar or albumin.

The patient was first treated with tannigen and co-

[1] B. Oppler "Ueber die Abhängigkeit gewisser chronischer Diarrhöen von mangelnder Secretion des Magensaftes," Deutsche med. Woch., 1896, No. 32.

[2] B. Oppler: "Ueber die Therapie gewisser mit Magenaffectionen zusammenhängender Erkrankungen des Darms," Therap. Monats., 1896, No. 3.

deine (tannigen, 0.5; codeine phosphate, 0.01, t.i.d.). After a fortnight's use of this medication the patient did not feel in any way better, and his diarrhœa continued in the old manner.

December 12, 1896, examination of the stomach one hour after Ewald's test breakfast: HCl +; acidity = 104; free HCl = 80; erythrodextrin + much. The diagnosis of hyperchlorhydria is made, and it is assumed that the diarrhœa must be due to this abnormal state of the gastric chemism. The patient is given bicarbonate of sodium and sugar of peppermint āā., one teaspoonful of the powder three times daily, two hours after meals. The diet is likewise arranged as suitable to conditions of hyperchlorhydria.

The patient was treated in this way for over a month, and asserts that during all this period he felt perfectly well and that his stools were formed and normal.

A Case of Achylia Gastrica with Constipation.—June 12, 1895. Mrs. R. W——, aged about forty-three years, complained of pain in the stomach, which occurred a short time after eating. A feeling of pressure in the epigastrium was almost always present. Appetite was very defective and the bowels were inclined to the highest degree of constipation. The trouble dated back one year, in which time she had lost thirty pounds in weight. The examination showed a slight tenderness on pressure in the epigastric region and a decided anæmic condition of the visible mucous membranes; otherwise the physical examination showed nothing abnormal. The examination after the test breakfast showed: HCl = 0; acidity = 4; rennet = 0; pepsin = 0. Quantity, about fifteen cubic centimetres, in which the bread was quite unchanged and mixed with very little fluid. In consideration of the chemical analysis of the stomach contents and the absence of any tumor, the diagnosis of achylia gastrica was made as of utmost probability and carcinoma temporarily excluded. The patient was given:

℞ Tr. nuc. vom.,
Ext. condurango fl.,
Aq. amygd. amar.....āā 10
S. Gtt. xx. ten minutes before eating, three times a day, and was ordered a rich vegetarian diet.

In the course of three months the patient had gained twenty pounds in weight and was free from all complaints. Very soon after the introduction of the new regimen the bowels became regular. It was therefore quite unnecessary to use any laxatives. Notwithstanding the patient felt quite well, the condition of the stomach remained the same as before, as an examination of the stomach contents in October, 1895, showed. The diagnosis of achylia gastrica must now be regarded as a certainty.

A Case of Achylia Gastrica with Chronic Diarrhœa.—October, 1895. Samson F——, aged forty-six years, merchant, had suffered for about a year and a half with frequent attacks of diarrhœa. His appetite was good, sometimes with a feeling of hunger returning a short time (one hour) after eating. The patient had during the last year lost twenty pounds in weight and felt quite weak. A short walk would exhaust him and he was hardly able to attend to his business.

Present condition: October 15, 1895, tongue only slightly coated; lips and cheeks pale, anæmic; organs of chest normal. Palpation of the abdomen shows no tenderness in the region of the stomach. Splashing sounds brought out only after drinking of water, showing lower border of the stomach to lie two finger-breadths above the navel. Knee phenomenon normal. Urine contains neither sugar nor albumin.

The patient was treated for a long time with the usual intestinal styptic and tonic remedies, but they failed to produce any substantial result. If the diarrhœa abated for a few days, it soon returned with renewed energy. Neither was the strength of the patient in the least increased during these two months of the ordinary treatment. Notwithstanding that in this case no peculiar or marked symptoms pointed to stomach disturbance, I decided to examine the gastric secretions to ascertain thereby whether the obstinate diarrhœa was dependent upon any abnormal condition of the stomach.

On December 3, 1895, an examination of the stomach contents one hour after Ewald's test breakfast showed: HCl = 0: acid = 2; rennet = 0; pepsin = 0: biuret reaction = 0. Quantity, twenty cubic centimetres, in which there were little fluid and no mucus. Bread particles unchanged.

The diagnosis of achylia gastrica was now made and the patient treated in accordance with this condition. The diet consisted chiefly of vegetarian food with the addition of small quantities of fish or meat. Besides this, intragastric faradization was employed. After fourteen days the diarrhœa disappeared and the patient felt stronger; following that he visibly improved and after a course of three months, according to his appearance and subjective feelings, was entirely cured: besides he had gained meanwhile fifteen pounds in weight. Another examination of the stomach, one hour after the test breakfast, gave, however, a similar result as in the beginning of the treatment. About one year has now elapsed and the patient is without any trouble or complaint whatever.

Summary.—The above described cases serve only as examples and are taken at random from a large number of similar observations. Oppler has assumed, in his paper cited above, that diarrhœa is a result of achylia gastrica and constipation of hyperchlorhydria. I am of the opinion that, although diarrhœa is more often found associated with achylia gastrica and constipation with hyperchlorhydria, neither the one nor the other can be regarded as typical of these troubles. On the contrary it may easily be seen from the above-described cases that chronic constipation may result from achylia gastrica and likewise diarrhœa from hyperchlorhydria.

In reviewing the histories of the patients referred to, we see that all were improved, or rather cured, through a mere correction of the faulty chemical state of the stomach and a diet suitable to the existing condition. Not only did the symptoms of the stomach but also those of the intestines entirely disappear. In some of these cases, to be sure, intraventricular faradization was used and certainly contributed toward the improvement of the patient; still, this alone without the above-mentioned regimen would not have been sufficient. In most of the cases cited the intestinal symptoms, *i.e.*, constipation or diarrhœa, were fought by me or by others at first, without special examination of the chemical action of the stomach, by the ordinary methods of treatment, but without success. This clearly shows of what importance under certain conditions an accurate chemical examination of the stomach may be, even in cases of apparently merely intestinal complaints. It should be put down as a rule that in cases of chronic diarrhœa or constipation which do not yield to general methods of treatment, a thorough examination of the stomach, in respect to its chemical action, should be resorted to. A connection between the apparent affection of the intestines and the condition of the stomach will then be found in many cases, and a rational treatment in this way made possible.

20 East Sixty-Third Street.

Bubo.—Injection of camphorated salol and iodoform caused cicatrization in eighteen cases of chancroidal bubo, in from five to eight days.—Dubujadoux.

ACCIDENTAL HEMORRHAGE.[1]

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In the presentation of this subject for study and discussion, I feel sure that you will agree with me that we have to deal with one of the most interesting and important in the entire field of obstetrics. Accidental hemorrhage cases, as we shall see later on in the paper, are by no means so rare as many suppose. The general practitioner is sure to meet them, and on his skill and judgment depends alike the safety of mother and child. In the hospital we continually see cases which might have terminated very differently had the original line of treatment been one of active interference and not one of useless, dangerous delay. With these few words of introduction let us proceed at once with our subject, knowing that by its careful consideration we can the better understand it, and therefore be able the better to treat such cases.

Definition.—As the hemorrhage which occurs in placenta prævia and other conditions is often the result, partially at least, of accident, it is necessary first that we understand clearly just what is meant by the term "accidental hemorrhage." In a few words, "accidental hemorrhage," as the term is generally understood, means the hemorrhage resulting from or taking place at the same time with separation of a normally situated placenta.

Varieties and Pathology.—Let us now see what occurs when from any cause rupture of the uteroplacental vessels takes place. Two results are inevitable, namely, hemorrhage and separation of the placenta from its uterine attachment. Upon the extent to which these take place must depend the gravity of the case. In other words, the greater the separation and the more profuse the bleeding, the more serious the condition with which we have to deal. At first the hemorrhage may be apparently trifling, resulting perhaps from the rupture of a tiny placental vessel, weakened by chronic nephritis in the mother. But this small amount of blood, by its irritation as a foreign body, will excite contraction of the uterus, this in itself producing further separation and additional hemorrhage, now, no doubt, in greater part from the uterine sinuses themselves. This hemorrhage and separation may however remain, so to speak, localized, and no further trouble ensue. Later we shall speak of a number of cases in which a slight amount of separation took place with no apparent harm, but the tendency is certainly toward further increase, separation having once begun. There are two main varieties of accidental hemorrhage—the visible and the concealed—while cases do at times occur which belong as much to one variety as to the other, showing certain features of both classes. In the visible variety we include all those cases, mild or severe, in which the greater part of the hemorrhage appears externally; in the concealed, all those cases in which the blood remains wholly, or in larger part at least, within the cavity of the uterus. Blood may be concealed between the placenta and uterine wall, between the fœtal sac and the uterus, or may rarely escape into the amniotic sac. By the collection of a large amount of blood in the uterus, the fœtus in its bag of membranes may be pushed upward, downward, or to one side, depending to some extent on the manner in which separation has taken place. Within the last year we have seen two cases, in one of which the fœtus was crowded well up into the fundus, while in the other the placenta had been entirely separated and pushed downward with the fœtus into the lower segment of the uterus.

Frequency of the Visible Variety.—Statistics are very meagre for both mild and severe forms. Some writers think the condition a very rare one, but as a matter of fact we do meet with the mild variety, at least, not infrequently. At the Sloane Maternity Hospital there have been in fifty-nine hundred cases fifty-seven of mild accidental hemorrhage—practically one in each one hundred cases. No doubt these figures are too high for private practice, as many such patients are sent in by physicians, or come in of their own accord, to the hospital. Severe visible hemorrhage is certainly rare, even in the memory of men who have had large maternity experience. At the Sloane we have had one typical case, which we shall describe later, and which fortunately terminated well.

Frequency of the Concealed Variety.—First, in regard to the mild form, of which little mention is made in the books, but which is nevertheless of interest. We not infrequently find on careful inspection of the placenta and membranes the remains of old blood clot, when no history can be obtained of either pain or hemorrhage. In looking over the records of the last one thousand deliveries at the hospital, I find that in seven cases traces were found of old hemorrhage, in the form of decolorized, grayish, "putty-like" masses, adherent to placenta or membranes, and varying in size from a nickel to the largest, which measured three and a half by two and a half inches. These masses are thin as a rule, but in some cases measure from one-third to one-half of an inch in thickness. Of these seven cases two were slightly premature, five went to full term; there was no history of any kind in either of the cases, and six of the seven occurred in multiparæ, thus showing the predisposition to hemorrhage on the part of women who have already borne children. No better proof can be obtained than these cases to show that partial separation does not necessarily bring about the termination of pregnancy.

Secondly, in regard to the severe concealed variety, Storer, in the *Boston Medical and Surgical Journal* for 1892, collected one hundred and fifty-three cases, including those of Goodell and Hicks, and to these we shall add two which have come under observation at the hospital during the past year.

Etiology.—Causes may be either predisposing or exciting. Among the former, on the maternal side, are acute diseases, such as the exanthemata, typhoid, pneumonia, and nephritis. Chronic nephritis is also a frequent cause, of which many cases give good evidence. Again we have alcoholism, syphilis, anæmia, debility from any cause, and, last but not least, multiparity, which has been already mentioned. On the fœtal side we have hydramnion, twin pregnancy, death of fœtus and degeneration of the placenta, fatty or calcareous, with the production of fibrinous masses. Barnes, in his "System of Obstetrics," says: "Such a diseased placenta, containing solid lumps or of unequal consistency, will not follow and adapt itself to the varying movements of the uterus and changing superficial area of the placental site so easily as a healthy placenta." Turning now to the exciting causes on the maternal side we have:

I. Rhythmical uterine contractions, which in the healthy uterus would probably cause no harm, but in the presence of a predisposing factor lead to evil results.

II. Violence, such as a blow, fall, strain from lifting, coughing, vomiting, slipping, or at stool, and possibly coitus, all tending to laceration at placental site. Some authorities, such as Barnes, doubt the occurrence of hemorrhage, even from violence, without some predisposing cause.

III. Sudden determination of blood to the uterus and placental site, from emotion or shock. Sudden tension is relieved by extravasation and hemorrhage results.

[1] Read before the West End Medical Society, February 6, 1897.

On the fœtal side the exciting causes are violent movements of the fœtus, exciting contractions, and the tugging of the child on a cord absolutely short, or rendered short relatively by looping around the neck, trunk, or extremities of the child. Finally, cases do occur which do not have any discoverable cause.

Symptoms.—I. Visible variety. In very mild cases we have but a small amount of hemorrhage, with or without pain, depending upon the area from which blood escapes, a slight separation at the placental edge giving rise to little disturbance. In severer cases we usually find considerable bleeding with sharp pain, referred to the placental site, and can sometimes detect a certain amount of elevation over the seat of hemorrhage, due to the uplifting of the uterine wall at that point, this very distention causing pain. Some patients show marked symptoms from a comparatively small blood loss, while others feel the loss of large amounts very little. In the severe cases all the symptoms are usually well marked, pain being a prominent feature, more or less shock from extensive laceration being present, and large quantities of bright blood escaping. In some cases the flow is so profuse as to be mistaken for the hemorrhage occurring in placenta prævia. Associated with this profuse hemorrhage we find marked constitutional symptoms, extreme pallor, the skin cool and bathed in perspiration, pulse rapid and feeble, sighing respiration, air hunger, great thirst, restlessness, anxious facial expression, dull pain in the back, dilated pupils, and blanched mucous membranes. Such a clinical picture once seen, cannot be forgotten.

II. Concealed variety. As we have seen, there are some very mild cases which give no clinical symptoms. But the typical severe concealed form is the very gravest perhaps with which we must deal, for so much hemorrhage may have occurred before the true condition of affairs is discovered that the woman's life will be in jeopardy even before treatment is instituted. The symptoms in such cases in their appearance will depend on the rapidity with which hemorrhage and separation take place. If the loss of blood within the uterine cavity is slowly and steadily increasing in amount, we find the gradual development of signs which in some cases appear within perhaps a very few minutes. Some pain will be felt, the uterus will gradually but none the less surely become enlarged, and from the distention, pain will become more or less general, the uterus being also tender to touch. Fœtal movements and heart sounds will cease and palpation become impossible, on account of tenderness. After a time blood may appear externally, but this is merely from overflow, so to speak. If no help be given, the patient will die from shock and acute anæmia. When a large amount of blood suddenly escapes, we have shock as a marked feature, with all the signs of hemorrhage enumerated above. Pain, shock, and signs of hemorrhage then, will characterize these severe cases, and yet perhaps no blood be actually seen.

Diagnosis and Differential Diagnosis.—From the symptoms just mentioned, the true condition of affairs can usually be easily made out. A vaginal examination will tell us absolutely that we are not dealing with placenta prævia, and whereas pain is a prominent symptom in accidental hemorrhage we do not find it as a rule in placenta prævia. Again, the concealed variety is radically different, in that hemorrhage occurs within the uterus, and that of placenta prævia external to it. There is one other condition with which concealed hemorrhage might be confounded, namely, rupture of the uterus. This, however, occurs as a rule late in the labor, after the membranes have ruptured, is not accompanied by enlargement of the uterus, and if the rent is large enough for the child to escape, the presenting part slips away from the brim and the regular contour of the uterus is lost. The child may be felt through the abdominal wall, but great care must be exercised with regard to this, as some uterine walls are so thin as to enable one to make out the small parts of the child with almost startling distinctness.

Prognosis.—A number of cases with proper treatment may go to full term, but, as a rule, for various reasons, already mentioned, labor comes on within a short time after the first hemorrhage. In the mild cases the prognosis for the mother is very good, while that for the child naturally depends somewhat upon the period of gestation at which hemorrhage occurs. But at full term the mortality for the child ought not to exceed fifteen per cent., while in premature labor it is much higher. In the severe forms the prognosis is very grave, the mortality according to Storer's figures being 46.7 per cent. for the mothers and 94 per cent. for the children. Thus we see that in the severe cases practically all of the children die and about one-half of the mothers.

Treatment.—I. Of the very mild cases, with slight amount of hemorrhage and little if any pain. The patient should be put to bed in a quiet room, on light diet, and kept as still as possible. A small dose of morphine acts well in securing perfect rest. No tampon should be used, but a clean pad can be placed over the vulva in order to exclude as far as possible infection, and to absorb the small amount of blood. The tampon, if used, would obscure our observation in regard to the progress of the case. Careful note must be made from time to time in regard to the size of the uterus, fœtal heart, pulse, etc., in order to guard against possible internal bleeding. Little if any harm can result from the careful observation of such a case, and if further separation does not occur the life of the child may be saved. If bleeding continues, or if the blood loss is considerable when the case is first seen, more active measures must be resorted to. In checking uterine hemorrhage we aim to secure contraction, and this can as a rule be speedily brought about by a rupture of the membranes. This treatment in the vast majority of cases will be sufficient to stop all further trouble, and the uterus will, after the amniotic fluid has drained away, generally contract about the child, and in that way close the uterine sinuses. We can, and should, I think, assist nature in such cases, by frequent administration of moderate doses of strychnine and quinine. Then from time to time, if slight bleeding continues, the cervix should be stretched to some extent, using, however, but little force. Should the measures spoken of prove ineffectual, delivery must be completed in as short a time as is practicable, consistent with the welfare of both mother and child. Manual dilatation should be used, and this followed by the application of forceps, or the operation of version.

II. In the severe form, visible or concealed, the rupture of the membranes should be the first treatment used. If active bleeding is going on, steps must be taken at once toward emptying the uterus. Manual dilatation of the cervix must be performed rapidly, as the urgency of the case requires, and the child delivered by forceps, version, or craniotomy, careful attention being constantly paid to the general condition. In such cases delay is very dangerous, and only quick intelligent treatment will give any hope of success. If, on the other hand, hemorrhage has apparently ceased, or the patient be in very poor general condition, it is better to empty the uterus slowly, thus avoiding the shock of a rapid extraction, and at the same time pay all possible attention toward the improvement of the state of anæmia and shock. By so doing we certainly increase the chances of success, by

adding, at least, no other element of injury and consequent shock. Fluid must be supplied in large amounts by mouth and rectum, and if necessary by infusion. Stimulation must be very free, and too much stress cannot be laid on the free use of hot saline stimulating enemata. It is remarkable to watch the improvement in the heart action after the exhibition of one or more hot salines. The system needs fluid urgently, thirst will be greatly relieved, the heat and stimulants both act well on the heart. During the past year there have been four interesting cases of accidental hemorrhage at the Sloane Hospital, and a brief summary of these will, I am sure, reward your careful attention.

Case I.—M. McK——, twenty-four years of age, married, primipara, eight months pregnant, admitted to the hospital, August 26, 1896, at 11:45 A.M., with the following history: The woman had been in excellent health until forty-five minutes before admission, when she felt some pain and began to bleed profusely. After some delay an ambulance was summoned, and the patient carried quickly to the hospital. From her own account about one pint of blood was lost at home. On admission the woman looked as if she had already lost a very large amount of blood; there were marked pallor, restlessness, pulse soft though slow, and anæmic mucous membranes. The uterus was distended and very tense, palpation impossible, fœtal heart not heard. The vagina was filled with bright red blood and recent clots; the cervix barely admitted one finger. Absolutely nothing could be felt with the examining finger in the cervix but recent clots. There was no placenta near the internal os. As hemorrhage was profuse, the woman was carried at once to the operating-room, where she was quickly prepared for operation. So grave was her condition that preparation was made for intravenous infusion in case of need. The indication for immediate delivery was clear, hence the cervix was quickly dilated with the hand in order to perform version. The cervix was immature and did not yield readily, but bleeding was so profuse, and pulse becoming so rapid and feeble, that the hand in the form of a cone was quickly pushed up into the uterus. The entire lower half of the uterus was filled with freshly clotted blood and the fœtus in its membranes had been crowded up into the fundus. The placenta was attached to the right side of the body and fundus uteri, and a large loose flap was felt, from the detachment of which the profuse hemorrhage took place. The child was lying in transverse position, head to the left, back above. The sac was immediately ruptured, the right foot seized and brought down. As I delivered the foot, clots and fluid blood came away, to the amount of about one quart. The pulse was now so feeble that infusion was done at once in the left arm by Dr. La Fétra, the senior assistant. The pulse improved after this, with the aid of hypodermic injections of whiskey and strychnine. Meanwhile the child was being slowly and carefully extracted, and was born at 12:39 P.M., within one hour after admission. The child was dead, and apparently of eight months' gestation. The placenta was expressed at once, and a vaginal douche checked further hemorrhage, the uterus contracting nicely. The pulse was now fair in character; free stimulation was resorted to by rectum, mouth, and hypodermics, hot bottles were applied, the foot of the table was elevated, and an injection of morphine was given. Between 1 and 2:30 P.M. she seemed to be doing fairly well, but at that time she vomited a large amount of fluid, and the pulse became rapid and feeble again. The uterus was well contracted; no further bleeding had occurred. At 2:50 P.M. another intravenous infusion was given, with free stimulation subcutaneously, but the pulse became steadily worse and the woman died at 3 P.M. The autopsy showed marked signs of profound anæmia, heart extremely flabby, bloody serum in pleural, pericardial, and peritoneal cavities, lungs œdematous, a laceration through the right side of the cervix, and extending about one-half inch above the internal os, and an infiltration of the right broad ligament with a small amount of blood. The woman lost in all, in the hospital and at home, probably sixty ounces of blood, and the undoubted cause of death was acute anæmia from accidental hemorrhage, laceration of the cervix and consequent shock no doubt contributing.

Case II.—M. McG——, forty-three years of age, married, XIV gravida, at full term. All previous labors easy, with exception of last two, in which instruments were used. The patient came into the hospital November 28, 1896, at 12:10 P.M., with the following history: No trouble had occurred at any time during pregnancy until 6 A.M. of the day of admission. At this time while lying in bed, a gush of bright blood appeared, and bleeding continued all the morning until a tampon was applied at 11 A.M. After this, very little blood escaped, and the tampon was kept in place until the patient was ready for operation. Pain began at 6 A.M. also, and labor probably commenced at that time. No fœtal movements had been felt since the preceding midnight. The woman must have lost a great deal of blood, from the statement of her physician, before he applied the tampon. On admission, the patient was found to be a large, stout, anæmic-looking woman evidently suffering from acute anæmia. When the tampon was removed, the cervix was found to be soft, admitting three fingers; the membranes were bulging to moderate extent, between as well as during pains. Moderate bleeding commenced and continued after removal of the tampon. The abdominal wall was very thick, and palpation difficult. The vertex presented at the brim, in R. O. P. position; the fœtal heart could not be heard. Her pulse was 110, very soft; skin cool and covered with perspiration; face very pallid, with anxious expression. As no placenta could be felt near the internal os, the diagnosis of accidental hemorrhage was clear. Dr. McLane, who was called to the hospital to see the case, advised immediate rupture of the membranes, and after he had done so, removing several quarts of liquor amnii, found that the head acted as a sort of "ball valve," in preventing escape of blood. As the necessity for immediate delivery was apparent, Dr. McLane dilated the cervix with the hand sufficiently to apply the forceps. Attempts to deliver by forceps were unsuccessful, and, as the child was no doubt dead and bleeding continued, craniotomy was advised. With the basiotribe of Tarnier this was done by the writer, the rest of the delivery being comparatively easy, with the exception of the shoulders, which were large. The placenta was lying in the vagina, and withdrawn by the hand. The amount of hemorrhage during the entire delivery was forty ounces, estimated and weighed. This amount in addition to that lost at home was so large that the woman's general condition was now very poor, in spite of free stimulation during delivery. But after elevation of the foot of the table and further stimulation by enemata and hypodermic needle, the condition improved to such an extent that infusion was not performed. It may be interesting to note that the patient received nine hot saline enemata, each of one pint, during the following twelve hours, almost all being retained. Notwithstanding the immense loss of blood, the patient recovered nicely, and left the hospital at the end of five weeks in good condition, considering the anæmia, which will take months to cure. A more typical case of severe visible hemorrhage could not be given.

Case III.—The next case I am able to present

through the kindness of Dr. E. A. Tucker, in whose service the case occurred and who had entire charge of the treatment. M. M——, thirty-eight years of age, married, VIIIgravida, pregnant about seven months, came into the hospital December 20, 1896, at 3:15 P.M., giving the following history: Her health had been apparently good until midnight of the preceding day, when she began to suffer from a great deal of pain across the upper part of the abdomen. No fœtal movements had been felt for several days previous. A physician was called in, and an injection of morphine given. Slight external hemorrhage had appeared, but labor had not yet begun, and the fundus was about two fingers above the navel. A very small quantity of urine was withdrawn by catheter. During the rest of the night and day, up to the time of admission, very little blood escaped externally, but her condition grew steadily worse, and the fundus crept up slowly until it had reached at the time of admission (or within twelve hours) a point about one and a half fingers below the ensiform cartilage and underlying the ribs on either side. On admission the uterus was found large enough for full-term gestation, with very tense walls, and the abdomen also very tender to touch. Palpation was impossible and the fœtal heart could not be heard. The cervix admitted two fingers; membranes were tense; labor had not yet begun, and very slight bleeding was taking place. The patient was very restless and markedly anæmic; the mucous membranes were dry and pale. Dull aching lumbar pain and great thirst were complained of; the pulse was rapid and irregular, though still of fair force. The patient vomited several times after admission; the temperature was subnormal, and from all appearances the case was one of urgent concealed accidental hemorrhage. The woman was perfectly conscious and answered questions well. Preparations were made at once for immediate operation. The catheter withdrew four drachms of bloody urine, which under the microscope revealed no casts. In order to get as much fluid as possible into the system, a quart of hot saline was given by rectum, and retained. The first step taken was the rupture of the membranes, allowing about ten ounces of fluid to escape. As no active hemorrhage was going on, the cervix was now left to soften, as it was very rigid and unyielding. Another saline enema was given and retained. In order to hasten delivery, at the end of an hour and a half the cervix was slowly dilated so as to admit four fingers. A loop of cord, cold and pulseless, had come down during the interval of waiting, but no attention was paid to it. The vertex in L. O. A. position was at the brim, and as the child was dead Dr. Tucker decided to perforate and then allow the head to mould into, and, if it would, through the cervix. The perforator of the Tarnier instrument was therefore passed into the head at 6 P.M. and the brain broken up, thus allowing the head to collapse to a certain extent. Another saline was then given, whiskey and cracked ice were given by the mouth, and hot bottles were placed around the body. As very little progress had been made at the end of one hour, it was decided to deliver with the basiotribe. This was done and the child was born at 7:25 P.M., the delivery of the trunk being made slowly in order to guard against rapid evacuation of the uterus. No gush of blood followed, and the pulse of the patient came up well with a hypodermic injection of whiskey. During the third stage, as no bleeding occurred, the uterus was simply held, no pressure being exerted. With the placenta came away a few small clots of dark blood. Further pressure brought away more dark clots, until finally, when the uterus was empty, twenty-nine ounces of blood had been removed, this being the amount of concealed hemorrhage. An acetic-acid uterine douche was then given and no bleeding whatever took place. The patient seemed now to be in fair general condition, and the prognosis appeared to be hopeful. Under routine treatment she recovered from the hemorrhage and delivery, but the kidneys unfortunately refused to act, and in spite of all treatment the woman died seventy-two hours later, having passed but one and a half drachms of urine by catheter during this entire time. This urine showed a high percentage of albumin, granular casts, pus, and epithelium. Full autopsy was refused, but the kidneys showed chronic nephritis and an intense acute exudative nephritis, which were the cause of death. The old nephritis acted undoubtedly as a strong predisposing cause to hemorrhage. Her death cannot be attributed to the accidental hemorrhage in itself, but to the complicating renal condition. Curiously, this same woman had been treated by Dr. Myers, a member of this society, four years before, for the same trouble. She was at that time seven months pregnant, suffered from severe pain, hemorrhage, and almost died before the child was delivered. The placenta showed an old clot, almost entirely covering the maternal surface. It may be noted here that the placenta from the last delivery showed traces of old hemorrhage, in the form of a number of small old clots. The patient was sure that no bleeding had ever taken place during this pregnancy before the present time.

Case IV.—The last case which I shall mention is one of such rarity that great interest attaches to it. F. J——, twenty-seven years of age, negress, married, primipara, came into the hospital December 21, 1896, at 5:45 P.M. with the following history in brief: During the week preceding admission the patient had characteristic symptoms of acute nephritis. On the evening before admission she had complained of sharp abdominal pains, and vomited several times. In the early morning of the day of admission she had an eclamptic seizure, remained unconscious during the rest of the day, and had a number of other seizures. On admission, the patient was moribund, pulse extremely rapid and feeble, conjunctival reflex absent; she was in deep coma. Temperature was normal; respirations, 44 to the minute. The uterus was at eight months' mark, distended, and had very tense walls; palpation impossible. No fœtal heart could be heard. A small amount of fluid blood was found in the vagina; the cervix was of medium length, moderately soft, and admitted one finger with ease. Labor had probably begun some hours before. The vertex presented at the brim, position R. O. A. Diagnosis was clear of eclampsia, with accidental hemorrhage, no placenta having been felt. The woman was carried at once to the operating-room; the membranes were ruptured, about eight ounces of fluid coming away, and preparation was made for operation. In a very short time, however, the patient was seen to be dying, and in spite of stimulation the pulse became imperceptible and the woman died. During the last few minutes of life, preparation was completed for Cæsarean section, and when the heart stopped the writer made a long median incision through the abdominal and uterine walls, and the child was quickly lifted out. The death of the fœtus had occurred, however, some time before, as maceration had already commenced in many parts. Immediately after the child was removed, the fœtal surface of the placenta bulged up into the wound, showing pressure from behind. The entire uterus was removed from the body, and the following interesting condition of affairs discovered: Behind the placenta and almost completely separating it from the uterine wall was a large thick clot of dark blood, weighing from six to eight ounces. Other clots had dissected off the chorion from the uterine wall below and to the left of the placenta, the edge of the lowest clot almost reaching the internal os. Altogether there were probably ten to twelve ounces of concealed hemorrhage.

The patient had not bled at home, and the amount of external hemorrhage was exceedingly small. The urine was almost solid on boiling, and showed many granular casts, while the kidneys on section showed intense congestion. It is reasonable to suppose that during an eclamptic seizure, or possibly before, on account of the acute nephritis, separation had taken place, which resulted in the concealed hemorrhage. Eclampsia was the undoubted cause of death, but the case is reported for the very interesting condition present, one in fact which is extremely rare, showing, as the uterus did, an extensive concealed hemorrhage, *in situ*, very slight external evidence having been present.

THE USE OF THE PERMANENT-EXTENSION CORSET AND FRAENKEL'S EXERCISE IN TREATMENT OF LOCOMOTOR ATAXIA.

By LEONARD WEBER, M.D.,

NEW YORK.

By a short passage in the MEDICAL RECORD of January 23d, that the value of Motschukowsky's treatment of tabes by temporary suspension will not be appreciated to its full extent by the profession at large until permanent suspension by means of the extension corset has replaced temporary suspension, I am reminded of the subject of mechanical treatment of tabes as described by me in a paper, "The Present State of Treatment of Chronic Diseases of the Spinal Cord, Especially of Tabes and Neurasthenia," read before the New York Neurological Society, April 5, 1892, and published in the MEDICAL RECORD, May 28, 1892.

I stated therein that in 1889 a well-known clinician —Professor Jürgensen— had endorsed the orthopædist Hessing's treatment of locomotor ataxia by permanent-extension corset, and said, in a letter published in a German medical journal, that he had known it to be successful in one or more well-marked cases. The corset was to act after the manner of Motschukowsky's suspension, but in a permanent way and with less danger and severity. While abroad in the spring of 1890 I saw Mr., now Dr., Hessing's famous orthopædic institute at Göggingen, a suburb of Augsburg, in Bavaria. I found an immense establishment, consisting of many buildings situated in a small park, with theatre and concert hall for the entertainment of the numerous patients, an elegant restaurant, etc.—in fact, a special plant, the like of which does not exist anywhere else, I believe. Mr. Hessing, proprietor and director of all, received me kindly, and allowed me to examine and converse with such tabetic patients as were then under treatment by the applications of the permanent-extension corset. Mr. Hessing considered this mode of treatment to have been original with him, as much so as his way of putting up a recently fractured lower limb, after perfect reduction, in a protective apparatus so well fitted and adapted that the patient was enabled to walk about in a few days with apparatus on and have his fractured limb get well in much shorter time than in the old way. He was then just about preparing a paper on the latter subject, to be read before the annual congress of German surgeons, with demonstrations of cases.

Hessing's views at that time with regard to the pathology of locomotor ataxia were peculiar. His idea was that most cases started with disease of the osseous and ligamentous structure of the spine, affecting the meninges and cord later on, in some cases perhaps simultaneously. Upon this theory it was but natural for the eminent orthopædist to hope that, by the proper application of a supporting and extending corset, to be worn night and day if possible, we might put our patients in the best possible way of relief and cure. His patients submitted as well as they might to the discomforts in wearing the apparatus. Many of them complained much of pain and numbness in hands and fingers, with occasional œdematous swelling of the same, caused by the pressure of side supports against the armpits.

Hessing said to me: "I have had thus far about sixty cases in all stages under treatment, and am well pleased with the results as to local and general improvement. But as to curing these unfortunate people, that will be very hard to do by any mode of treatment, for many of them have diseased brains also, and I find it next to impossible to carry out my plan of treatment with them, as I should like to."

These remarks show that Hessing was far from satisfied with his final results, and my suspicions in this direction were also confirmed by the statement of one of the patients present, who said that he had been under the doctor's care pretty steadily for two years, but had seen no tabic patient cured, and himself, though improved as to general nutrition and some of his pains and paræsthesias, was pretty nearly as ataxic as when he first came. After all I had seen and heard at Hessing's place, I did not feel encouraged to try this mode of treatment for ataxia, nor urge its adoption with those of my friends who have larger opportunities than myself to try it on an extensive scale.

If better and less cumbersome permanent-extension corsets than those I saw in use at Hessing's in 1890 are now constructed and used with advantage, I am very glad to know it.

With regard to Dr. Fraenkel's exercise therapy, I have had some positive experience in improving and partly overcoming the ataxia of tabes, as well as the motory weakness of neurasthenia gravis. It is nearly six years since Dr. Fraenkel, in Heiden, near Korschack, Switzerland, published a paper upon the exercise treatment of tabic ataxia. In May, 1896, he read a paper on this subject before the Berlin Clinical Society, published in the *Deutsche medicinische Wochenschrift*, December 17, 1896, with cases treated more or less successfully; and he is now preparing an extensive monograph, in which he promises to describe the exact technique of the exercises.

In the *Post-Graduate Journal*, vol. ii., No. 7, Dr. C. L. Dana says that he has seen most satisfactory results from this treatment in correcting ataxia, and describes the exercises as he orders them for his patients, more or less strictly after the formulas prescribed by Drs. Fraenkel (1890) and Hirschberg (1893).

Reserving a detailed account of my cases treated in the manner aforesaid for another time, it is but proper to state here that the exercises are not difficult to learn, and that the patients, soon noticing some improvement in the power of co-ordinately using their motory impulses, readily persist in the daily practices.

25 WEST FORTY-SIXTH STREET.

Contraindications of Altitude in Phthisical Cases. —1. Phthisis with double cavities. 2. Fibroid phthisis and all other conditions in which the healthy pulmonary area hardly suffices for respiratory purposes at sea level. 3. Catarrhal and laryngeal phthisis. 4. Acute phthisis of all kinds, especially when associated with nervous irritability. 5. Phthisis with pyrexia. 6. Emphysema. 7. Chronic bronchitis and bronchiectasis. 8. Organic diseases of the heart and great vessels. 9. Disease of the brain and spinal cord. 10. Anæmia. 11. Patients too feeble to take exercise. 12. Patients who have degenerated organs from long residence in tropical countries.—C. THEODORE WILLIAMS.

NEURASTHENIA AND ITS RELATION TO OTHER DISEASES.

By A. D. ROCKWELL, M.D.,

NEW YORK.

In that remarkable work, "The Art of Prolonging Life," written more than one hundred years ago, Hufeland speaks of imaginary conditions and morbid fears peculiar to hypochondriasis, which are brought on by brooding, reading works on medicine, excesses, etc. He evidently had seen cases of neurasthenia, although unconscious of their significance. Indeed, Arndt asserts that neurasthenia has been known for thousands of years. He, too, was unconscious of its significance, and both regard the fear and dread thus occasioned as imaginary and would disssipate them by an effort of the will, not recognizing the fact that morbid fears are in the main dependent upon some vice of constitution, either autoinfection, due to malassimilation and imperfect oxidation of food products, or to mental and physical stress and strain that result in veritable cell exhaustion.

The will can do much, but it cannot do all; and in neurasthenic conditions as we commonly find them, the unaided will is a very unimportant factor. Impairment of will, indeed, as has been well said, "is the keynote to the psychic state in neurasthenia." One cannot use what one has not, and the will power that emanates from an exhausted brain is so insignificant that the slightest obstacle becomes insurmountable.

To tell a man with profound neurasthenic symptoms that he is all right, that there is really little the matter with him, and that all he needs is to "brace up" and not give way to unnecessary and unreal emotions and sensations, is very much like attempting to persuade a man on his way to the gallows that there is nothing real or disturbing about his situation. I do not know to what extent the general practitioner sees and recognizes these cases, but experience teaches me that he sometimes inflicts injury that is neither light nor easily effaced, by giving no heed to or misinterpreting a tale of woe because he fails to detect objective symptoms of disease. Gowers, in his masterly work on nervous diseases, devotes fifteen hundred pages to the elucidation of the symptoms, morbid anatomy, and pathology of a host of structural and organic diseases, for which little or nothing can be done in the way of treatment. He devotes less than a page to a condition that occasions far more misery and paralysis of utility than many a hopelessly incurable organic lesion, and for which very much can be done in the way of successful treatment. Perhaps no greater misconception of the true state of mind and body of a typical neurasthenic can be found than when he says: "To describe the symptoms and treatment of all that may be collected under the name neurasthenia would be to repeat that which has been stated already in its proper place [in his book], especially in the sections on neuralgia, headache, cephalic sensations, hysteria, and hypochondriasis."

These conditions, one and all, are simply shifting symptoms of the neurasthenic state, and in its treatment they deserve no more consideration than the multifarious symptoms that are associated with any grave constitutional disturbance.

Since the term neurasthenia with its peculiar congeries of symptoms had its origin in this country through the labors of Beard, and has even been called the American disease, it is with no little satisfaction that those of us who have earnestly contended that it should hold a distinct position among diseases note that many of the keenest observers in neurology, both here and abroad, in Germany and France, are fully alive to its importance and reality. Bouveret believes that neurasthenia should be attributed to a disturbance of the nutrition of the nervous elements, to an impoverishment of the nervous force, and especially to a chronic enfeeblement of the superior nervous centres which regulate the activity of the inferior centres. The exaggerated action of the brain in the sphere of the intellectual faculties is the most common and best-established cause of nervous prostration. It is common also from the abuse of stimulants, from excessive muscular exercise, and from sexual excesses.

Benedict considers neurasthenia as a psychical condition excited by psychical emotion and intellectual overwork; claims that psychical treatment is equally important, and that the moral cure has been of late neglected, although he is distinctly sceptical as to the cure of all ills by suggestive treatment. The important question is whether to permit the neurasthenic to work or to demand absolute rest. Strictly absolute rest, however, increases the affection, and the patient should always be led to occupy himself in a suitable manner. He thinks isolation or removal from one's family or surroundings is often essential. He claims that if the Americans would learn from the Germans how to amuse themselves instead of yawning on holidays, the danger of neurasthenia would be diminished. Whoever has not learned how to play and jest, easily succumbs to mental work. He lays especial stress upon electricity; and for drugs, upon iron and arsenic.

Blocq considers neurasthenia as a neurosis, which in every case has its seat in the brain.

The list of other foreign writers whose words are based on the authority of long and tried experience, and who are fully alive to the reality and importance of this disease which has ruined so many lives, include Champagnac, who does not accept the nervous theory of Beard, but believes neurasthenia to be closely related to alteration in the digestive tract; Fournier, who is surprised that syphilis has been so little considered as a cause of neurasthenia; Savage, of London, who regards neurasthenia as a disturbance of the peripheral nervous system analogous to general paralysis; Vigouroux, of Paris, who believes the important etiological factor to be overactivity of the organic centres and the diminution of nutritive metabolism; Lowenfeld, who endeavors to reconcile neurasthenia with the uric-acid diathesis; Grasset, who attributes all neurasthenias to overwork of every kind; Joseph, of Landeck, who in studying the etiology of neurasthenia admits that it is generally caused by whatever enfeebles the human organization by prolonged action; and Kowalewsky, who considers that when the nervous system does an excessive amount of work sufficient nutritive material is not brought to the centres of activity, and, furthermore, by the continuance of their activity the waste products are not carried away as speedily as they should be. This leads on the one hand to malnutrition, and on the other to intoxication from the waste products. In certain conditions, however, he holds to Arndt's theory that many of the cell elements in the nervous system of some patients show a defective development. In such cases neurasthenia is more clearly a congenital condition, and is, of course, much more easily developed. Bordarie advances a similar theory, basing the condition upon a vasomotor disturbance and excitation of the vasomotor centres, leading to a diminished nutrition and a consecutive intoxication; while Dujardin-Beaumetz and others discuss the frequency of dilatation of the stomach in neurasthenia, and advise local treatment as in dilatation from other causes.

These views comprise but a small part of the literature of neurasthenia, and I quote them to show that, however much men may differ in the minor details of

its nature, its causation, or its treatment, it would seem useless to contend, as Gowers has done, that neurasthenia cannot be regarded as a distinct disease, or that the symptoms of every so-called neurasthenic patient are sufficiently definite in character to bring the case into some special category of other well-known diseases. For purposes of rational treatment, however, it does become necessary to differentiate between true neurasthenia and pseudo-neurasthenia, a condition quite different and one which some of the authorities just quoted evidently confounded with the classical disease. My meaning cannot, perhaps, be better conveyed than by reiterating what I have said in another place: "Neurasthenia is now almost a household word, and equally with the term malaria affords to the profession a convenient refuge when perplexed at the recital of a multitude of symptoms seemingly without logical connection or adequate cause. The diagnosis of neurasthenia, moreover, is often as satisfactory to the patient as it is easy to the physician, and by no means helps to reduce the number who have been duly certified to as neurasthenic, and who ever after, with an air too conscious to be concealed, allude to themselves as the victims of nervous exhaustion. The doctrine to be taught and strongly enforced is that many of these patients are not neurasthenic, and under hardly any conceivable circumstances could they become neurasthenic. They do not belong to the type out of which neurasthenia is born, either mentally or physically. Many of them are unintellectual, phlegmatic, and intolerably indolent, and are pleased at a diagnosis which touches the nerves rather than the stomach, bowels, and liver. The treatment needed is quite different from that of the true neurasthenic. These patients are lithæmic, not neurasthenic: the nervous system is strong enough, and would give no trouble were it not poisoned by the abnormal products of digestion, that enter the blood and circulate through every tissue of the body."

It is this lithæmic condition, so often mistaken for neurasthenia, of which Haig has been one of the later exponents. He dwells upon the importance of the retention of uric acid in the system in the causation of nervous disorders. These disorders, however, are in no sense neurasthenia. They consist, as Murchison had pointed out before him, of headache, vertigo, convulsions, depression, irritability, sleeplessness, pains and neuralgia, migraine and paralysis. According to his idea, those who indulge freely in meat and wine, and take of any food more than the system can oxidize, have a tendency to store up uric acid in the system.

Leubucher has studied many cases of nervous diseases, melancholia, and mania especially, and it was surprising how in most of these cases an examination of the secretions showed greatly increased acidity. Now it is an extremely easy matter, as a rule, to diagnosticate a functional disease of the nervous stystem from an organic disease; but it is not always so simple a matter to diagnosticate a neurotic condition, dependent upon retained uric acid or faulty metabolism in any way, from a condition of true neurasthenia. The presence of uric acid does not determine the difference, since uric acid is not infrequently found in the urine of neurasthenics, while the worst lithæmic may at times give no evidence of its presence. Differential points of importance refer to the mental phenomena. Mental depression and a profound sense of misery belong to both types, but with very different manifestations. The neurasthenic, however much he may suffer in mind, and however much he may worry in regard to his own condition and the affairs of the world generally, has no such irritable, ungovernable temper as the lithæmic.

In neurasthenia, the nutrition of the nerve cells is believed to be at fault. They are in a condition of pathologic fatigue, brought about by voluntary or involuntary stimulation of brain activity, frequently repeated to the verge of exhaustion, until the recuperative power fails to bring back the nervous tone to its normal level.

Suffering in this way, the demeanor of the neurasthenic is, as a rule, quiet and suppressed. He is timid and retiring, and one seldom sees in him the touchy mood of the lithæmic, whose brain is actually poisoned by the imperfectly transformed products of digestion. In lithæmia the tongue is generally coated, and where you will find one neurasthenic with cold hands and feet, you will find a dozen lithæmics bitterly complaining of this condition. The nitrogenized wastes circulating in the blood cause by their irritation tonic spasm of the arterioles and local anæmia.

No two conditions of disease, with such similar symptoms in many ways, demand such widely different methods of treatment.

Haig would remove the uric acid by salicylates and acids, and prevent the formation of more uric acid by an appropriate diet. The necessity is not for rest, or quiet, or soothing draughts, but for mental and physical activity, and sometimes actual starvation.

The neurasthenic, on the contrary, frequently needs more food and of the best quality—repletion rather than depletion. He may need absolute rest and quiet, or at least an entire change in the character of his work, and whatever methods tend to improve nutrition must be persistently attempted.

I have had cases in which absolute rest in bed, as advocated by Weir Mitchell, has been of service; but in the great majority of cases the monotony of complete rest acts as an irritant rather than as a tonic sedative. Activity along some line, tempered to the characteristics and necessities of the patient, is far more potent for good than absolute idleness, while a judicious use of a combination of the three bromides, with some one of the zinc preparations and cannabis indica, is perhaps the most efficient form of internal medication. These drugs are not tissue builders, nor are they tonics in the ordinary acceptation of the term, but they temporarily curb the erratic and unstable nervous system, and enable it to receive with better effect those methods of electric application which experience has proven to be so valuable as an aid to animal nutrition.

In regard to the use of electricity in neurasthenia, there is much to be said, and if time permitted I should be glad to consider at length the *rationale* of its effects.

The fundamental principle underlying all the reconstructive and curative effects of electrization is its power over nutrition. The neurasthenic patient looks so well, is frequently so plump and healthful in appearance, that we are accustomed to say that he is well nourished, that his nutrition is good. This, however, cannot be. The morbid fears, the strange and persistent sensory symptoms, the vacillation, the feeble powers of endurance—all point to deficient nutritive activity; and whether we regard the pathologic change in the cell to be due to fatigue, to inanition, or to direct toxic influence, the processes of metabolism are undoubtedly defective, both in constructive and destructive power. Few facts are more clearly established than the influence of electricity, first upon the metabolic function of the body, and secondarily over nutrition. Through physiologic experiment and chemical analysis, we know of its effects upon metabolism; through clinical experience and observation, upon nutrition. Every manifestation of electricity possesses this power in greater or less degree, and it is most unwise, it seems to me, to select and dwell

upon any one form as the special medium through which nutritive effects are best obtained.

It is through the mechanic, chemic, and physiologic powers of electricity that we influence nutrition, and that form and method of treatment which in the most thorough manner combines these effects, as indicated in individual cases, will prove the most effective.

The relation of the morbid fears of neurasthenia to other diseases, and especially to epilepsy, is of great interest. Many a neurasthenic will appear to be on the verge of an epileptic attack, and it is not uncommon for them to think they are about to have it; but, as a rule, their very disease saves them from it. Nevertheless, although the two diseases, epilepsy and neurasthenia, evidently belong to different orders of constitution, yet in a number of cases that have come under my observation I have found an epileptic attack and morbid fears to be convertible terms. I well remember the case which first called my attention strongly to this fact. A young man, aged twenty-four, came to me, some years ago, complaining of symptoms that had become chronic, typical of true neurasthenia. His morbid fears took the form of monophobia—fear of being alone. He seemed to be afraid of nothing else, but rather than sleep alone or remain in a room alone he would sit up all night or walk the streets for hours. He had never suffered from any form of convulsive seizure, but shortly after he came under my observation he was seized with an epileptic paroxysm of considerable severity, which was repeated every few weeks for more than six months; but the morbid fears left him at once and completely. When the epileptic attacks began to decrease in severity, the morbid fears began to return, mildly at first, but increasing in severity as the epileptic attacks subsided. Evidently the same pathological condition, whatever that condition was, that caused the morbid fears was the cause also of the epileptic seizures. The practical point that I desire to make in regard to this occasional combination or alternation of two very distressing symptoms relates to the treatment. The epilepsy associated with neurasthenia is a different and less grievous affair than when due to reflex irritation from central traumatic causes, to organic brain disease, or the ordinary so-called idiopathic variety. In most cases of epilepsy from these causes the "fits" act as safety valves, the secondary effects of which are a general mental and physical uplift; but in cases of what might be termed neurasthenic epilepsy the attacks are not followed by the same measure of relief. The prognosis, however, in neurasthenic epilepsy is far better than in epilepsy unassociated with the neurasthenic condition.

In the latter case the bromides are unmistakably beneficial, and sometimes curative, and are not, as a rule, distinctly harmful; but in the epilepsy that displaces the morbid fears of neurasthenia bromides are in my experience less serviceable and more depressant.

For this reason, in those cases of neurasthenic epilepsy that come under my observation I am much more careful in the use of the bromides, and, indeed, treat the cases constitutionally, very much as neurasthenia itself is treated, by those methods that tend to aid cellular nutrition, and especially by central galvanization —than which there is no more efficient method in the treatment of chronic functional derangement of the central nervous system.

My experience does not teach me that syphilis bears any very important relation to neurasthenia, as suggested by Fournier. It may occasionally complicate it, but the great majority of my own cases had never contracted the disease. It is unquestionably true that nervous exhaustion saves from disease. Those afflicted with it are, for example, less liable to inflammatory conditions. Their gonorrhœal attacks are lighter, and I have seen enough of syphilitic attacks in neurasthenics to incline to the belief that both local and constitutional effects are less severe than in the perfectly well.

Organic diseases of the brain and spinal cord or of the peripheral nerves are very insignificantly related to neurasthenia in any real sense.

Very few neurasthenics develop structural disease, and it is rare to see the latter associated with the symptoms of true neurasthenia; but the tendency to mistake one for the other, although not so prevalent as formerly, is by no means rare.

Deficient mental control, sensory symptoms, and local fibrillary contractions are the symptoms which, according to my experience, cause the greatest alarm to the intelligent patient. If the patient be a physician or one who has made himself familiar with the symptoms of central organic disease, the deficient mental control suggests to him insanity, the sensory symptoms locomotor ataxia, and the fibrillary contractions progressive muscular atrophy. The importance of a correct diagnosis cannot be overestimated. The gravest consequences may follow such mistakes, and it would seem that no adequate excuse can be offered for them. To mistake an organic for a functional condition is not, as a rule, so serious a matter. It is, indeed, sometimes desirable to keep for a time the worst from a patient; but to tell one afflicted only functionally that his disease is organic and incurable is a most serious matter. It takes away hope, shatters the *morale*, and materially lessens the chance of ultimate recovery.

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Infiltration Anæsthesia.—The fluid consists of a very dilute solution of cocaine and morphine, with a small portion of chloride of sodium. The needle of the syringe is introduced at a point in the area which it is desired to render anæsthetic, and keeping it parallel with the surface is pushed on until the eye is hidden. A few drops of the fluid are then injected, and a wheal is instantly produced which is anæsthetic. The needle point is then withdrawn and reinserted within the wheal in the line of the proposed incision, and the process continued until the whole area that it is desired to anæsthetize has been rendered insensitive. If the operation be a simple skin incision, as the opening of an abscess, this is all that is necessary; but if a small tumor is to be removed, it will be necessary to infiltrate the tissues under the skin after this has been incised. In minor operations it is very successful. Its safety is beyond question.—FIFE.

THE ACTUAL CAUTERY IN THE TREATMENT OF CORNEAL ULCERS.[1]

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CONSULTING OCULIST TO THE CLEVELAND CITY HOSPITAL, AND CLINICAL ASSISTANT IN OPHTHALMOLOGY IN THE MEDICAL DEPARTMENT OF THE WESTERN RESERVE UNIVERSITY.

SIMPLE corneal ulcers, and fortunately the majority of them are such, present few difficulties in their treatment. A simple eye lotion, or that together with atropine, will not infrequently be sufficient. If there is no associated conjunctivitis or lacrymal trouble, an occlusive dressing will produce more rapid healing than any other treatment, by its protection of the eye from all irritation, even that of the movement of the lids over the inflamed surface. On the other hand an associated conjunctivitis may be the chief factor in keeping up the ulcerative process, as it serves as a constant source of infection to the denuded area. Then a few applications of silver nitrate (one-per-cent. solution) to the lids will be most efficacious. Or pathologic conditions of the nose, nasopharynx, nasal duct, or lacrymal sac may serve as the source of infection and will require attention.

Antiseptics applied directly to the surface of the ulcer often prove very helpful. Various ones, as silver nitrate, pure carbolic acid, tincture of iodine, formalin, and others, are used. For some time I have been employing bichloride of mercury (1–500) with very gratifying results in many cases. It will usually be well first to instil a few drops of a solution of cocaine, and then with a fine cotton swab moistened with the strong solution touch the ulcer gently, or more vigorously if there is a slough on its surface. I have seen prompt improvement with this treatment in many cases which had not responded to other treatment.

Remedies, too numerous to mention, are constantly being tried. Iodoform certainly acts well in some cases. The old "standbys," calomel and Pagenstecher's ointment, are still used and found serviceable in certain stages of phlyctenular ulcers, and eserine should not be forgotten as a very valuable adjuvant in some cases. It is, however, of the more severe types of ulceration that I wish to speak, those in which possibly the simple remedies have been tried without beneficial effect, or when it is evident upon the first visit that something more radical will be necessary. Of course we must never forget the constitutional condition and hygienic surroundings of our patient, in mild as well as in severe cases, as we may here find the "key to the whole situation." Neglecting to pay attention to the patient's general health, or to the diet, amount of fresh air and exercise, and other hygienic conditions, we may find that all our local treatment proves ineffectual; but on the other hand, if we regard only the general condition of the patient and neglect the local treatment, we may find that ere the general health can be improved the cornea may be irreparably damaged. Our constitutional remedies often act slowly, while it is frequently necessary to obtain some prompt local effect upon the ulcer if we wish to stop its progress and preserve a useful eye.

Curetting has been much practised in the severe cases, but I confess not to have had so good results with the curette as with the actual cautery. Before speaking of that, however, I wish to mention one treatment used especially by the French ophthalmic surgeons for these severe ulcers, and that is subconjunctival injections of various solutions. The usual method has been to inject two or three minims of a 1–1,000 solution of bichloride of mercury beneath the conjunctiva, and repeat every two or three days as may be indicated. The good results were supposed to be due to the disinfecting and antiseptic action of the solution. Gradually the strength of the solution has been reduced, until now a 1–4,000 solution is preferred by many, and the opinion is becoming more prevalent that the efficacy is due to the fluid itself in causing an acceleration of the lymph currents of the cornea.

The experiments of Mellinger and Bossalino would tend to confirm this theory. Acting upon this principle, Marti and others have been using a solution of sodium chloride, as being equally efficacious and less irritating than the mercury, and they report very good results.

Still clinging to the idea of antisepsis, but thinking that possibly the acceleration of the lymph current in the cornea or circulatory modifications resulting from the injections may play a part in the result, De Wecker, Scalini, and others still use an antiseptic solution, but make large injections instead of only two or three minims, and claim results such as they never obtained with the small injections.

In the hands of the majority of oculists, however, greater dependence is placed in severe corneal ulcers upon the actual cautery, and certainly my own experience with it has been very gratifying.

As early as 1873 Martinache recommended it in hypopyon keratitis, and about the same time Samelsohn advised it in affections of the lacrymal apparatus, conjunctiva, and ciliary border. Later Fuchs and several others advocated its application to the corneal tissue, but it was slow in gaining favor until Nieden, Schweizzer, Knapp, and Gruening published their results. Since then its value has been recognized by all oculists, though some may use it much more frequently than do others.

There are various types of ulceration in which it is especially valuable, but the simple fact of there being an ulcer should not be considered sufficient excuse for using the cautery. In other words it should not be used indiscriminately, but should be reserved for selected cases in which the simpler methods have been tried and have failed, or occasionally in severe cases in which even upon the first visit it is evident that something radical will be necessary.

In abscess of the cornea the cautery is now often used when formerly the Saemish section would have been practised, and I have seen most gratifying results follow.

In serpiginous ulcer this is the most effective means we possess of stopping its advance. A sloughing ulcer with its surface covered with pus, threatening either to involve more and more of the corneal tissue, or to perforate, will after a thorough cauterization take on a healthy appearance. Usually a single application will be sufficient, though rather than attempt to use it too vigorously the first time it is better to use it a little more cautiously and then repeat, if need be, in a few days. We should, however, endeavor to destroy the dead and purulent material as thoroughly as possible without destroying any of the healthy tissue. In the sloughing ulcer associated with pus in the anterior chamber—hypopyon keratitis—the application of the cautery will often cause the purulent material to undergo absorption.

In chronic ulcers which have resisted possibly for a long time all forms of treatment, touching once with the cautery will frequently change entirely their character and produce speedy resolution.

In phlyctenular ulcers, herpes of the cornea, and many other forms of ulceration, this remedy will at times prove invaluable, and by its use not a few eyes, which would otherwise most probably be lost, are saved, and that, too, with good or fairly good vision.

Its application would be contraindicated when

[1] Read before the Cleveland Society of Medical Science.

perforation has taken place and the iris is prolapsed or attached to the edges of the ulcer; and also in very extensive ulceration of the cornea when a thorough cauterization would be apt to cause too severe reaction.

The galvano-cautery and the Paquelin thermo-cautery are usually spoken of as the best instruments for this purpose, and they certainly are the most elegant. More simple and less expensive ones will, however, be found to answer the purpose just as well. I have a platinum tip in a wooden handle, and use an alcohol lamp for heating it. Cocaine anæsthesia is sufficient and renders the operation entirely painless, but in small children it is well to use a general anæsthetic. Fluorescin will be found of value in some cases in exactly outlining the extent of corneal surface which is denuded of epithelium. Heroic as this treatment may seem, I have never seen a bad result follow its use. The relief from pain, which frequently follows the use of the cautery, is very marked, though sometimes there will be a slight exacerbation for several hours. Any of a number of cases will suffice to illustrate its application.

Case I.—Mrs. M. S——, aged thirty-one years, was referred to me by Dr. Bunts, with the history that for seven weeks she had been suffering with her right eye. There had been some discharge, sight had become impaired, the eyeball pained considerably, and a dull headache was almost constantly present. Examination showed an ulcer at the outer margin of the pupillary area of cornea, with considerable loss of substance, and with infiltration about it. There was also some catarrhal conjunctivitis. Under the use of the usual remedies, together with silver nitrate, the eye improved until about a week later, when some dust got into it. I found some foreign substance resting upon the ulcer, which was looking considerably worse. This was removed, the ulcer gently curetted and touched with bichloride of mercury (1–500), and the eye bandaged. No improvement took place, and four days later the actual cautery was lightly applied. The eye felt decidedly better and the ulcer improved, except in one very small spot, which was again touched with the cautery. Improvement then continued without interruption, and when I last saw her, ten months after the inflammation had subsided, vision, with some astigmatism corrected, was $\frac{5}{9}$.

Case II.—F. R——, aged thirty-five years, consulted me at the college June 17th, with the history that the left eye had been inflamed for three or four days. Examination revealed a small ulcer at the upper outer portion of the cornea. A simple lotion was given. A week later he returned with a fresh attack of inflammation. Atropine was instilled and a bandage applied. On the 29th, the ulcer, which had continued in about the same condition, with very little inflammatory reaction, began to take on a somewhat serpiginous character, extending toward the centre of the cornea. The actual cautery was applied with decided benefit, but after a few days, as the apex of the advancing portion again looked unhealthy, the cautery was applied simply to that portion. Following this, the ulcer rapidly became healthy in appearance and was very soon entirely healed.

Case III.—Mrs. K. D——, aged twenty years, consulted me, with the history of frequent attacks of inflammation in the eyes since childhood. The present attack had lasted four days. There was a small phlyctenula beyond the limbus in the right eye, and in the left there was an ulcer almost in the centre of the cornea, with considerable pericorneal injection. The patient was rather anæmic. Atropine and a simple lotion were ordered for local use, and syrup of iodide of iron for internal use. She was also referred to Dr. Straight, who found posterior adenoids, as suspected, and removed them. Two days later the eye was looking no better, in fact rather worse, and the ulcer, or rather abscess, for the epithelium covering it was found still to be intact, was a little larger. Under cocaine the cautery was applied rather freely to the surface of the abscess. Three days later the eye was so much better that the bandage was removed, and within a week all signs of inflammation had disappeared.

Though I might cite other cases, these few are sufficient to indicate the value of this remedy in purulent inflammation of the cornea; and while we should not be too hasty in applying it in all cases, yet on the other hand we should not err by postponing too long, until the ulcer becomes larger, the use of this most effective means of stopping its progress. When the cautery is properly applied no more dense scar will remain than would be produced by the ulcer itself, and in fact by its timely use we can often prevent the formation of a large scar.

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CHRONIC SUPPURATIVE OTITIS MEDIA.[1]

By ROBERT E. MOSS, M.D.,

San Antonio, Texas.

The practical interest to the aurist and general practitioner, and its serious termination when neglected, make this disease one of great importance. It has been greatly neglected in the past, and, I might say, is still, and it is only in the last few years that it has been treated on a rational basis. We are told quite frequently by patients who have suppurative ears, especially children, that the doctor said they would outgrow it. In order intelligently to treat any lesion or diseased condition, it is necessary first to determine the cause or causes producing the same, the location and extent of the diseased process. As a cause, we find that the condition known as adenoids heads the list, for this in childhood leads to acute suppuration, which recurs from time to time as the lymphoid tissue in the nasopharynx becomes swollen from colds, producing pressure upon the tubes of either side, or maybe only one, and this causes temporary or permanent occlusion of the Eustachian tube. This is followed, of course, by acute suppuration, unless promptly relieved, and may continue as a chronic process: or as the pressure is relieved the tube becomes patent, and the discharge ceases, to recur again with the next severe cold. As a consequence of this, we have permanent changes occurring, which serve to keep up a discharge. Tuberculous caries is rather frequently met with, or, at least, we see quite a number of these unfortunates in this locality. Whether it begins as such, or is, as I believe, engrafted upon an existing diseased condition, I do not know.

This form of suppuration is the most difficult of all to deal with, for in the majority of cases there is advanced tuberculosis of the lungs, and we are not justified in advising these subjects to submit to surgical procedures unless there are positive indications of serious complications.

Cholesteatoma is not an uncommon cause, but requires radical treatment. Granulations, polyps, caries, necrosis, and at times a foreign body, are found as immediate causes of the persistent discharge. The exanthematous fevers are also frequently followed by prolonged suppurative processes involving all the important structures of the ear. It is impossible to form any definite idea of the condition of the middle-ear space, antrum, and mastoid, from the appearance or symptoms complained of by the patient. The small perforation in the tympanic membrane, with

[1] Read before the Southwestern Texas Medical Society, October 29, 1896.

slight discharge and more or less pain, is all we have to call our attention to the ear. There is usually some impairment of hearing, and this may amount to complete deafness; yet the degree of impairment, tinnitus, pain, and discharge are not safe guides to inform us of the extent or location of the diseased process. I have found, when operating, extensive involvement of antrum and mastoid, the cells crowded with granulations, caries of bone, the pus overflowing into the middle ear and making its exit through perforation in the tympanic membrane; yet there was not a symptom which would aid us in deciding that such a condition existed.

It is well to make a very careful examination in every case, getting a complete history, and never omitting an examination of the eyes with the ophthalmoscope, for statistics show that at least fifty per cent. of cerebral abscesses are caused by suppurative ear troubles, and if we find choked discs our prognosis should be guarded and immediate operation advised. In treating any case, our first duty is to remove every possible cause and then direct our treatment intelligently to the diseased area. It is impossible to formulate any plan of treatment suitable for all cases.

We frequently see an article from an enthusiast, recommending some plan as a cure-all and he seldom admits a failure. I can only say of such that they are not safe men to follow. If we should treat our cases from the standpoint of advanced surgery, and not rely upon powders, astringents, washes, douches, etc., our successes would be far greater.

In giving the details of treatment, I shall not tax your patience with long descriptions of the plan of this or that man, but briefly outline the histories of a few cases treated, which fairly include the types most frequently met with.

Case I.—H. L——, aged one year, had a history of discharge since he was three weeks old. He was very small, poorly nourished; lymphatics everywhere enlarged; tonsils hypertrophied; nasopharynx completely filled with lymphoid tissue. The right ear was swollen, with redness and œdema over the mastoid region. The dischage from the external canal was scant but very offensive. The left ear showed no swelling. The discharge was rather profuse, but without odor. He had fever running from 100° to 103° F., which had lasted about a week. The child cried almost continually, unless he was under the influence of some narcotic. The attending physicians had been giving the child the benefit of the best recognized treatment for such cases, and the condition was growing worse. I advised an immediate operation, which was done the same day. I chiselled down to the antrum on the right side, and found caries of the walls, with masses of granulation tissue, all of which were thoroughly removed. The cavity was carefully syringed out with saturated boric-acid solution, then dried and dusted with iodoform, and the external incision closed. Then I removed the tonsils and all lymphoid tissue from the nasopharynx. He recovered nicely from the operation, and was free from fever upon the second day, taking more nourishment and resting quietly without an opiate. I prescribed calomel triturates and iodide of iron, with cod-liver oil. He made a perfect recovery. His hearing is normal, and he is still free from any trouble. Operation, three years ago.

Case II.—Wallace P——, aged sixteen years, had had suppuration of right ear since an attack of measles fourteen years before. He had been treated by a number of physicians, and I treated him faithfully for two months, without any improvement, and advised an operation. In chiselling down to the antrum, I came upon the lateral sinus not more than one-sixteenth inch from the wall of the external canal. It was nicked, unfortunately, and I had to pack with sterilized gauze to check bleeding. The tympanic membrane had been destroyed and the hearing also of that ear; therefore, I curetted carefully all diseased bone I could detect, which extended to the dura above the middle-ear space. The cavity was irrigated very gently, with head held well over; then dried, and thoroughly insufflated with boric-acid powder. The gauze packing was removed two days later, and the wound closed. He had facial paralysis on the same side, which is an unfortunate but not always avoidable complication. This was treated with mild faradic current, and at the end of three months it was noticeable only when he laughed. The discharge entirely ceased, and he was also completely relieved of severe headaches, from which he had suffered at times for years.

Case III.—J. P——, aged thirty years, had had suppuration of both ears since childhood. Right, he heard a watch in contact; left, a loud voice at two feet. I treated him most thoroughly for three months, and the discharge ceased in the right ear, but no improvement was noted in the left. I performed a Stacke operation on the left ear, and found the mastoid cells and antrum filled with granulations, and the bone necrosed. The discharge and tinnitus were completely relieved by the operation, and the hearing was improved so that the watch is heard now by light contact.

Case IV.—H. K——, aged twelve years. Double suppurative otitis following scarlet fever. Examination showed large perforation in the tympanic membranes of both ears, offensive discharge, and masses of granulations seen through perforations. The pus was forced out by Politzer inflation and careful use of the masseur; the cavity was cleansed, cocainized, and dried; and nitrate of silver, one drachm to the ounce, was carefully applied with a slender cotton applicator. This was allowed to remain a few moments, then neutralized by salt solution. There is a good deal of pain, but I have never seen any dangerous reaction follow this procedure. The nose and nasopharynx received attention in the mean time. At the end of three months all discharge had ceased, and by touching the margins of perforation in the tympanic membrane of the left ear with nitric acid once a week, it was completely closed. The right is too large ever to close, as at least two-thirds are destroyed. Hearing: Right ear, $\frac{3}{36}$; left ear, $\frac{34}{36}$.

In studying the relation which chronic suppuration of the ear bears to cerebral abscess and sinus thrombosis, we are impressed with the great importance of these cases and how imperative is the thorough removal of the cause.

There are very few cases of long standing in which we are not justified in performing the Stacke operation, provided, of course, every visible cause has been removed and the discharge continues. We are advised by some to wait until there are urgent symptoms pointing to extension of the trouble before resorting to operation. What would we think of a general surgeon today who would try palliative remedies in a case of recurring appendicitis or circumscribed peritonitis due to pus tubes? And yet patients afflicted with either of these latter conditions may live years after the death of one with suppurative otitis.

Those of us who have been unfortunate enough to operate after the meninges and brain were involved in a septic inflammation realize how futile are such efforts. It would be like telling the experienced abdominal surgeon to wait until there were symptoms of perforation or peritonitis before opening the abdomen. The operation should never result fatally when done by a skilled operator and one thoroughly familiar with the parts involved. The oftener I operate the more pronounced is my opinion that many lives might be saved each year by operating in every case that has resisted intelligent thorough treatment.

Progress of Medical Science.

The Chemistry of Human Breast Milk. — From a clinical and chemic study of the breast milk of two hundred recently delivered women, Adriance and Adriance (*Archives of Pediatrics*, February, 1897, p. 85) conclude that an excess of fats or of proteids may cause gastro-intestinal symptoms in the nursing infant. An excess of fats may be reduced by diminishing the nitrogenous elements in the mother's diet, and an excess of proteids by the proper amount of exercise. An excess of proteids is especially prone to cause gastro-intestinal symptoms during the colostrum period. The proteids, being more abundant during the colostrum period of premature confinement, are a source of danger to the untimely born infant. Deterioration in human milk is marked by a reduction in the proteids and total solids or in the proteids alone. This deterioration takes place normally during the later months of lactation and, unless proper additions are made to the infant's diet, is accompanied by a loss of weight or a gain below the normal standard. When this deterioration occurs earlier it may be the forerunner of the cessation of lactation, or well-directed treatment may improve the condition of the milk.

The Treatment of Disabled Joints Resulting from the So-Called Rheumatoid Diseases.—In a recent communication, Goldthwait (*Boston Medical and Surgical Journal*, January 28, 1897, p. 79) reports a series of cases which for convenience' sake he considers under two types—rheumatoid arthritis and osteo-arthritis, to the differentiation of which he attaches much importance from a therapeutic point of view. Rheumatoid arthritis is said to be much more acute than osteo-arthritis; it occurs in middle and advanced life and in early life as well. During the acute stage the joints present a spindle-shaped swelling, which finally subsides, leaving the joint much atrophied and usually ankylosed. In the treatment of cases belonging in this category the joints should be manipulated after all acute symptoms have disappeared. The character of the manipulations is of much importance. Osteo-arthritis is a much more chronic condition, occurring only in middle life or old age, and is characterized by a proliferation of the articular cartilage, with the formation of nodes about the joints. In cases of this kind manipulation should not be practised, as any injury or undue violence is likely to stimulate a more rapid development of the cartilage. It is this tendency that explains the impairment of function that so often results after comparatively simple injuries to a joint. Under such circumstances protection and immobilization are of importance.

Tuberculosis in Infancy.—In a paper having special reference to the mode of infection in tuberculosis of early childhood and infancy, Dr. L. Emmett Holt (*Medical News*, December 12, 1896) concludes: 1. Intra-uterine infection in cases of tuberculosis is very rare, the child often escaping even when the mother is suffering from active disease in an advanced form. 2. Infection through the alimentary tract is also very rare, and will not explain more than one or two per cent. of the cases. 3. The distribution of the lesions in tuberculosis of infancy and early childhood points conclusively to infection in the vast majority of cases through the respiratory tract.

Facial Tic as an Occupation Neurosis.—At a recent meeting of the Berlin Society for Psychiatry and Nervous Diseases, Cohn (*Berliner klinische Wochenschrift*, January 4, 1897, p. 16) related the case of a man, forty-eight years old, who had worked as a watchmaker for thirty-four years from eight in the morning until eight or nine at night, during most of the time holding in his left eye like a monocle a lens in a wooden frame. For two years there had been twitching about the left eye and the adjacent part of the face. The movements occurred at first only after the man had been at work for some time, but they gradually became constant and were sometimes tonic in character. The disorder was not reflex through the trigeminus, as there had never been pain or other manifestation in the distribution of that nerve, but it was considered as an occupation neurosis resulting from the continued excessive innervation of the facial nerve.

Uretero-Ureteral Anastomosis.—In a paper read before the Southern Surgical and Gynecological Society, Bovée (*Annals of Surgery*, January, 1897, p. 51) maintained that uretero-ureteral anastomosis is a perfectly feasible procedure, which, whenever it is possible, is far preferable to any other form of ureteral grafting, to nephrectomy, and to ligation of the ureter. It should be done preferably by lateral implantation or by oblique end-to-end anastomosis, though the transverse end-to-end or the end-in-end method may be employed safely. Constrictions of the calibre of the ureter do not usually follow attempts at suturing in closure of complete transverse section of the duct. Nephrectomy for transverse injuries of the ureter *per se* is an unjustifiable operation. Simple ligation of the ureter to produce extinction of the function of the kidney is too uncertain to justify its practice. Drainage is not necessary if the wound be perfectly closed and the tissues throughout are aseptic.

The Intraperitoneal Treatment of Abdominal Hydatids.—This new method seems to be gaining ground in Australia, as a result of further experience, and justly so. The usual treatment has up to date been that well known by the name of Lindemann's operation, consisting of laparotomy, evacuation of cyst contents, and suturing of the adventitious sac to the wound, followed by drainage. This operation has been condemned in able articles by Mr. Hamilton Russel and Charles Ryan as unscientific and unnecessary. The former points out that there is absolutely no reason for treating the sac with this amount of consideration; that for all practical purposes, the sac is only the capsule which necessarily forms round a foreign body, and that when the foreign body which has excited its formation has been removed the adventitious sac may be disregarded and dropped back into the depths of the wound, and the wound closed completely, as after any ordinary abdominal operation. Mr. Russel then discusses the objections which have been urged against this intraperitoneal method. The first objection is that the fluid poured out from the adventitia will escape into the peritoneal cavity. His answer to this is that, in the first place, there would seem no reason to suppose that any large amount of fluid will be poured out by the adventitia; in the second place, the best thing that could happen to any fluid so poured out would be that it should escape into the peritoneum, for, being an aseptic fluid, it could do no harm to the latter, but would be rapidly removed by absorption. In this also lies one of the chief objections urged by Mr. Russel against suturing the opening in the sac, as was done by Bond, of Leicester (who really made the first departure from Lindemann's method), for, the sac being a structure which has absorptive powers very inferior to those of the peritoneum, the fluid would not be removed so rapidly,

and would therefore be in a much more favorable position for the occurrence of decomposition, should the elements of septic change have been introduced at the time of the operation. For these and other considerations several surgeons have now successfully adopted for all non-suppurating cases of hydatid the intraperitoneal method, which briefly consists of laparotomy, then incision into the tumor, removal of the mother cyst and all membrane, cleaning and wiping dry the cavity with sponges, and finally dropping back without any suture the adventitia, and final closure of the abdominal wound. The only sound objection that I can see to this method is that bile might (as it sometimes does) escape from a bile duct into the sac and lead to mischief, but so far no bad results have happened.—*Australasian Medical Gazette.*

Cardiac Surgery.—An editorial writer in the *Journal of the American Medical Association* points out that wounds of the heart or pericardium are by no means inevitably fatal. Thus Steudener relates a case of a man who was shot through the heart and the bullet ranged backward through the spinal cord, causing paraplegia. Death occurred in fifteen weeks, evidently more from the latter cause than from the heart wound. In West's case a man received a stab from a shoemaker's knife. After remaining in the hospital for a month he was discharged, and died from tuberculosis four years afterward. Professor Conner, of Cincinnati, relates a case of a boy, aged fifteen years, who was shot from behind. Pneumonia, endocarditis, and pericarditis developed, and after thirty-one days the patient was able to walk. A valvular lesion remained as a result of the endocarditis, and death occurred three years and two months afterward. These cases were confirmed at the necropsies. Even more remarkable are the cases reported by Velpeau and Brugnoli. In the former's case a man of fifty came to the necropsy table with a history of having received a stab in the left breast from a table knife some nine years previous. At the examination scars were discovered both in the pericardium and in the right auricle, with adhesions between. Brugnoli records the case of a man who, after receiving a stab from a knife, was able to resume work in seventy-eight days, and lived for nineteen years. The necropsy disclosed an enlarged heart, an adherent and calcareous pericardium, and old scars in the right ventricle and septum, with a split mitral valve. The heart is an organ that sometimes tolerates foreign bodies very well, and again a slight injury gives rise to a fatal issue. Among foreign bodies found in this organ besides bullets and needles, which are the most common, are splinters of wood, fish bones, etc. Even the ubiquitous hat pin has been discovered (Langier). Bullets have been found encapsulated in the heart for many years; in the right ventricle six years (Latour); in the wall of the ventricle for twenty years (Balch); and for no less than fifty years in the pericardial sac. It must be observed in passing, however, that these cases refer to the old-fashioned round balls: few conical balls will be stopped by the heart, and still fewer, if any, of the most recent projectiles of small calibre and extreme penetration. The extent of the wound does not seem to bear any decided relation to the duration of life, for while Steiner's experiments seem to prove that simple puncture by a needle is not very dangerous, yet several cases are on record of immediate death resulting from needle wounds, either accidental, homicidal, or otherwise. Again, in the cases in which recovery took place, as previously mentioned, the damage was much greater than any that could be inflicted by a needle. In Brugnoli's case the mitral valve was implicated: in Conner's, one cusp of the aortic valve; yet the patients survived for years. The causes of immediate death after heart injuries are two in number, nervous and mechanical. First, by interference with the ganglia presiding over the movements of the organ, and second, by the effusion of blood into the pericardial sac, thus compressing the organ and hindering its action. For the former complication surgery is of no avail. In the latter, however, it would seem that evacuation of the fluid or clotted blood might be followed in many cases by favorable results. Although paracentesis of the pericardium was first proposed by Riolan over two centuries ago (1649), it was not until late in the present century that it was actually put into practice. Roberts reports over forty per cent. of recoveries after paracentesis or incision, and, bearing in mind the usually fatal ending of the affections requiring this operation, the figures are highly encouraging. Possibly these favorable results have encouraged surgeons to advocate suturing bullet and stab wounds of the pericardium and heart. Park, of Buffalo, we believe, is the latest of these. It has remained for Cappelen to put this suggestion into practice. The patient was a man of twenty-four, who had received a stab from a knife some hours before admission. On entrance he was unconscious, no pulse could be felt, the heart sounds could be heard, but no impulse was perceptible. The wound was a puncture, not bleeding, one centimetre long, and situated in the left fourth space, parallel with the rib. After an injection of camphor the patient began to breathe and the pulse could be felt. The left side of the chest did not move. Under chloroform the wound was enlarged, and the fourth rib was resected. The left lung was compressed by an accumulation of blood in the pleural cavity, partly fluid, partly clotted. After this was evacuated the lung expanded and was found to be not wounded. The third rib was now resected and a wound which was bleeding freely was found in the pericardium, one centimetre long. The pericardial sac was found to be filled with coagulated blood, and after the wound in the pericardium was enlarged another one measuring one centimetre in length was found in the left ventricle, which caused the hemorrhage. This wound was sutured and an artery tied, when the bleeding ceased. The account of the operation states that the suturing was rendered extremely difficult by the rhythmic movements of the lung, which covered and obscured the field of operating, and by the contractions of the heart, which, however, were quiet and regular. The suturing was accomplished by bringing the needle half way through during a contraction, then dropping it, and after second contraction bringing it completely through. After the operation the patient's pulse was very rapid and feeble, but improved after saline injection. The patient sank gradually and died two and one-half days later. The necropsy showed a wound of one of the large branches of the coronary artery; the wound had healed partially, but there were a beginning pericarditis and various bacteria in the exudate. While death ensued, yet the fact that the patient lived for over two days, and that no operative measures could be instituted for some hours, shows that in more favorable cases recovery will follow. Fischer's statistics prove that the most important parts of the heart functionally, the ventricles, are much more liable to wounds than the auricles—two hundred and fifty-seven wounds of the ventricles against only thirty-one of the auricles, a result which might be expected from the smaller size and less exposed position of the latter. Again, the great urgency of similar operations may preclude as thorough aseptic precautions as those in other measures of less expediency. However, in view of the foregoing facts the opinion seems warranted that "the citadel of life" itself will no longer be exempt from the incursions of the surgeons.

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New York, February 27, 1897.

IS GYNECOLOGY DESTINED TO BECOME AN OBSOLETE SPECIALTY?

THE phenomenal interest in gynecology manifested by the profession during the past few years has been shown not only by the flood of special literature annually poured out and by the number of societies devoted to this branch of surgery, but by the fact that young men are crowding into this specialty to an extent which warrants the inference that the supply already exceeds the demand. Moreover, the prominence which has been given to gynecology in all our post-graduate schools, where it has always been the popular subject, has tended not only to increase the special knowledge of the general practitioner, but to lead him to believe that any one can be a gynecologist. We have frequently in these pages deplored the ultra-surgical trend of this specialty, and have predicted that a reaction would come. Such has been the history of every American fad which has been pushed to its extreme limits, whether in medicine or in fashion. This reaction has already set in, as shown by the conservative practice and teachings of men who were formerly most radical in their methods.

But, unfortunately, the attempt unduly to exalt gynecological surgery at the expense of non-surgical treatment has reacted somewhat disastrously upon gynecologists themselves. Not content with confining themselves to their proper region, they have reasoned that their familiarity with abdominal surgery should render them the equals if not the superiors of general surgeons in the handling of cases which bear no relation to diseases of the pelvic organs.

We shall not discuss the propriety of this tendency to broaden the sphere of gynecological surgery, or seek to deny that special operators have been remarkably successful in general surgery, but would merely call attention to the fact that gynecologists have only themselves to blame if general surgeons have followed their example and now perform all the operations which they formerly left to their confrères. The natural process of reasoning has been: If gynecology has become purely surgical, why should it be confined to a special class of operators, who themselves no longer devote their attention exclusively to pelvic diseases?

But this is not all. We observe with regret that a decided antagonism has developed between the gynecologist and the general surgeon, as shown by frequent unfriendly comments in published addresses, society discussions, and even after-dinner speeches, each accusing the other of invading his territory and performing special operations with which he is unfamiliar. Now, as the surgeon is decidedly in the majority and is closely in touch with the general profession, the specialist is manifestly at a disadvantage and must look to himself or he will "lose his grip." It will be his own fault if the noble branch of surgery which has been enriched by the labors of so many master minds ceases to occupy the commanding place which it has held so long.

How is it that this change has come about in America, when abroad the distinction between gynecologist and general surgeon is just as sharp as ever? It appears to be due to some extent to the fact that the commercial factor has become prominent, to the exclusion of the scientific. The brilliant spectacle of the operating-theatre has been regarded as more attractive than the more solid results of the laboratory. Pathology has given place to improvements in operative technique. In short, gynecologists have been so anxious to devise new surgical methods of treating every pelvic trouble that the fact has been largely lost sight of that important pathological questions still remain as far from solution as they were ten years ago. If gynecology is to remain a specialty it must be because its followers continue to demonstrate the fact that they can do their own work better than general surgeons, and, moreover, that in many cases in which the latter overlook the more occult conditions they can by their greater knowledge and skill preserve organs which the surgeon would sacrifice. It is along the line of conservatism that the battle will be fought, not of radicalism. It would be well for the coming gynecologist to bear this in mind, as well as the little-heeded advice not to launch out as a specialist without a thorough general training. Gynecology is a natural outgrowth of general surgery, but the contrary is far from being true, and any attempt to reverse this condition must end in ultimate failure.

Let gynecologists prove that their specialty is capable of development along other lines besides those of radical surgery, and there is no danger that it will ever come to be regarded as unnecessary.

THE HEALTH BOARD AND COMPULSORY REPORTS.

THE committee on hygiene of the Medical Society of the County of New York made the following report on Monday evening, endorsing the recent mandate of the health board concerning compulsory notification of cases of pulmonary consumption:

"Realizing the need of proper measures to prevent the spread of pulmonary tuberculosis, and regarding it an essential preliminary that all physicians be impressed with the importance of making an early diagnosis of the same by microscopical examination of the

sputum, we earnestly recommend that physicians avail themselves of the offer of the bacteriological department of the board of health to make such examinations. We approve of the compulsory reporting of cases of pulmonary tuberculosis, if the inspectors are forbidden to visit or to have any communication with the patients without the consent of the attending physician, believing that the attending physician is capable of giving all the necessary instructions.

"W. H. Katzenbach, M.D.,
"*Chairman.*
"Charles N. Dowd, M.D.,
"E. Le Fevre, M.D.,
"Robert C. Myles, M.D.,
"D. Harris, M.D."

Considering the great significance of the proposed compulsory measure and the widespread professional opposition to its practical enforcement, the report in question can hardly be considered as expressing the views of the rank and file of the medical fraternity. Fortunately for the society, the recommendations were laid upon the table for future discussion.

Every one realizes the necessity of preventing the spread of tuberculosis, but concerning the means to the end there is a very radical difference of opinion between the board and the profession at large.

It is hardly necessary in these days to impress the physician with the importance of an early diagnosis of this very common disease. In fact, the insertion of such a recommendation in a report calculated for public use would naturally imply that physicians as a rule are not careful enough in their early diagnosis of this disease to be trusted absolutely, and that consequently the bacteriological department of the health board must come to their assistance. Virtually to the health board is thus given the controlling power in the making of a diagnosis. It becomes a very serious question whether or not everything in the way of the early recognition of the disease actually depends upon the discovery of the tubercle bacillus in the sputum. As a matter of fact, we know that this is not so. With tubercle bacilli everywhere, there is no reason why they should not exist, temporarily at least, in the pharyngeal or bronchial mucus of even healthy persons. It is the taking root in a depressed vitality that fixes the thing. When the latter is done, the diagnosis is simple enough. The signs obtained, even in the earlier stages, are easily enough recognized by the merest tyro in auscultation. The localized dulness at the apex, the prolonged, high-pitched expiratory murmur, the circumscribed râles, the hæmoptysis, and the dry hacking cough are too significant to leave any doubt in the mind of the most casual observer. The bacteriological examination is merely confirmatory of what has already been discovered. To make it the one absolute test is absurd. It is, in fact, magnifying the importance of such a test beyond all reason for its real necessity. Besides, it is the confession of an inability on the part of the family attendant to make a diagnosis without outside help.

Which, then, becomes the higher authority? If clinical experience avails nothing, then each medical man should have his own laboratory, for certainly all our patients should have the best advantages for diagnosis and treatment that can be obtained. Then, again, the profession should consider how much of increased responsibility and of unnecessary work is thus thrust upon an ever willing board. What has happened with the tuberculous question may likewise occur with any other disease, and where are the appropriations to be obtained for new official hospitals, larger official laboratories, and more official inspectors? Already we see that the force of the latter is wholly inadequate to stop the constant spitting in cars and other public places. It may be possible, too, that the board with all its power may even find that the present compulsory reports of phthisis cases may be equally impracticable.

This will certainly be the case unless some compromise is effected between the power of the board and the rights of the profession. There is no objection to the reports of pulmonary cases for statistical purposes. In fact, every medical man would be willing to conform to such a reasonable request. It is, however, the extra missionary work assumed by the board which is the ominous and threatening quantity in the equation—the desire to assume official control of the cases after they have been reported, thus not only, by means of alarming bacteriological edicts, directly interfering with the physician in the diagnosis and treatment of the patient, but in the end, by the creation of a public suspicion of his ignorance, possibly depriving him of one of the means of a legitimate livelihood.

The attempt of the committee to reconcile the opposing conditions of might and right of compulsory reports, by the qualification that the inspectors shall not visit phthisical patients without permission of the physician, is, under present circumstances, inconsistent and illogical, and is barely excusable on the ground of trying to say something and meaning nothing. The board has the power to do as it sees fit. If it chooses to make an inspection it can do so, all protests of the physician to the contrary notwithstanding. The only basis of a proper understanding in this matter is the guarantee of the board that in case the returns of pulmonary cases are faithfully made, for statistical purposes only, there shall be on its part no direct or indirect interference between patient and physician, either in the way of official inspections, bacteriological diagnosis, forced isolation, suggestions for treatment, or presumptuous instructions to the patient regarding hygienic precautions. If we mistake not, the profession is very much in earnest in thus dividing responsibilities with the board, and will yet be able to vindicate its rights and demonstrate its power.

We doubt not that these and many other points bearing on the proper relations of the health board with the profession will be duly discussed at the next meeting of the society. The sister organization, the New York County Medical Association, as will be noticed in a report in our present issue, is also interested in this question, and will at its next meeting doubtless speak its mind in no uncertain tone.

THE COCAINE HABIT.

By a curious coincidence there have been references lately in several of our contemporaries to an alleged increase in cocaine addiction in various sections of the country. Contrary to what is supposed to prevail in regard to vices of this sort generally, this habit seems to have obtained a hold over the working members of the community, the idle and the vicious apparently preferring opium and alcohol and other poisons. In an editorial on this habit, which it calls a "*fin-de-siècle* curse," the *Memphis Medical Monthly* says that in the South by far the greater number of sufferers are to be found among the lowest element of the negro population, although there are many other laborers and people of a higher class who have fallen victims to the habit. It is stated that in one shop alone about ten dollars' worth of cocaine is sold every night in ten-cent packages of five grains each. In New England also the vice is widespread. The *Boston Medical and Surgical Journal* says, quoting from the daily papers, that such large numbers of the inhabitants of Manchester, Conn., have become slaves to the cocaine habit that, in the opinion of an "experienced physician," "the future prosperity of the town is involved." The trouble arose from a preparation of cocaine and menthol which a druggist in the town compounded about a year ago, and exploited as a remedy for asthma. So popular has this "snuff" become that people are seen in the streets and in dark corners at public entertainments indulging their passion for the compound. According to the report, the druggists, although getting rich by the sale of the compound, are so bothered by "well-known men and women" who ring them up at all hours of the night to obtain a supply, threatening to break into the store if their wants are not attended to, that they have become prime movers in an attempt to check the evil habit. Numbers of people are said to be running into debt to provide themselves with the drug.

Making all allowances for reportorial exaggeration, we have no doubt that many people in all parts of the country are being innocently lured into this enslaving habit by the catarrh "snuffs" and "balms" so extensively advertised. Many of these do, of course, afford temporary relief, and they are therefore resorted to with each recurring attack of coryza and are charitably recommended to friends. And so imperceptibly the victims come to rely upon the preparation for daily stimulation, and by the time that they have learned that it is the cocaine that helps them they are already powerless to free themselves.

A Suit for Using X-Rays.—A Chicago pugilist has brought suit for damages against a surgeon for locating a bullet by the *x*-rays. The plaintiff alleges that the surgeon kept his body exposed thirty-five minutes to the rays; that he suffered much while the bullet was extracted, and as a result a sore on his breast two inches in diameter has developed, which will probably never heal entirely. In order to make the punishment fit the crime, he asks for damages to the amount of *x* thousand dollars.

News of the Week.

Dr. Kammerer's Article.—In Dr. Kammerer's very interesting article in our last issue, Figs. 1 and 2 were accidentally misplaced. We trust our readers have already discovered the error by the descriptions of the respective conditions in the text.

Another Antitoxin of Tuberculosis.—Dr. Maxutoff writes, in *Vratch*, that he has obtained from the blood of guinea-pigs with tuberculosis an antitoxin by which he has rendered other guinea-pigs immune.

Rokitansky's Sons.—The death of Rokitansky, the Viennese opera singer, at the age of sixty, and son of the celebrated Austrian pathologist, who also had a son a physician, recalls the answer given by Rokitansky, Sr., when asked what his sons did. He said: "*Der eine heilt und der andere heult*"—*i.e.*, "One heals and the other howls."—*Montreal Medical Journal.*

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending February 20, 1897: February 17th.—Surgeon R. Whiting placed on retired list, February 15th; Assistant Surgeon J. C. Rosenbleuth detached from the *Raleigh*, February 20th, and ordered to the *Massachusetts*.

The Brooklyn Medical Society.—At the annual meeting of this society, held January 15, 1897, the following officers were elected: *President*, Dr. F. G. Winter, 18 Patchen Avenue; *Vice-President*, Dr. Peter Scott; *Secretary*, Dr. B. F. M. Blake; *Corresponding Secretary*, Dr. J. H. Droge, 8 Stuyvesant Avenue; *Treasurer*, Dr. L. E. Meeker, 44 Linden Street; *Librarian*, Dr. Edwin A. Hatch.

A Curious Law in West Virginia.—Dr. Thomas R. Evans, of Charleston, W. Va., writes that, as the law now stands in that State, any physician or surgeon who "resorts to any expedient whatever" may be mulcted in heavy damages in case his patient dies, and yet he is not allowed to testify in his own behalf nor can another person testify for him. There is no stated time when such a suit can be outlawed. We could hardly credit the existence of such an unjust law did not our correspondent vouch for it. He states that a case in point has occurred, in which a medical man has been condemned to pay a fine of $10,000.

A Proposed National Sanatorium.—A bill has been introduced in Congress to give to the American Invalid Society, of Boston, the abandoned Fort Marcy Military Reservation in New Mexico, on condition that the society shall, within two years, establish on the reservation a sanatorium for the treatment of pulmonary diseases. This society is one organized to assist pulmonary invalids to go to the mountain region of the West for treatment.

Obituary Notes.—Dr. William S. Preston died at his home in Patchogue, Long Island, on February 16th. He was born in Ashton, Conn., in 1810, and went to Patchogue in 1837 and began the practice of

medicine. He was a member of the Suffolk County Medical Society. He was the first president of the board of education in Patchogue, and was an assemblyman from Suffolk County in 1854.—Dr. S. Gratz Moses, one of the oldest and most prominent physicians in St. Louis, died February 21st, aged eighty-five years. He was a native of Philadelphia, and received his medical education at the University of Pennsylvania, where he was graduated in 1835. He established the first dispensary in St. Louis many years ago, and was one of the founders of the Obstetrical and Gynecological Society.

The Plague.—The returns of the health authorities, made February 18th, report that since the outbreak of the plague there have been 6,853 cases and 5,447 deaths from the disease in the city of Bombay, and in the entire presidency, 9,911 cases and 8,006 deaths.

A Series of Coincidences.—The sixty-second double-wedding anniversary was recently celebrated, in a small town in Indiana, of Moses and Isaac Marty, twins, who married Tabitha and Lavinia McCormick, twins. Each couple has had seven sons and five daughters, the first children being born within a few days of each other, and the last children also being of almost exactly the same age.

School Physicians.—At a recent meeting of the board of education of this city the following were appointed school physicians for the present year: Drs. W. Gill Wylie, John G. Truax, Josephine Walter, Clement Cleveland, Alexander Lambert, A. M. Jacobus, Matthias Nicoll, Jr., John Rogers, Jr., P. J. Lynch, and Samuel M. Buckner.

Fees for Expert Testimony.—Judgments were entered recently against the city, in favor of Dr. Allen Fitch, Dr. Allan McLane Hamilton, and Dr. Graeme M. Hammond, for professional expert services rendered in the case of the People *vs.* Maria Barberi. The judgments are for $3,950, $1,500, and $1,800 respectively. No funds being available from which the district attorney might pay them, the doctors had to sue for their fees. Epileptic homicides are expensive luxuries in a community.

The Political Aspect of the Montreal Meeting.—At a dinner given recently in London to Dr. Roddick, of Montreal, president-elect of the British Medical Association, he touched in his speech upon the political significance of the meeting in August next. He said that he felt it was a great contract to bring the association to Montreal, but he was an imperialist, and if there was anything by means of which he could bring the premier colony of Canada closer to the British Isles he would be always willing to make use of it. There was no doubt that the Canadians had not always been looked after quite so well by their friends in Great Britain as they ought to have been; they had felt themselves neglected, and they had often had occasion to feel that the English did not know them as well as they ought, and as he wished they did. He hoped it would be many a day before Canadians added more stars and stripes to the flag of the United States, and that they would be satisfied for a long time with the flag that was wrapped around Wolfe on the Plains of Abraham and which later led Brock on to victory. He thought they were getting in the thin edge of the wedge of genuine imperialism in bringing over in the same year to Canada two great associations like the British Medical Association and the British Association for the Advancement of Science.

Widal's Typhoid Reaction.—Fränkel, of Halle, in the course of some experiments with Widal's test for typhoid fever, found the reaction present in the case of two men who were supposed to have had the disease a year before the examination. This is a point that might profitably be made the subject of further research, for if it is the case that the blood preserves the reaction for an indefinite period after recovery from the disease the test would lose much of its value in the case of hospital patients and others whose previous history cannot be certainly learned.

Influenza is rife in Baltimore, and the *Maryland Medical Journal* incriminates the abominable brick sidewalks of that city. These, it says, add greatly to the dampness of the atmosphere. "When the rains and snows are not wetting the bricks, the householder is allowing the servant to soak the bricks with water. Thus Baltimoreans have damp sidewalks a large part of the day. A reform in sidewalk paving and washing is needed in a city where lung troubles add so materially to the mortality."

More Medical Peers Wanted.— Sir Joseph Lister's elevation to the peerage is regarded by the editor of *The Practitioner* as not an honor to the profession of medicine alone. "It must be remembered," he says, "that Lord Lister is something more than a doctor. He is the highest official representative of science in this country, and it is not unlikely that his claims as the reformer of surgery might have been overlooked but for the lucky coincidence of his being the president of the Royal Society. It would be a graceful thing if, on the occasion of the Queen's 'diamond jubilee,' a coronet were given to one of the fathers of the church medical, such as Sir William Jenner or Sir James Paget, whom the profession could claim as wholly its own.

A Prosperous Practice.—For the year ending December 31, 1896, at the bureau of medical and surgical relief, out-door poor, Bellevue Hospital, 138,578 visits were made, of which 50,493 were from new patients. The number of prescriptions given was 159,060.

The Widening Ranks of the Medical Profession.—A proposed amendment to the medical practice law, recently introduced into the Missouri legislature, exempts from punishment for practising medicine or surgery without complying with the provisions of the act, all graduates of any "legally chartered and regularly conducted school of osteopathy." We have no idea what is the special absurdity advanced by the osteopaths, but as we understand there are some in New York the counsel of the County Medical Society might perhaps ascertain incidentally while looking into their qualifications.

Guarding Against Impure Ice.—The Paterson board of health has refused to permit the sale in that city of ice which has been cut from the Passaic River. For the last six years the ice dealers who have harvested their crops from the Passaic have held their permits without renewal. But the river has been found to be infested with typhoid bacilli, and the health authorities have declared the water unfit for ice harvesting. Accordingly, they have ordered all ice dealers to renew their applications for permits, and all those who procured their harvest from the Passaic have been refused renewals. The harvesting has gone on, however, and doubtless the companies will sell their ice somewhere, if not in Paterson, perhaps in New York.

Happy Kentucky.—At the annual banquet of the New York State Medical Society, during the recent meeting in Albany, Dr. J. M. Matthews, president of the State board of health of Kentucky, in response to the toast "sister societies," said that recent legislation in his State had rid the State completely of unqualified practitioners.

Lepers in Various Places.—The number of lepers in the Molokai colony is between 1,100 and 1,200, not 11,000 and 12,000, as was recently printed in an extract from a letter written by Dr. Mouritz, of Mapulehu. The number of lepers in Columbia has risen from 400 to 27,000, not 2,700, as was printed in a letter recently. There are some lepers in or around this city, but we cannot say how many, and we are disinclined to print any more leprosy statistics for the present, until the tendency of ciphers to displace themselves has been overcome.

Castration for Rape.—The house committee on public health of the Kansas legislature has made a favorable report on a bill which does away with a penitentiary sentence for men convicted of assaulting women and substitutes castration. The Social Purity League of Topeka has been urging the passage of this bill, and the leaders in the league claim enough votes in both houses to pass the law, and have secured the promise of Governor Leedy's signature. They say that, following the lead of Kansas, ten other States will have the same law at the next session of their legislatures.

A Chance for the Antivivisectionists.—If, instead of trying to retard the progress of true science, the antivivisection fanatics would take hold of a sensational preacher in Michigan, who kills cats in the pulpit, they might be of some use in the world. According to an account in the *Cleveland Leader*, it was announced that the Rev. W. L. Laufman, of Cadillac, Mich., assisted by Dr. C. E. Miller, would kill two cats in the pulpit of the Methodist church, to illustrate Laufman's sermon on tobacco on February 7th. On that day the church was packed. Prominent on the pulpit were packages of fine-cut and plug chewing-tobacco. Laufman contended in his sermon that tobacco in any form was bound to fill the user with nicotine and eventually produce death. Spain of today, he said, was not the chivalric Spain of Columbus' time, because of the prevalent use of tobacco. He commented, also, on the decadence of Turkey and France, due, of course, to the use of tobacco; but forgot to mention that Russia was making giant strides sociologically, intellectually, and politically, despite the almost universal use of tobacco. Then the cats were brought up by Dr. Miller. An assistant held them while the doctor administered the nicotine. The first one died in a minute and a half, while the attendant held it, after three drops of nicotine had been placed on its tongue. The next cat, a large one, received only two drops, the purpose being to illustrate the sickness and spasms which the first dose of tobacco creates. A second dose of two drops was given, and in a minute and a quarter the cat was dead. This humble follower of the Lord then announced that next Sunday he would kill some more cats, to show the effects of alcohol, and also have on exhibition the stomach of a drunkard.

Riotous Athenian Students.—The recent riot by medical students in the University of Athens originated in a rebuke addressed by one of the professors to some students who were creating a disturbance during the performance of an operation. The students considered themselves insulted, although the professor assured them that he had no intention of doing anything of the sort. They would not accept the explanation, but clamored for his resignation, and then, for some reason as yet unexplained, tried to break up the lectures in the law school. The law students, however, resented the interference, whereupon a free fight ensued. Then the police took a hand and made some arrests, but were stoned. Next the students tried to kill the librarian of the university. The troops were now called out, and the university was blockaded, but the students managed to get a supply of arms and provisions, and spent the night there. The next morning several hundred of them marched out, with the purpose of going to the palace, but ran up against the soldiers and police, and had a pitched battle with them. The rioters were finally subdued by the fire department, and after a while lectures were resumed at the university.

American Medical Editors' Association.—The next meeting of this association will be held in Philadelphia, during the session of the American Medical Association in June. Dr. Hobart A. Hare, of Philadelphia, is *President;* Dr. H. Bert Ellis, of Los Angeles, *Secretary*.

Philadelphia Pediatric Society.—At a stated meeting of the Philadelphia Pediatric Society, held on February 9th, Dr. J. P. Crozer Griffith presented two cases of unilateral tremor—one in a boy with hemiplegia, and the other (associated also with rotatory spasm of the head) in an infant, about twenty-two months old, without other obvious cause than nutritive defect. Dr. Howard S. Anders exhibited a beautiful skiagraph of a fœtus. Dr. Alfred Hand, Jr., demonstrated a girl, of about fourteen years, in whom recovery had ensued from an attack of cervical pachymen-

ingitis five years before. Dr. J. P. Crozer Griffith read a paper on Pasteurization of milk, and exhibited the Freeman Pasteurizer. Dr. C. H. Weber read the report of a case of noma in a child without recognized preceding infectious disease. Dr. J. H. McKee read a paper on enuresis, and Dr. J. F. Prendergast recommended the employment of the cold douche in treatment, as a result of the phenomenal success in ninety cases thus treated in a public institution, with recovery in eighty-four.

Philadelphia Museums.—Dr. William Pepper has been re-elected president of the Philadelphia museums.

Camden (N. J.) District Medical Society.—At a meeting of the Camden District Medical Society, on February 9th, Dr. B. S. Lewis read a paper on "Cretinism."

Medical Aid for Armenian Refugees.—Lady Henry Somerset has sent a woman physician and two nurses to attend to the medical wants of the women among the Armenian refugees in Bulgaria.

A City Ordinance Against Spitting.—It is reported in the papers that the municipal authorities of Phœnix, the capital city of Arizona, have passed an ordinance imposing a fine of $10 upon any one spitting on the sidewalk.

Alcoholism and Idiocy.—M. Bourneville has submitted to the Paris Public Health Society the following statistics, which show the influence of alcoholism in the production of idiocy. Of 1,000 idiotic, imbecile, backward, or epileptic children admitted to the Bicêtre Asylum between 1880 and 1890, 471 had drunken fathers, 84 had drunken mothers, while 65 were of alcoholic parentage on both sides. In only 209 cases was there no history of alcoholism on either side. In 175 no information on this point was forthcoming. In 57 cases it was positively ascertained that conception had taken place while the father was drunk, and in 24 other cases the same circumstance was extremely probable, though not quite certain.—*British Medical Journal.*

Helminthiasis Extraordinary.—The following medical item appeared in *The Boston Weekly News-Letter*, January 14, 1717, the first newspaper, and at that time the only one, published on this continent: "*Boston*, On the Lords day Morning the sixth Currant, a strange thing fell out here, One Thomas Smith a Sawyer about four Month ago, bought a Lusty Tall new negro, fit for his Employ, who after complain'd of something within him that made a Noise Chip, Chip, Chip; his Master sent for a Doctor, one Sebastian Henry Swetzer a German, who told him he had Worms, whereupon he gave him some Physick on Wednesday: from Thursday till the Lords Day he gave him some Powders, which on the Lords Day had that effect as to cause him to vomit up a long Worm, that Measur'd a hundred and twenty eight Foot, which the negro took to be his Guts; it was almost as big as ones little Finger, its Head was like a Snakes, and would receive a Mans little Finger into its Mouth, it was of a whitish Colour all full of Joynts, its tail was long and hard, and with a Microscope it seem'd to be hairy; the Negro before voiding the Worm had an extraordinary Stomach."—*Albany Medical Annals.*

Venereal Disease in the Indian Army.—Since the Indian government passed the "cantonments act," abandoning medical inspection of prostitutes visited by the soldiers, there has been an enormous increase in venereal disease among the troops. Out of seventy-three thousand British soldiers now in India, only twenty-four thousand are not suffering from a special disease more or less severely. One-half of the whole army is incapacitated from prolonged marching service. Preventive measures against the disease are taken in every army, and were found of the highest utility in the Indian force when medical inspection of the cantonments women was practised. The act abolishing inspection was passed under pressure from English religious societies. The viceroy's council has urged the repeal of this act, but this is violently opposed by many clergymen and religious associations in England.

The Prince of Wales' Hospital Fund.—The Prince of Wales has sent to the London papers a long communication, in which he announces the creation of a fund, to be called the Prince of Wales' Hospital Fund for London, to commemorate the sixtieth anniversary of the Queen's accession to the throne. The object is to secure about £150,000 annually by subscriptions of a shilling and upward to meet the needs of the hospitals which are not met by existing funds, with which the proposed fund is not intended to interfere. The communication states that a council will be appointed, of which the Prince of Wales will be president and Baron Rothschild treasurer. It might be possible to secure $750,000 this year while the people's feeling of loyalty and affection for the Queen is running high, but we question whether the collection could be repeated annually or whether enough could be raised now to establish an endowment fund of sufficient size to yield this income. The recipients of hospital charity in London are just at present rather dissatisfied with attending physicians and surgeons whose privilege it is to treat them for nothing. The patients think the doctors ought to pay for being allowed to see and prescribe for them.

The Best Way to Take Cold.—While all the world is sneezing and coughing with more or less grace and vigor, it is not surprising to find a large portion of the medical world agitated over the question as to the best way of taking cold, whether there is more chance of doing so by going from a warm to a cold atmosphere, or the reverse. In attempting to decide the question we are reminded of the report of the discussion of a debating society which we once saw in a country newspaper. It was as follows: "The question for discussion was: 'Who leads the happier life, the farmer or the inhabitant of the city?' The question was decided in the affirmative." We decide our question also in the affirmative.—*The Hahnemannian Monthly.*

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 15, 1897.

JOSEPH E. JANVRIN, M.D., PRESIDENT, IN THE CHAIR.

Inaugural Address.—DR. JANVRIN read a brief address on entering upon his second term of office, and spoke of matters which he thought had an important bearing upon the welfare of the association. His first effort during the past year had been to encourage scientific work. The result had been satisfactory, for the papers and discussions before the association had compared favorably with the work before other scientific bodies. Regarding the bylaws, a committee had been at work during the past year for their improvement, but he assumed that the changes proposed in its report in December had not been sweeping enough, since its acceptance was put off until the March meeting. He hoped the members who had any suggestions to make would communicate with the committee meanwhile. Regarding the directory, this had not been issued during the past year for want of funds. It might be continued by raising the dues from $2 a year to $3. The committee on hospitals and dispensaries had done important work during the year in trying to rectify the abuse of power by the commissioners of charities when they placed the appointment of physicians to public institutions in the hands of a few private corporations. A great wrong had been committed, and the president believed that no member of the medical profession, whether a member of the association or not, could take any other view of it. Unfortunately the scope of the work assigned this committee seemed not to have been fully understood by all members of the association. Yet its duties were plain, and consisted simply in doing whatever was possible to correct the abuse of power referred to. It had not gone beyond its authority in that respect, nor had it been influenced by friendship or personal feeling. The president hoped the association would carry on this work until a full recognition of the rights of the profession in the matter mentioned should crown its efforts. He wished to make one suggestion to the committee itself. He hoped it would, at as early a date as it could, turn its attention to the abuses existing in dispensaries and out-door departments of hospitals, whereby thousands of persons were being aided in becoming paupers and the younger members of the medical profession were being defrauded of fees which, though small, would assist them while building up a practice. He felt very strongly on this point, but he was always ready to take an active part in worthy charity. Believing, as he always had, that the code of ethics of the American Medical Association was the best itemized exponent of the golden rule for our guidance, and that in its essential features it could not be improved upon, he felt that physicians should accept it in good faith, try to live up to it, and endeavor to do their duty in enforcing it without fear or favor. When a difference of opinion arose in eminent bodies, and for any reason it seemed best for any member or members to resort to the press for the ventilation of their views or justification of their acts, they should remember that it was not to the secular press they should turn, but to the medical journals, whose pages were always open for free and impartial discussion of moot points. To resort to the secular press smacked of quackery, or showed the weakness of the cause of those who hoped thus to evoke public sympathy. "With malice toward none and charity for all, let us come together and settle our differences at once, and make this association the foremost one of the county in all work devoted to the honor and rights of the medical profession."

Special Meeting to Consider Hospital and Dispensary Abuse.—The president was handed a request signed by fifteen members to call a special meeting to consider the hospital and dispensary abuse. The president appointed Tuesday evening, February 23d.

Opticians' Bill Opposed.—DR. MANLEY offered resolutions opposing the bill before the legislature relating to the fitting of glasses by opticians. One resolution as adopted was: "*Resolved*, That the fitting of glasses to the eyes is practising medicine, and that in order to carry out the functions of the physician in this particular it is necessary that one should have that knowledge which can only be acquired by complying with the laws governing medical practice." Carried.

Board of Health and Tuberculosis.—The association was asked to adopt the spirit of some resolutions which had been adopted by the West Side German Dispensary, opposing the action of the board of health in placing tuberculosis among the communicable diseases, over which the board had almost arbitrary power. The resolutions also embodied the opinion that the health board ought not to take such important steps without first asking for and receiving the endorsement of the proposed action by the Academy of Medicine and the two county medical societies, for without the co-operation of the general profession the board's edicts must prove abortive.

After some discussion by DRS. WARDEN, MCLEOD, and MANLEY, DR. DENISON moved that action on the resolutions be postponed until the next meeting, and that the board of health be notified. Carried.

On motion of DR. GALLANT, a vote of thanks was extended by Dr. P. B. Porter for his long and active service as secretary.

Therapeutic Hints.

Cascarine.—This is recommended as a substitute for cascara sagrada in habitual constipation, in pills of one and a half grains, one to four being taken in the evening. The advantage of cascarine is that it acts with more certainty and without causing colic.—DR. SCHOENLAUB, *Schweiz. Woch. f. Chem.*

Asthma.—The "cigarettes Espic" are very widely used. Their formula, according to Trousseau, is as follows:

R	Fol. elect. herb. belladonnæ	0.36
	Fol. elect. herb. hyoscyami	0.18
	Fol. elect. herb. stramonii	0.18
	Fol. elect. phellandrii aquat	0.06
	Extract opii	0.008
	Aq. laurocerasi	q. s.

The leaves, well dried and freed of their ribs, are cut up and carefully mixed. The opium is dissolved in cherry-laurel water and the mass is uniformly dampened with the solution. The paper which is used in making the cigarettes is also previously washed in a maceration of the leaves above named in cherry-laurel water and carefully dried. The patient smokes one or two of such cigarettes during an attack.—*Twentieth Century Practice of Medicine*, p. 169, vol. vii.

Vasogene, a compound of a heavy hydrocarbon oil saturated with oxygen, may be combined with iodoform, etc., which it dissolves, for injecting tuberculous abscesses, fissures, etc.—*Pharmaceutical Journal.*

Dysmenorrhœa.—

℞ Antipyrini 10
Ammon. bromid.,
Potass. bromid. ..... āā 5
Ext. viburn. prun 20
Spir. vini gallici,
Syr. cort. aurant. ..... āā 40
Aq. dest. 90
M. S. Take a teaspoonful four or five times daily.

For treatment of dysmenorrhœa in young girls, the following may be found useful in controlling the pain:

℞ Tinct. belladonnæ fol. 5
Tinct. opii camphoratæ 10
M. S. Take fifteen drops in water as required.

—*Twentieth Century Practice of Medicine*, p. 587, vol. vii.

Pneumonia.—Very important drugs in the treatment of pneumonia are the four alkaloids—strychnine, cocaine, atropine, and caffeine—which act as stimulants to both circulation and respiration. As a cardiac stimulant and tonic, strychnine is inferior only to digitalis, and should always be used when there is exhaustion in pneumonia. Cocaine resembles strychnine in its cardiac action; atropine as a heart stimulant is decidedly inferior, but exceeds both strychnine and cocaine in its influence upon the vasomotor centres, and is, therefore, especially applicable to those cases in which collapse occurs or is threatened at a time of crisis, at which period its power of checking excessive sweating often gives it further advantage. Of these alkaloids atropine is probably the most active in increasing respiratory movements in the normal man, but it has less power in asserting itself in the face of opposition than has either strychnine or cocaine, and is therefore practically less available. Strychnine seems to be more active and efficient than cocaine, and does not, as does cocaine, produce cerebral excitement. Caffeine cannot be looked upon as a powerful respiratory stimulant, but affects decidedly the cerebral cortex, and therefore, if employed at all, must be used in small dose as an adjuvant, or in special cases when it is desired to overcome stupor.—Drs. Wood *and* Fitz, *The Practice of Medicine*, p. 752.

Castor-Oil Mixture.—

℞ Glycerini,
Olei ricini. ..... āā ʒ i.
Olei caryophylli. ..... gtt. iv.
M. S. Shake thoroughly. Tablespoonful contains dessertspoonful of castor oil.

If this mixture, after it is shaken to thorough homogeneity, be put into an ice-cold spoon or ice-cold water, it will congeal into a very thick mass which can be swallowed without disgust.—Drs. Wood *and* Fitz.

Metrorrhagia.—

℞ Ergotini,
Quininæ sulph. ..... āā gm. 4
Ext. hyoscyami,
Pulv. digital. fol. ..... āā gm. 0.40
M. et ft. pil. No. xl. S. Take from five to ten pills daily.

Menorrhagia with Dysmenorrhœa.—

℞ Ext. fluid. hydrastis canad.,
Ext. fluid. viburn. prun. ..... āā gm. 15
M. S. Ten drops every two hours in a little sugar and water.

—*Twentieth Century Practice of Medicine*, p. 579, vol. vii.

The Whale Cure for Rheumatism.—The following appears in the *Dublin Journal of Medical Science*, November, 1896: "It is reported that at the town of Eden, a place in Australia which stands on the shores of Twofold Bay, there is a hotel where rheumatic patients congregate. Whenever a whale has been taken the patients are rowed over to the works in which the animal is cut up, the whalers dig a narrow grave in the body, and in this the patient lies for two hours as in a Turkish bath, the decomposing blubber of the whale closing around his body and acting as a huge poultice. This is known as the 'whale cure for rheumatism.'"

Malakin, hitherto employed in rheumatism and to reduce fever, possesses decided anthelmintic and vermifuge properties.—Ottolenghi.

Creosote Pills.—

℞ Beechwood creosote ..... 10 gm.
Powdered liquorice root ..... 20 "
White of egg ..... 5 "
M. et div. in pil. No. c.

—Kathrein.

Hyperidrosis Pedum.—Apply with a brush for two or three days a solution of formalin (Höchst). If excoriations are present, they must be healed beforehand, and care must be exercised during the application not to breathe the fumes of the formalin.—Adler, *Prager med. Woch.*, No. 39.

Metrorrhagia.—

℞ Ergotininæ. ..... 0.20 cgm.
Alcoholis ..... 2. gm.
Aq. laurocerasi ..... 10. gm.
Aq. dest. ster., q. s. to make 100 gm. of solution.
S. Inject in twenty-four hours from a quarter to a half of a syringeful.

—*La Presse Médicale.*

Granulated Lids.—Paint the mucous membrane of the lids with a solution of pure iodine mixed with liquid vaseline (oleum petrolei) twice a day. In chronic cases use vaseline containing from a half to one per cent. of iodine. In about four days improvement begins, and in about twenty a cure is generally effected.—Neznamoff.

Scraped Apple is said to disguise the taste of quinine.

Hydrobromate of Hyoscine not only quiets the nervous symptoms and induces sleep but destroys in a measure the desire for alcohol.

Gonorrhœal Rheumatism.—The treatment of gonorrhœal rheumatism is very unsatisfactory. We have never found the salicylates, colchicum, the iodides, or the mercurials to exert a distinct influence for good. In the acute cases rest, fixation of the joints by splints, and blisters or the application of the thermo-cautery over the joints, constitute the major part of the treatment. In chronic cases careful attention to the general health, the best possible hygienic surroundings, the administration of tonics and of arsenic, and the use of massage and passive movements, comprise about all that can be done by the physician. The utmost importance should always be attached to the local treatment of the genito-urinary organs; the obstinacy of the disease often depends upon the existence of a slight chronic gleet. The surgical treatment of the inflamed joints, by opening and irrigation, is said to have yielded satisfactory results.—*The Practice of Medicine*, p. 70, by Drs. Woods *and* Fitz.

Calcium Chloride in dose of one to three grams is claimed by Savill to allay itching in a remarkable degree.

Functional Derangement of the Liver.—The bicycle surpasses calomel. It works like a charm also in all the sympathetic ailments which arise from too much acid in the system.—E. B. Turner.

Diabetes.—Some severe cases with rapid loss of weight may be kept back from the cachectic stage by the use of calcium.—Grube.

Persistent Diarrhœa of Phthisis.—

℞ Acid. sulph. dil.,
Nepenthe.....āā ♏ x.
Syrupi aurantii.....ʒ i.
M. Ex. aqua sumend.

—Nansome.

Dermatitis Roentgeni is often of too serious a nature to permit of the employment of *x*-rays in reckless therapeutic experiments.

Thyroid Preparations are looked upon as practically useless in skin affections by Zaroubine (*Vratch*, Nos. 25 and 26), and, besides, anæmia and cardiac affections present formal contraindications to their use.

To Abort Coryza.—

℞ Phenic acid, pure,
Spirits of ammonia.....āā 5 gm.
Alcohol at 90 per cent..... 10 "
Distilled water..... 15 "
S. Gtt. x. on blotting-paper to inhale every hour.

—Lermoyez.

Chestnuts.—Ten drops of tincture of horsechestnuts in sweetened water before meals, morning and night, not only stops the pain but is curative in hemorrhoids (twenty-one cases).—Astault.

Sand Baths, artificially heated, offer an excellent means of inducing perspiration, exciting the functions of the skin, etc. They are useful in rheumatism and have no bad effect upon heart or circulation.—Besrodnoff.

Vermicide.—

℞ Distilled peppermint water..... 50 gm.
Ethereal extract of malefern..... 6 "
Essence of turpentine..... 1 "
Syrup of orange flowers..... 30 "
To take at one dose.

—Comby.

Appendicitis.—Catarrhal conditions are amenable to medical treatment at the commencement when the symptoms are not very urgent. Resection of the appendix is indicated when the attacks are frequently repeated and the iliac fossa remains swollen in the intervals of the attacks, and, above all, if the presence of pus around the appendix is suspected. It is better to operate between two attacks.—Wolff.

Malaria, in a case which would not improve under quinine and arsenic, presenting marked cachexia, etc., rapidly improved under methylene blue in doses of twenty-five centigrams three times daily.—*La Méd. Mod.*, September 13th.

Thrush.—No washing out of the mouth. Good hygienic conditions as prophylaxis. In case of epidemic or endemic, application of silver solution, three per cent.; as prophylactic application, one per cent.—Grosz.

Night Sweats of phthisis are diminished and sometimes made to disappear by the employment of sulfonal in dose of one to two grams.

Tuberculous Meningitis.—

℞ Sodii iodidi..... ʒ iiss.
Syr. aurantii..... ℥ ij.
Aq..... ʒ x.
Two tablespoonfuls the first day, four the second, six the third, and eight thereafter.

Every second day give ten grains of calomel in two doses. Apply a blister to each leg, then to each arm, and finally to the nape of the neck. Rub the shaven head with equal parts of croton and olive oil. Give milk and champagne.—*Medical Press*, October 21st.

Herpes Zoster.—I wish to call attention to two valuable (internal) remedies for this condition, viz., cubeba and rhus toxicodendron. The former, if painless and quite recent; the latter, if older and painful.—John C. Morgan, M.D.

Tetany.—In the treatment of tetany the two indications are to favor the expulsion of the toxic substances and to prevent their formation. Both indications are met by calomel, which Oddo recommends to be given every other day in doses of three-fourths grain or more, according to the age of the child. Washing out the stomach is a useful measure, which, however, must be adopted with discrimination, owing to the risk of exciting laryngeal spasm.—*British Medical Journal.*

Delirium Tremens.—

℞ Potass. bromid.,
Sodii bromid.....āā gr. xv.
Chloral. hydrat..... gr. x.
Tinct. zingiberis..... ʒ x.
Tinct. capsici..... ʒ v.
Spirit. ammon. aromat..... ʒ i.
Aquæ..... ʒ ij.
M. S. Dose: A tablespoonful.

— *Vanderbilt Clinic.*

Neurasthenia.—Dr. Neff summarizes his paper in the *Physician and Surgeon*, October, 1896, as follows: (1) Neurasthenia is a nervous disease having distinctive features and well-marked diagnostic signs. (2) Neurasthenia may be the outcome of various other functional and organic affections; therefore it is divisible into two forms—(*a*) simple neurasthenia and (*b*) symptomatic neurasthenia. (3) The symptoms of neurasthenia are dependent on nervous exhaustion. Experimental physiology would indicate that this is coincident with changes in the nerve cell induced by fatigue. (4) The etiology of neurasthenia is divided into predisposing and exciting elements. In the former, heredity has an important rôle, the prominent exciting cause in the latter being fatigue. (5) The prognosis in the uncomplicated form is good. In the so-called "degenerative form" and in elderly persons relapses are frequent. (6) The treatment of neurasthenia has as an essential feature the employment of rest in some form, associated in some cases with dietetic, electric, and hydropathic treatment, and the use of appropriate drugs to combat symptoms.

Acute Rheumatism.—Dr. Bishop says: "The mistake usually made in the administration of alkalies is in ordering too definite an amount. I have seen a great many cases of articular rheumatism treated according to a regular formula. It was a mixture of citrate of potassium and acetate of potassium, of which a certain number of grains were given at certain intervals. This is not the best way of giving alkalies. It is much better to lay in a good supply of bicarbonate of sodium, and give this persistently in drachm doses as often as practicable, until the urine becomes alkaline. We can give other alkalies in combination if we wish, but the main point to remember is the importance of influencing the reaction of the urine. Bicarbonate of sodium is so familiar a substance that it is easy to get the patient to take a sufficient amount."

Catarrhal Jaundice.—This catarrhal or simple jaundice results from the following causes: (1) Duodenal catarrh, in whatever way produced, most commonly following an attack of indigestion. It is most frequently met with in young persons, but may occur at any age, and may follow not only errors in diet, but also cold, exposure, and malaria, as well as the conditions associated with portal obstruction, chronic heart disease, and Bright's disease. (2) Emotional

disturbances may be followed by jaundice, which is believed to be due to catarrhal swelling. Cases of this kind are rare and the anatomical condition is unknown. (3) Simple or catarrhal jaundice may occur in epidemic form. (4) Catarrhal jaundice is occasionally seen in the infectious fevers, such as pneumonia and typhoid fever.—*The Principles and Practice of Medicine*, by William Osler, p. 430.

Dysmenorrhœa.—

℞ Phosphori. . . . . gr. $\frac{1}{10}$.
Ferri valerianat. . . . . gr. i.
Zinci valerianat. . . . . gr. i.
Quin. sulph. . . . . gr. i.
Ext. aloes . . . . . gr. i.
S. One such pill to be taken three times a day.

Also:

℞ Tinct. cannabis ind. . . . . ♏ x.
Syr. chloral. hydrat. . . . . ♏ xx.
Glycerin . . . . . ʒ i.
Aq camphor. . . . . ad ℥ i.
For one dose.

This should be taken as soon as the pains commence and may be repeated in three hours; it is well to give only two doses in any given twenty-four hours, as many women show signs of considerable excitement, with giddiness and delirium, after repeated doses of Indian hemp.—Bedford Fenwick, *Medical Times and Hospital Gazette*.

Hysteria.—Of predisposing causes, two are important, heredity and education. The former acts by endowing the child with a mobile, abnormally sensitive nervous organization. We see cases most frequently in families with marked neuropathic tendencies, the members of which have suffered from neuroses of various sorts. Education at home too often fails to inculcate habits of self-control. A child grows to girlhood with an entirely erroneous idea of her relation to others, accustomed to have every whim gratified, and abundant sympathy lavished on every woe, however trifling. She reaches womanhood with a moral organization unfitted to withstand the cares and worries of every-day life. At school, between the ages of twelve and fifteen, the most important period of her life, when the vital energies are absorbed in the rapid development of the body, she is often cramming for examinations and cooped in close schoolrooms for six or eight hours daily. The result is too frequently an active, bright mind in an enfeebled body, ill adapted to subserve the functions for which it was framed, easily disordered, and prone to react abnormally to the ordinary stimuli of life.—William Osler, *The Principles and Practice of Medicine*, p. 967.

Extra-Uterine Pregnancy.—Dr. L. B. Frankenthal (*American Gynecological and Obstetrical Journal*) gives from his personal experience of thirty-seven cases the following summary: 1. Impregnation occurs in the tube. 2. In the majority of cases the etiology of extra-uterine pregnancy can be established by a mechanical hindrance to the wandering of the fecundated ovum from the tube to the uterine cavity. 3. Treat conservatively only those cases seen some time after primary rupture, in which you feel fairly certain of the death of the fœtus, in which the alarming symptoms have subsided, and in which presumably absorption is going on. 4. Operate early for reasons given above. 5. The operation during shock is not contraindicated, for frequently just the removal of the foreign body from the peritoneal cavity stops shock. 6. Drainage, preferably vaginal, should be done in all cases. 7. To relieve shock, transfuse salt solution when the amount of blood lost is not too great and when the hemorrhage has not occurred repeatedly at long intervals; for then direct transfusion should be practised, as the functions of vital organs have become impaired and they need more than a mechanical stimulus—they need red blood corpuscles. 8. To hasten some operations merely clamp the adnexa and leave clamps *in situ*. 9. Whenever possible remove the placenta; if not, tampon and drain. 10. In deciding when to operate after viability, do not consider the child, for not only are they short-lived (of fifty-seven cases collected by Harris five only were alive after two years) but likewise such children are deficient in development. 11. Sterility on account of the number of criminal abortions and prevention of conception is not a very reliable symptom.

Hæmoptysis.—Dr. Capitan (*La France Médicale*, September 25, 1896) advises as follows: If large quantities of blood are being lost, we may treat the symptom first and make an accurate diagnosis afterward. Place the patient in a quiet position with the head raised, and forbid movement. Place mustard plasters upon the lower extremities. Give pieces of ice to suck, and, if it is possible, a teaspoonful of ether in a little sweetened water. Above all, give a hypodermic injection, deep into the muscle by preference, of the following solution:

℞ Ergotin (Yvon) . . . . . 5 gm.
Morphine chlorhydr. . . . . 0.04 cgm.
Antipyrin . . . . . 1.50 gm.
Sparteine sulph. . . . . 0.20 cgm.
Atropine sulph. . . . . 0.002 mgm.
Aq. dest. . . . . q.s ut ft sol. 10 c.c.

A syringeful of this may be repeated every half or quarter hour until four or five have been given. If the patient can drink, a dessertspoonful of the following is given every hour or every half-hour:

℞ Ergotin (Bonjean). . . . . 2 gm.
Acidi gallici. . . . . 0.5 dgm.
Syr. terebinthinæ . . . . . 120 gm.

Acute Anterior Poliomyelitis.—Dr. Courtney (*Boston Medical and Surgical Journal*, December 17, 1896) speaks of its treatment as follows: "As the large majority of patients is seen by the family physician at the onset, he should, in directing his treatment, keep constantly in mind the fact that the lesion is primarily a vascular one, and do his utmost to limit the inflammation and preserve the integrity of the nervous structures by the use of counter-irritants and vasoconstrictors. For this purpose the child should be kept in a quiet room, and small doses of some antipyretic, together with bromide and ergot, are to be given. Locally, cold applications and mild counter-irritants over the affected portion of the spine are indicated. The child should be carefully fed, and the bowels thoroughly purged by the use of small doses of calomel."

Quinine is distinctly contraindicated in inflammation of the middle ear, of the skin, of the meninges, of the urinary and alimentary tract.

Rheumatism.—This is recommended as an agreeable salicylate mixture:

℞ Potassii acetatis . . . . . ʒ ij.
Acidi salicylatis . . . . . ʒ ss.
Syrupi limonis. . . . . ʒ ij.
Aq. menth. pip. . . . . ʒ viij.
S. Tablespoonful every three hours.
—*North American Practitioner*.

Phthisis.—Dr. Warburton Begbie gives the following as a sedative and tonic in cases of phthisis. It contains no opium.

℞ Acid. hydrocyan. dil. . . . . ʒ ss.
Acid. nitric. dil. . . . . ʒ iij.
Glycerini. . . . . ʒ i.
Inf. quassiæ. . . . . q.s. ad ℥ vi.
Ft. mist. S. A tablespoonful in a wineglass of water three times a day.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEATH OF SIR SPENCER WELLS—HOSPITAL REFORM MEETING—ARMY AND NAVY MEDICAL REPORTS—SURGERY IN TYPHOID—HEMORRHAGE INTO PERICARDIUM—LIGATURE OF FEMORAL ARTERY FOR ELEPHANTIASIS—ANOTHER OPERATION FOR VESICO-VAGINAL FISTULA—TWO LAPAROTOMIES ON ONE PATIENT—SMOKING.

LONDON, February 5, 1897.

ANOTHER of our leaders has gone on to the majority. Sir Spencer Wells died at Antibes on Sunday night. He went there some weeks ago in fair health considering his state, for he was known to be failing for two or three years. He was within three days of his seventy-ninth birthday when an apoplectic seizure terminated his life in about twelve hours. The body will be brought to England for cremation, of which he was an ardent advocate. Soon after taking his M.R.C.S. he entered the navy and served some six years. He returned to his country's service on the outbreak of the Crimean war, the surgeoncy of the Samaritan Hospital being kept open for him. When he came back he took up there what may be called his life work, and after no slight anxiety and many disappointments on his part the hospital became the Mecca of ovariotomists. He was much indebted to Baker Brown, who had preceded him in this work and whose brilliant operations did so much to establish ovariotomy among recognized operations. After Brown's death Wells stood almost alone as operator, and his great successes brought him an enviable fame and position. He was president of the College of Surgeons in 1882. He was made a baronet in the following year. He leaves six daughters and one son, who takes the title. He was for some years editor of the *Medical Times and Gazette*—now defunct—in which his early cases were fully described. It is superfluous to refer to his larger literary efforts, which are well known to your readers, and are mostly the results of his personal experience. He was a genial gentleman, given to hospitality, and an excellent companion. He was most careful and painstaking in his work, thinking nothing too minute to deserve attention and regarding difficulties as to be overcome.

The Hospital Reform Association is making good play. Last evening this youthful organization held another meeting at St. Martin's Town Hall. Urgent as the subject of hospital abuse is, the very obviousness and universality of it makes attack seem almost hopeless. In presence of such obstacles professional apathy is apt to deepen. All honor, therefore, to the energetic few who are determined to rouse us. The resolution on the out-patient and casualty departments was an emphatic condemnation expressed in moderate terms. It was moved by Dr. Isambard Owen and seconded by Dr. F. J. Smith. Dr. Owen said that, allowing for many patients being reckoned more than once, some five hundred thousand received during the past year out-door relief from the great hospitals of London, and if to them be added the number treated at the smaller hospitals the total figures would be appalling. The legitimate field for charity is large enough, but it does not include those able to pay doctors out of their own pockets, and the administration of the hospitals at present is a gross injustice to those who are practising among the poorer classes. It is a fact, he declared, that many a doctor, both in London and the provinces, has been unable to earn his livelihood, because institutions founded for the benefit of those who cannot pay for medical aid are abused by those who can. The resolution on the subject was carried, as were others, agreeing to put the recommendations of the society before the governing bodies of the hospitals, and asking all who take an interest in our hospitals and charities to support the association.

The report of the army medical department for 1895 has now appeared. The ratio of sickness and mortality at home was not quite so good as in the previous year, but was still below the average. In the colonies as a whole, the health of the troops was below the standard of 1894, but in India there was a decline in the sick rate, though not sufficient to reach the average ratio. The naval report has also been issued for the same period and is satisfactory. The ratio of invaliding was 25.26 per 1,000. This is lower with one exception than any year since 1858, in which the present form of statistics began. Forty-eight lives were lost by the foundering of a pinnace, which somewhat raises the actual number of deaths, but of course drowning is a sailor's risk.

Perforation in typhoid fever has always been looked upon as fatal, but there is really a possibility of recovery, and the propriety of operative interference has often been considered since the modern advance of abdominal surgery. Two cases were brought before the last meeting of the Medico-Chirurgical Society that afford much food for reflection. The first was under Dr. Brunton and Mr. Bowlby. During convalescence the perforation occurred; the abdomen was opened and an ulcer the size of a small pea found after careful search. The ulcer occupied the centre of a Peyer's patch and had perforated the bowel. Ten sutures were used, extending to about an inch and a half along the long axis. Then flatus and fluid were allowed to pass into the coil, and there was no leakage while the lumen was free. Irrigation with hot water was employed and a drainage tube passed. The patient made a good recovery. I believe this is the first such result in England. Two other subjects died. Dr. Abbe's review of all recorded cases in your pages (January 5, 1895) was referred to at the society as complete. The second case brought forward at the same meeting was only one of supposed perforation, but on operation no lesion could be found. The symptoms usually associated with perforation were present, and as the patient was in good condition it was determined to operate as the only chance. The patient made an uneventful recovery. Dr. Norman Moore gave the society some important statistics showing that usually the perforation is within five feet of the cæcum—in three-fourths of the autopsies within three feet. In only one out of twenty-one cases was the perforation in the colon. Perforation was frequently later than commonly supposed—from the twenty-eighth to the forty-first day. He had never seen appearances to induce belief in complete repair, though peritonitis without perforation is common in enteric fever over the ulcerated parts of the intestine. Dr. S. Phillips remarked as to these two cases the symptoms resembled more closely those of perforation in the case in which it had not occurred, showing the extreme difficulty of diagnosis. Dr. F. Hawkins read an account of a case of jaundice with perforation of the gall bladder in the course of typhoid fever. Jaundice is a sufficiently rare occurrence in typhoid to give interest to a case without the addition of perforation of the gall bladder, but there was also pulmonary trouble by which death was hastened.

Among the cases exhibited before the Clinical Society was one of hemorrhage into the pericardium caused by a kick on the sternum at football. The patient, aged twenty years, went on playing for twenty minutes, but on going home became collapsed. Mr. Moullin incised the pericardium and inserted a drain-

age tube through which some six pints of blood escaped in the first three hours, clotting in the basin firmly. The tube was removed the next day and the patient sat up. He is well and has resumed football. Different from the burned child!

There was a case in which the femoral artery had been ligatured for elephantiasis and some remarks were made as to whether real benefit is likely to follow operations of this kind. One case was mentioned which is figured in Bryant's "Surgery."

At the Medical Society meeting there was present a man, aged sixty-four years, who had undergone resection of a stricture of the sigmoid flexure, the ends of the intestine being joined over a large bone bobbin.

Mr. Stanmore Bishop described a new operation for vesico-vaginal fistula, which seems ingenious but apparently must leave an inverted scar in the bladder, which would be likely to lead to phosphatic deposits. But Mr. Bishop said the scar was not at all rough, but practically enclosed in mucous membrane.

A case of two laparotomies in one patient, a woman, aged forty-five years, was related by Mr. Turner, who answered several questions as to the case.

Some of the members of the Harveian Society have lately been trying to persuade the others to permit smoking at the meetings. Last evening the proposal was put to vote and lost. A good thing, too, exclaims a non-smoker, and I am disposed to agree with him. I like my cigar at suitable times, but am not so devoted to the indulgence as to desire a roomful of smoke in debating medical questions. I hear that one suburban society permits smoking at its meetings.

OUR BERLIN LETTER.

(From our Special Correspondent.)

HEITZMANN—DEATH OF A PHYSICIAN BY CHLOROFORM—STRANGE ACTION OF DIPHTHERITIC SERUM—PEOPLE WITH TWO HEARTS AND THREE KIDNEYS—THE FRICTION STETHOSCOPE—EARLY DIAGNOSIS OF CANCER OF STOMACH—VIDAL'S TYPHOID REACTION—TABES DORSALIS IN CHILDREN—THE PEST CONFERENCE.

BERLIN, February 1, 1897.

ANOTHER widely celebrated scientific worker, Carl Heitzmann, has been called away from his labors by death. The name is well known to Americans especially, because of the many years he passed in New York as a teacher of microscopical anatomy in various medical schools. He was the author of the famous "Heitzmann's Anatomical Atlas," which has been used as a standard text-book by students of many countries, for several generations past and present. Although born in Vienna, unfortunately he could not obtain a university position in either his native country or Germany, and therefore emigrated to the United States, which he soon learned to regard as a second home. Ill, he returned to the land of his birth, where he remained until death ended his wanderings.

An instance of death from chloroform narcosis in Berlin, recently, affects the medical world in a peculiarly painful manner. A practising physician of that city was about to be operated upon for hemorrhoids. He was but a few seconds under chloroform when he collapsed, and in spite of all efforts to rescue him died on the table in a few seconds. Such a sad incident occurring within our own ranks warns us to be even more careful than heretofore in the selection and administration of an anæsthetic. It impresses upon us the value of local anæsthesia, the Schleich infiltration method, and it were well that physicians and surgeons became fully acquainted with this excellent procedure. Its universal adoption would reduce the total number of general anæsthesias at least one-half.

A peculiarly unpleasant result following the use of the diphtheria antitoxin upon his own person has been the experience of another Berlin physician, and has been a fruitful source for discussion between the friends and antagonists of the orrhotherapy. This gentleman had been treating a number of diphtheria patients, and became himself infected. Under all aseptic precautions he injected himself in the chest with the antitoxin. Soon there appeared a succession of abscesses starting from the point of injection. No sooner was one healed than a new one appeared in the immediate neighborhood, making life indeed quite miserable for the poor man. He demonstrated himself at a meeting of the Berliner medicinische Gesellschaft, relating his history and showing his abscesses, etc., and blaming the antitoxin as the cause of all his woe. At first he thought he had inoculated himself with the bacillus mallei (glanders), but Virchow found no such germ in the pus. A lively discussion was waged as to whether or not the antitoxin was the real cause of his condition. Of course it cannot be proven that it was not, but it evidently appears to be a case of staphylococcus inoculation, such as is also observed at times in ordinary hypodermic injections of morphine and other medicines. At all events it is to be regarded as a very rare sequence or complication.

Indeed we had opportunity to witness several rarities at the last meetings of the Berliner medicinische Gesellschaft. Dr. Hausemann, the pathologist, demonstrated the urinary organs of a male patient who had died of the perforation of an ulcer of the stomach. There were three complete and separate kidneys. The right kidney was entirely normal, but on the left side were two small kidneys, well formed and having each a separate pelvis but a common ureter. Such a double kidney is a very great rarity. Hausemann stated that he had only once before seen anything like the specimen he demonstrated. It was a pig which had four kidneys. He also showed a specimen of a heart which he claimed was a unicum, and which consisted of a normal-sized heart with a completely separated left auricle. The patient was twenty-two years of age. Upon opening the pericardium at the autopsy, it appeared at first as though there were two hearts; in addition to the apparently normal heart was a second sac filled with blood. The latter, which was larger than the real heart, represented the left auricle, and was entirely free from any muscular tissue. All the valves were intact and the foramen ovale was closed. Hausemann could find no cause for this abnormality.

At the same meeting Senator demonstrated a stethoscope devised by Aufrecht and constructed upon friction principles, very similar to those of the phonendoscope, detailed to you in a previous letter. It is a modification of the well-known "Schlauchstethoscope." At one end the tube is widened out into a small funnel, which is placed against the chest. The other end is shaped into an ear piece. In using the instrument the ear attachment is held in the ear while the funnel end is rubbed over the skin; strikingly appreciable changes in sound are heard. It is very useful in mapping out the heart. The boundaries of that organ can be sharply determined, and as obtained by this method differ very much from those gained by palpatory percussion corresponding to the real outline of the heart. The originator, Aufrecht, calls this instrument a metroscope, but Senator suggests the name of friction stethoscope, in order to exclude any possible confusion the term metroscope might cause.

At a meeting of the Verein für innere Medicin, Dr. Boas, the well-known specialist for stomach and intestinal diseases, showed a man, fifty-six years of age, upon whom an early diagnosis of cancer of the pylorus

was made from presence of lactic acid in the stomach, and upon whom a total extirpation with brilliant results was possible. Before the operation no tumor could be felt through the abdominal wall, notwithstanding repeated examinations. The operation was performed in June, 1896, and the patient to-day feels well, has gained thirty-one pounds in weight, and appears to be in good condition. Boas says: "If the empty stomach in the morning constantly contain remains of food of the previous day, and if we find lactic acid invariably present, and in addition numerous thread bacilli, we can almost positively diagnose the case as one of pylorus carcinoma. We are rapidly approaching the position in which we can with certainty diagnose a cancer of the stomach before it is palpable through the abdominal wall." The case in point well illustrates the great diagnostic advantage which Boas' discovery has given to these classes of cases.

At the same meeting the Vidal typhoid reaction was discussed with great interest. This reaction is as follows: Ten drops of serum of the blood of a typhoid suspect are mixed with typhoid bacilli, and placed under the microscope. If the case be really one of typhoid, the bacteria will be seen in heaps, "pasted together," with clear spaces between the several heaps; on the other hand, should the case not be a typhoid, the bacilli will be seen moving freely in the serum. A. Fraenkel, Stadelmann, Kirstein, and others testified to the positive value of the Vidal reaction.

As a curiosity I cite a case of tabes dorsalis in a boy, thirteen years of age, whom Dr. Bloch showed to the Gesellschaft für Psychiatrie und Nervenheilkunde. The father of the boy had lues and transmitted it to all of his children, all of whom, with the exception of the patient, were cured by a course of inunctions. In the fifth year of life he had dilatation of his pupils; gradually there developed incontinentia urinæ, fixity of the pupil, Romberg symptom, and absence of the patellar reflex. At thirteen years of age he presented all the clinical symptoms of tabes.

A question of lively interest, not only to Berlin but to Europe—yes, even to the entire world, is the combating of the bubonic plague and the prevention of its spread to other countries. Recently a conference was held at the Imperial Department of Health (kaiserlichen Gesundheitsamt) to discuss the advisability of ordering a quarantine against India. The plague will also be the topic for discussion at an international conference to be held in Venice on February 10th. It is almost certain that the German government will send a commission to Bombay to investigate the plague. The commission will be composed of sanitary and bacteriological specialists, and it is most probable that Professor Koch (now in South Africa investigating the rinderpest) will be at its head. It is to be hoped that the plague can be confined to India, for were it to gain a foothold in Europe it would be a matter of vital importance to America.

A BILL TO REGULATE OPTOMETRY.

To the Editor of the Medical Record.

Sir: A bill has been introduced in the legislature, known as assembly bill No. 459, entitled "An Act to Regulate the Practice of Optometry in the State of New York," which decrees that the regents shall appoint a board of examiners to examine any person who desires to treat any condition of the eyes requiring glasses, and grant a certificate of proficiency, which must be hung in a conspicuous place in the office of the recipient. The opticians who call themselves refracting opticians are behind this measure, and contend that the refraction of the eye is no part of medicine, and that physicians have no right to take unto themselves the exclusive privilege of this department.

Every physician must be fully aware of the evil consequences that will of necessity follow the passage of a measure of this kind, as the examination requires simply a knowledge of optics, and is one that any person can prepare himself for in a very short time. The sponsors of this measure claim that they need protection; that they have been fitting glasses for a long time, and that they have a right to continue to do so. In answer, we say that the time was, and not long ago, when the pulling of teeth, blood letting, and many of the functions of the physician or those having a medical education, were in the hands of the barbers; but increasing education has demonstrated that in order to protect the public, medical privileges, of which the fitting of glasses is one, can be safely entrusted only to those who by careful medical training are capable of discriminating between health and disease.

The present standard of medical education is higher in the State of New York than anywhere in the United States, and we urge the members of the profession to keep it so. If every physician who reads this statement will write to his or her representatives in the senate and assembly, protesting against the passage of assembly bill No. 459 in any form which obviates a medical education, as something which would be extremely dangerous to the public, the defeat of this measure is assured.

The committee on legislation would be happy to furnish names of representatives or any desired information.

(Signed) Frank Van Fleet, M.D., *Chairman.*
D. B. St. John Roosa, M.D.
Egbert H. Grandin, M.D.
Charles E. Nammack, M.D.
William R. Pryor, M.D.

New York, February 6, 1897.

CROOKES TUBES AND STATIC MACHINES.

To the Editor of the Medical Record.

Sir: That there are many physicians interested in the subject of my recent article on Crookes tubes is proved by the number of letters reaching me. If writers who have static machines and desire further information as to how to use them will enclose stamps, I will reply to all inquiries. It is certainly to be hoped that tubes will still further improve, but as long ago as the 20th of last September I was able to produce an excellent negative, fourteen by seventeen, of metallic objects through the trunk of a fully clothed adult, in five minutes' exposure, with the tube thirteen inches in front of the person's chest. It is worth while for physicians to know that similar work is within reach of them all, and I teach my students to do the same. With a fair tube it is a matter of skilled manipulation, which any one can learn. I speak of this because the authors of an *x*-ray paper recently read before the Franklin Institute exploit coils as the best way to excite Crookes tubes, and say: "We have very carefully investigated every claim to quicker exposures than these (thirty minutes for the trunk, at twelve to fifteen inches), often by a personal visit, sometimes by correspondence with personal friends whose reliability was undoubted. We have been unable to learn of any results equally good having been obtained in shorter times by any one, at any place, with any form of apparatus, and we do not believe any such have been obtained."

This seems to be conclusive proof of the inferiority of coils. There are probably five hundred physicians in the United States who already possess an electrical

machine that will do far better work, and all they need is to acquire the technique and proper tubes. I am continually demonstrating to my classes the accuracy of the above statements.

S. H. Monell, M.D.

855 Union Street, Brooklyn,
February 10, 1897.

HOMING PIGEONS IN MEDICAL PRACTICE.

To the Editor of the Medical Record.

Sir: The note concerning "Homing Pigeons in Medical Practice," in your issue for January 30, 1897, has called forth a number of queries from medical men in different parts of the country, and it may be that an answer to some of them in your columns would interest other of your readers. Carrier pigeons are not the ones that carry messages, but are bred for show points exclusively, while the "homer" is bred entirely for work. Therefore the size of the "wart on the nose" is of no consequence to the homer, while it would be to the carrier. "A good horse is never of a bad color," so with the homer there is no standard for size, color, or shape; still, it happens that there is a pretty well-recognized type belonging to the best birds. They are of a composite breed, having received blood from several different sources—the "Cumulet," a pearl-eyed pigeon of the tumbler species, inclined to fly very high and long; the "Smerl," a round-headed small bird, somewhat like an owl pigeon, noted for its swift flight; and the "Dragoon," a strong robust pigeon, being the most prominent ancestors of the present day "Belgian homer." The colors most prevalent are blue, blue checkered, and red checkered. These are preferred to the solid white or black, as being less conspicuous marks for the hawk or gun. Many different names have been applied to these birds, but the one here used is most favored, as being the one best descriptive of the bird's effort. It is the bird's love of home and his endeavor to reach it that we utilize for our benefit. In establishing a loft of these feathered messengers, it is best to begin with a few pairs of breeders, which should be kept confined to the loft, with an outside covered aviary if possible, to give them access to the ground. If allowed their liberty they are almost sure to take French leave, no matter how long they have been confined. The young birds should not be trained till the age of four months, when they may be taken on successive days a mile or two from home in different directions; the distances may be increased in geometrical ratio up to one hundred or two hundred miles for birds in their first season's work. During the second season it is no unusual thing for birds to return from five hundred miles or a little more between daylight and dark. When the bird enters his loft it should be through bolting wires which open inward, allowing entrance but preventing exit. There are many devices for carrying messages safely, but in actual practice the one I really oftenest adopt is to have the message written on a prescription blank, folded into a strip about one inch wide, rolled around the bird's leg and fastened with a rubber band. When any of the birds are expected home, a cage should be set in the loft, into which the bird passes from the bolting wires. After his message is removed he may be released and the cage set for the next arrival.

The advantages to a practitioner in the rural districts from the use of this method of messenger service can hardly be overestimated. Take, for example, the young wife living remote from neighbors and expecting her confinement. By leaving two or three birds with her, she has the comforting assurance that she can send word to her physician at the rate of a mile a minute, so that, even before a human messenger could reach the office, the doctor, if at home when the bird arrived, could be ready to start. The bolting wires when pushed may complete an electric circuit which rings a bell in the residence, thus announcing the bird's arrival. During stormy weather or when the roads are almost impassable, it is quite a relief to get daily bulletins from the bedside which it may be almost impossible to reach.

As an instance of the grit and power of the true homer, I will mention the performance of a red-checkered cock bird, which made his escape from me in 1890, after being a prisoner for three weeks, with one wing plucked. The feathers had just begun to sprout, so that he could not fly more than a few hundred feet: yet in two weeks' time he returned to New York City, three hundred and twenty miles away, where he was recognized by his former owner, who wrote me of his arrival, not knowing that he had escaped. He was returned to me, kept prisoner from January, 1891, till September of the same year, during which he mated and raised two pairs of young ones, when he again escaped at 9 A.M., and was in New York the afternoon of the same day. Charles L. Lang, M.D.

Meriden, N. Y., February 13, 1897.

MEDICAL EXPERT TESTIMONY.

To the Editor of the Medical Record.

Sir: I notice with satisfaction that the Society of Medical Jurisprudence has taken into consideration the subject of expert medical testimony in courts of justice, with a view to securing a better condition of things than exists at present. That there should be some radical change in the method of securing expert testimony must be apparent to every reader of the Medical Record.

At present the function of the so-called medical expert would seem to be to throw dust in the eyes of the court and jury. He is generally called to bolster up a theory invented by some ingenious (and often unscrupulous) criminal lawyer, and he generally tells only as much of the truth as will bear favorably upon his side of the case—the side upon which the retainer lies. He becomes, consciously or unconsciously, the advocate of the party that has retained his services. He has sworn to tell the whole truth, but, like Ananias, he withholds the greater portion of it, and if the punishment which befell that ancient prevaricator were meted out to the medical expert he would soon become a *rara avis*.

Somebody has divided expert witnesses into three classes. He says: "There is the liar, the damned liar, and the expert witness." Those who have followed the expert testimony in many of our criminal trials must have concluded that the first two classes largely preponderate.

Under our present *régime*, criminal trials in our courts (of justice [?]) are rapidly degenerating into low farce comedies, in which the criminal lawyer, his hired medical expert, and the criminal himself are the principal actors. Is it not time that something was done to restore to our jurisprudence the dignity which attached to it in times gone by when courts of justice were the terror of evil doers and the bulwarks of protection of the innocent and the oppressed, and not, as now, the arena in which criminal lawyers, with the aid of their medical experts, set justice at naught and make the bench, the bar, and the medical profession the laughing-stock of the community?

G. H. Balleray, M.D.

Paterson, N. J., February 10, 1897.

Surgical Suggestions.

Operative Treatment of Rectal Fistula.—Dr. A. B. Cooke (*Medical News*, November 21, 1896) gives the following important points which should be observed: 1. A careful physical examination of the lungs as well as of the entire rectum to be made in every case. 2. Pulmonary tuberculosis is not necessarily a contraindication. 3. Do not put down the knife until certain that every sinus has been divided. 4. Remove all diseased tissue. Large wounds are not to be feared. 5. Caution: The sphincter is to be divided only once and at right angles. 6. Special attention is to be given to the mucous opening. 7. Invasion of the perineum must be avoided, especially in females. 8. Systematic antisepsis is necessary if good results are desired. 9. Care and patience are required in the after-treatment. Dressings are not to be left to the family or nurse. 10. In the after-treatment two warnings are to be heeded: Complaints of unusual pain by the patient and increase of the discharge. Either of these may mean the formation of another abscess. 11. Hemorrhage and incontinence of fæces are the chief dangers. Both are amenable to treatment and should not deter from the operation.

Acute Gonorrhœa.—Dr. John D. Blake (*Maryland Medical Journal*, January 2d) writes as follows: "I confess I was not one of those who a few years ago thought that the millennium for gonorrhœa had come when the hot antiseptic-solution injection method was introduced, nor am I one of those who believe that nothing can be gained by such treatment. I regret very much to note the fact that in this advanced age many eminent medical men allow themselves to be so influenced by everything that appears new, that their writings upon almost any subject are so extreme and exaggerated, and the claims they make for this or that remedy or method so often overstated, that one sickens at the promptness with which he fails to obtain anything like the results claimed for a certain remedy or procedure."

Anæsthetics.—Dr. H. H. Odrich (*Canadian Medical Review*) makes the following suggestions with reference to the administration of chloroform: 1. If the patient expectorates or moistens the towel with his breath, one can change to another spot to get a more even evaporation. 2. It is well to change occasionally to a fresh, dry part, to be able to see how many drops are falling. 3. The towel covers the eyes and prevents the vapor irritating them—a point with children. 4. A small corner may be used to hold near the nostrils in face operations, out of the surgeon's way.

Alcohol in Cancer.—Dr. Hasse writes, in the *Semaine Médicale*, June 6, 1896, that he has used injections of alcohol for more than twenty years in the treatment of inoperable cancer, and four cases of this kind thus treated are now cured. He uses the same method in cancer of the breast, and believes that cure could be effected in these cases by surrounding the breast with cicatricial tissue by means of alcohol injections. It is preferable to extirpate the breast and treat recurrences by the injections. In this manner he obtained radical cure in a case declared inoperable by Volkmann.

Do Grape Seeds Cause Appendicitis?—Dr. Edward Andrews (*Journal of the American Medical Association*, December 5, 1896) says that the following conclusions are reasonable and mainly true: 1. The appendix is not a "functionless" organ. It produces every day a quantity of tenacious mucus to lubricate the cæcum, and by thus facilitating the fæcal movement prevents impaction in the head of the colon. 2. The current of this tough mucus is toward the gut; hence seeds and other foreign bodies cannot enter the appendix in opposition to the movement as long as the organ is in a healthy condition. 3. From various causes perforations may occur in the appendix. The current of mucus is then reversed and flows outward, and small bodies in the colon may thus be drawn into the appendix, or even carried through it into the abscess or the peritoneum, without being the cause of the perforation. 4. There is no scientific proof that grape seeds are any more dangerous than the hundreds of other small objects which we daily swallow with our food.

Meconium and Sepsis.—Dr. Remy (*Rev. Méd. de l'Est*, March 15, 1896) insists that the membranes should never be broken before complete dilatation without very good reasons for so doing. When the waters escape, meconium is mixed with the liquor amnii, the uterine cavity is soiled, and, if labor be prolonged and antiseptic precautions are impracticable, the fluid mixture decomposes rapidly and septic infection becomes certain. Dr. Remy distinguished the above conditions in seven labors under his observation. The mortality was forty-two per cent. Antiseptic precautions are especially needed in cases of premature rupture of the membranes.

Influence of Sea Air upon Affections of the Nose, Throat, and Ears.—Dr. Lavrand (*Arch. Internat. de Lar., Rhin. et Otol.*, vol. viii., No. 6) thinks that residence in the cold regions of the northern French and Belgian sea-coasts gives good results in the treatment of chronic affections of the ear, nose, and throat, excepting in those cases in which the ear suppurates either constantly or with intermissions, in sclerosis of the middle ear with tinnitus, and in affections of the nose and throat in individuals subject to tuberculous or arthritic laryngeal congestions.

Anastomosis Buttons or similar mechanical devices should be employed in intestinal work only when the patient is *in extremis*.—M. H. Richardson.

Acute Inflammation.—As regards the prognosis in cases of acute inflammation, questions which are constantly asked by the patient are: How long is the trouble going on? and Does it show any signs of improvement? These are difficult questions to answer; but we may take it that if an acute inflammation lasts for more than three or four days, it will almost certainly go on to suppuration; if, on the other hand, it is noticed after three or four days that the skin, instead of being tense and shiny as the result of the great distention from the exudation, becomes wrinkled, the inflammation is subsiding and will probably do so without the occurrence of suppuration.—Frederick Treves, *System of Surgery*, vol. i., p. 71.

Callous Ulcer.—A blister applied over the thickened issues around the ulcer is one of the most rapid methods by which the disappearance of the exuded materials can be brought about.—W. Watson Cheyne.

Under What Circumstances is the Surgeon to Use Chloroform in Preference to the Less Dangerous Anæsthetic, Ether?—1. In hot climates where ether is inapplicable and where free circulation of air increases the safety of the patient. 2. Chloroform may be used whenever a large number of persons is to be rapidly anæsthetized, as on battlefields. 3. Its employment is indicated in cases of Bright's disease requiring the surgeon's attention, owing to the fact that anæsthesia may be obtained with so little chloroform that the kidneys are not irritated, whereas ether,

because of the large quantity necessarily used, would irritate these organs. Quantity for quantity, ether is, of course, the less irritating of the two. 4. In cases of aneurism or great atheroma of the blood-vessels, when the shock of an operation without an anæsthetic would be a greater danger than the use of the anæsthetic, chloroform is to be employed, since the greater struggles caused by ether and the stimulating effect it has on the circulation and blood pressure might cause vascular rupture. 5. In children or adults who already have bronchitis, or who are known to bear ether badly, or, in other words, have an idiosyncrasy to that drug, chloroform may be employed. 6. Persons who struggle violently and who are robust and strong are in greater danger from the use of chloroform than the sickly and weak, probably because the struggles strain the heart and tend to dilate its walls.—Drs. Hare and Thornton, *The Journal of the American Medical Association*, 1893.

Malignant Neoplasms.—1. The mixed toxins of erysipelas and bacillus prodigiosus exercise an antagonistic and specific influence upon malignant tumors, which influence, in a certain proportion of cases, may be curative. 2. This influence is slight in most cases of carcinoma (including epithelioma); most marked in sarcoma, but varies with the different types, the spindle-celled form showing by far the greatest influence. 3. The action of the toxins is not merely local in character, but systemic. 4. The toxins should be used only in clearly inoperable cases, or after primary operations to prevent recurrence. 5. The results will vary greatly with the strength of the preparation, the most virulent cultures giving the best results.—Dr. R. Harvey Reed, *The Physician and Surgeon*, November, 1896.

Appendicitis Cæci.—Some surgeons, as Murphy, of Chicago, and other Americans, believe it is better to operate in every case in which the four cardinal symptoms of appendicitis are present, viz.: 1, A sudden attack of pain over that part; 2, nausea or vomiting; 3, elevation of temperature; and 4, local tenderness about McBurney's point. Most European surgeons adopt a more conservative course, and, except in recurring cases, wait for serious symptoms.—Dr. Atherton, *The Maritime Medical News*, p. 387, December, 1896.

The Essentials in Securing Ideal Healing.—These are: 1, Asepsis; 2, absence of avoidable trauma; 3, complete hæmostasis; 4, dryness of the wound surface; 5, accurate approximation of wound surfaces; and 6, rest during the healing process.

Treatment of Cancer by the Essence of Chelidonium.—Medicine is so powerless in cancerous tumor that we ought to welcome every new therapeutical measure presented by a man worthy of confidence and supported by proofs. Dr. Denessenko employs chelidonium internally, in doses varying from one and one-half grams to five grams daily in aqueous solution. At the same time he makes injections into the tumor, near the border of the healthy tissue, with a syringe filled with a mixture of equal parts of extract of chelidonium, of distilled water, and of glycerin. He makes this injection at different parts of the tumor. It is preferable to prepare a fresh solution daily or to add one gram of chloroform to two hundred grams of the solution. If the neoplasm is ulcerated, he paints on a solution containing from one to two parts of chelidonium to one part of glycerin. The injections provoke a sharp, cutting pain, general weakness, a chill, and fever. All these symptoms disappear on the following day. After a few days of treatment, the tumor becomes soft and seems to diminish in size. Some days later, fistulous passages form about the points where the needle of the syringe has passed, around which the tumor disappears. From sixteen to twenty-five days later the diseased parts separate from the healthy tissues, which seem to retract. The tumor diminishes in size, and sometimes entirely disappears, together with the adenitis.—*L'Abeille Médicale*, November 7, 1896.

Atrophic Rhinitis.—The *Clinical Chronicle*, May, 1896, summarizes an article on this subject as follows: 1. Atrophic rhinitis is a genuine, distinct disease of the nose. 2. It is never a sequel or later stage of true hypertrophic rhinitis. 3. It is not caused by syphilis, tuberculosis, or scrofulosis. 4. It is a disease of the female sex. 5. It is caused by a true degenerate process of the trophic fibres or root which supply the parts of the nasal membrane involved. It is, therefore, essentially and primarily a nerve disease. 6. Being primarily, then, a degenerative process of the nerve fibres or centre, it is never completely curable. It may be arrested, perhaps, and sometimes is, at some stage of the process. 7. Its treatment is symptomatic—local and constitutional. Local treatment consists in a thorough systematic cleanliness of the parts involved, personal attention to the removal of all crusts, restoration of the function of the membrane as far as possible, and prevention of the consequences of the nasal trouble on the naso-pharynx, pharynx, larynx, and trachea. Constitutional treatment consists of remedies directly in accord with the theory of nerve degeneration advanced, as well as general building up of the system, and the stamping out of any dyscrasia that may be associated with, but not the cause of the disease. 8. The disease should better be termed trophic rhinitis than atrophic rhinitis, the atrophic condition being a symptom only.

The Drainage of Wounds.—Maj. Charles Adams (*The Medical Standard*, December, 1896) considers that drainage must be employed when there is free pus in the tissues or cavities; in all infected wounds; all wounds that have been disinfected by chemical irrigation; all wounds whose surfaces have been devitalized by traumatism, operative or otherwise; wounds in very thick adipose tissue, the oil poured out in such incisions being inimical to healing; amputation wounds, in which the flaps are thin; wounds of the neck wherein extensive connective-tissue planes are opened; penetrating and perforating wounds of the brain; all closed wounds whose surfaces cannot be approximated accurately by suture or compression (cases in which under absolute asepsis we expect filling of cavities by blood clot). Drainage should be also employed in cholecystotomy (tubular drainage of the gall bladder); in operations on the common duct (tubular drainage surrounded by gauze packing); operations upon pancreatic cysts (tubular drainage after attachment of cyst to anterior abdominal wall); hydronephrosis and pyonephrosis (lumbar tubular drainage); tuberculous ascites (tubular and gauze drainage combined); all cases of abscess involving any part of the peritoneum in its wall (tubular drainage); all cases of operation upon the peritoneal cavity, when copious serous effusion is to be expected.

Injury to the Ureter.—It is necessary for the purpose of performing uretero-ureteral anastomosis: 1. That the two ends of the ureter be perfectly free and easily brought together. 2. That the bladder end be more patulous (or capable of being made so) than the kidney end. 3. That the injury to the ureter be sufficiently high in the pelvis to enable the surgeon readily to carry out the necessary manipulations. In the case of uretero-cystostomy but one point is necessary:

That the injury be not too high in the pelvis to enable the kidney end of the ureter to be approximated with the bladder.—Baldy.

Styes.—A stye may often be aborted by the vigilant application of a hot boric-acid lotion, or by an ointment of the yellow oxide of mercury. Should suppuration appear, an incision parallel to the edge of the lid should be made.—De Schweinitz.

Ingrowing Nail.—Henry Ling Taylor's plan is to lift the nail edge away from the irritated granulations by means of a hook bent from a strip of silver, about one inch long, three-sixteenths inch wide, and one-one-hundredth inch thick. The edge of the nail rests on the hooked extremity, while the shank of the hook curves over the side of the toe and is held in place by a turn of adhesive plaster. Cases even of long standing, when properly managed, yield to this treatment in a few weeks.—*American Journal of Surgery and Gynecology.*

Eucaine provokes hyperæmia at the point of application, and should be used with reserve when hemorrhage is to be dreaded. In an instance of bladder tumor, Görl (*Ther. Monats*) observed abundant hæmaturia after its use. Five minims of a ten-per-cent solution are sufficient to inject into the gum for the painless extraction of teeth. Three to five minims at the root of each tooth is better than a larger dose for a number at once.—Wolff.

Operation During Shock.—The method and manner of anæsthetizing are also important matters. Both of the commonly used general anæsthetics, ether and chloroform, I have found weakening. To reduce this effect to a minimum, it is important to employ small doses and to continue the inhalation as short a time as practicable. In order to facilitate this I have found morphine, given in a moderate dose, hypodermically, ten minutes before the anæsthesia is begun, to be a very reliable and valuable agent: it materially assists in the anæsthesia and markedly lessens the quantity of the anæsthetic required. The manner of giving the anæsthetic is also important. Forcing and smothering ought to be sedulously avoided. Whatever cone is used, it should be borne in mind that in these weak conditions a liberal admixture of air is necessary. The degree of anæsthesia should never be profound, but simply confined to the stage of loss of reflex and partial relaxation. The anæsthetic should be entirely discontinued as soon as the suturing of the stump is begun. Usually, with the use of morphine, the state of anæsthesia continues long enough for the operator comfortably to place and tie his sutures.—W. L. Estes.

Tuberculosis of the Testicle.—1. In suppurative cases with fistulæ, in which epididymitis and testicle are almost destroyed, it is best to try to prevent the spread of the disease, without operation, by deep cauterization, drainage, iodoform gauze, etc. Castration may be inevitable. 2. In non-suppurative cases in the adult, the treatment should be constitutional and expectant: recovery often follows. 3. In non-suppurative cases occurring before the twenty-fifth year, the affected part is to be removed, but the resection should be confined to the diseased tissue, *e.g.*, the epididymis alone.—Tillaux.

Appendicitis.—Dr. Sonnenburg (Congress of the German Surgical Society) divides appendicitis into seven groups: 1. The structure of the appendix is normal, but it is surrounded by solid adhesions. Clinically there are attacks of slight appendicitis with intervals during which the iliac fossa is painless. 2. The appendix is hypertrophied, indurated, and fixed by adhesions. The symptoms are the same as those of the preceding group, except that in the intervals the fossa remains full and tender. 3. The appendix is chronically inflamed and contains fæcal concretions. Clinically the same as the preceding group. 4. The appendix is ulcerated, and the concretions are surrounded by purulent matter. The cavity may be shut off and the pus may not produce violent peritonitis if it gains access to the abdominal cavity. 5. The appendix is surrounded by a purulent exudation, which may lead to secondary septic infection. 6. Perforation of the appendix leading to circumscribed perityphlitic abscesses. 7. Perforation of the appendix with the gravest complications—purulent peritonitis, multiple abscesses, pyæmia.

Operative Treatment of Inguinal Hernia.—Dr. J. Coplin Stinson (*The Canadian Practitioner*, December, 1896) describes in detail what he considers to be the preferable operation for the cure of inguinal hernia. 1. The external incision begins nearly on a level with the anterior superior spine, is carried obliquely downward parallel with and about one-half an inch above Poupart's ligament, and ends at the centre of the external ring. 2. The incision divides the structures superficial to the aponeurosis of the external oblique: the latter is well exposed and a director passed through the external ring beneath this layer, which is slit up to about one-half an inch above the internal ring: the cut edges are lifted up and freed from structures beneath, exposing internally the internal oblique and transversalis muscles, and sometimes the rectus externally, till the shelving sharp edge of Poupart's ligament is clearly seen. 3. The cord and sac are examined, and any adhesions to surrounding structures separated. Next they are separated from each other well up within the internal ring. The sac is carefully examined and opened with a sharp snip of the scissors; the opening is enlarged with the fingers, and if any adhesions exist internally these are separated. If the contents are omentum, and are matted together, thickened, or inflamed, or in any other manner changed, it should be tied off. Each vessel in the omentum is to be ligated separately, and even the smallest oozing vessel must be tied. Hold up the sac after removal of its contents, and where it merges into the general peritoneal cavity close it with a running suture of fine catgut. When released the sutured edge immediately slips back into the abdomen. The cord and its vessels are then examined, and any varicose or superfluous veins excised high up within the internal ring. Examine the canal for masses of adipose tissue, which should be removed. 4. Expose the internal ring—an opening into the transversalis fascia—by retracting the internal oblique and transversalis muscles. Any masses of adipose tissue which may crowd into the ring from the subserous tissue should be removed; take the cord and place it at the lower angle of the internal ring. Now close the internal ring with a sterilized chromicized tendon suture, commencing at the upper angle; suture from above downward, leaving only sufficient room at the lower angle for the cord and its full vessels to play through. The edges of the aponeurosis of the external oblique are retracted, and the edges of the internal oblique and transversalis (sometimes the edge of the rectus on the inner side) and the shelving edge of Poupart's ligament on the outer side are brought together with three or more interrupted chromicized tendon sutures: the cord is situated beneath the above layers of sutured structures: at the lower angle close to the pubic bone only sufficient room is left for the cord and its full vessels to play through. 5. The divided edges of the aponeurosis of the external oblique are brought together with a continuous tendon suture. 6. The skin edges are brought together with a continuous catgut suture, without drainage.

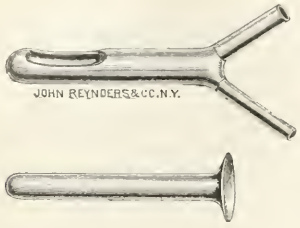
New Instruments.

A PROSTATIC COOLER AND A GLASS TUBE FOR THE APPLICATION OF ICE TO HEMORRHOIDS.

By ROBERT COLEMAN KEMP, M.D.,

SURGEON TO THE CHURCH INFIRMARY AND DISPENSARY, NEW YORK CITY.

THE prostatic cooler is a small, closed glass tube, about four inches long, rounded at its apex, and flattened just behind this on its upper surface for about



an inch. It is closed also at its outer extremity, except at two points; near the upper part a glass tube enters it, as shown in the illustration. This is for the entering current, and serves for the attachment of the tube of a fountain syringe. Near the lower part of the outer extremity is another glass tube, about half the diameter of the upper tube. This serves for attachment of a small soft-rubber tube, to carry off the outflow. The tube keeps full through the application of the well-known principle, the entering current being twice the diameter of the outflow. The tube should be allowed to fill in the vertical position, to drive out the air. It should also be allowed before insertion to become nearly of the temperature of the fluid employed. This avoids all danger of cracking after insertion. The glass tubes have the advantage of being clean and extremely cheap. They are made in several sizes: Diameter, one-fourth inch, for sensitive cases; three-eighths inch, the best for general use; one-half inch; and five-eighths inch.

I have employed all degrees of cold, even iced water. On the other hand, though the instrument is denominated a cooler, I have employed hot water at 120° F. In the larger sizes, by colored fluids, it is easy to demonstrate that there is a slight current which extends to the apex of the tube. Most of the cold or heat is obtained through conduction in the water and glass tube itself. If we pinch tightly the entering current, the outflow will immediately stop, the tube remaining full by reason of the atmospheric pressure exerted at the point of outflow. As we gradually loosen up on the tube, as soon as the pressure from above is greater than the atmospheric pressure the water begins to flow. If we attach a clip laterally to the tube of the fountain syringe, we can thus make the bag of iced water last a considerable length of time. If the clip were attached to the carry-off tube, the pressure from above might crack the tube. These tubes can also be ordered in metal, if desired.

I have employed them in acute congestion of the prostate—cold water; chronic enlargement, irritable bladder—hot water, relieving the latter; also in internal hemorrhoids. Similar tubes are made—diameter one-half or five-eighths inch—but without the depression on the upper surface, for the application of heat or cold in the vagina.

I have experimented with closed tubes of soft red rubber, furnished with a glass Y for entering and outflow currents, in the mechanical proportions named. The rubber is an extremely poor conductor. Iced water, with considerable ice and salt, furnishes only a moderate degree of cold. On the other hand, the hot water was less satisfactory in proportion, boiling water giving only very moderate heat. I employed various thicknesses of rubber, even to about the thinnest that could be introduced without a director, *i.e.*, the covering of a dilator. The white rubber seems a better conductor, and in addition, the surface of course being extremely small, I found I could get sufficient heat by attaching a small tube to a steam atomizer and conducting the steam into the tube just as water. This method is awkward, and unless carefully regulated will burn the patient, as the tube readily heats up with steam to a high degree. In the ordinary hot-water bag the surface is much larger. I have applied this same principle to it, and have found the result satisfactory. It consists practically of a soft-rubber (thin) water bag, with a small central core of wire or hard rubber as an introducer, and the same mechanical arrangement of entering and return flow. It is described in the *American Medico-Surgical Bulletin*, September 26, 1896.

The glass ice tube for hemorrhoids is practically a test tube of thick glass, four inches long, with a wide flange at its mouth to prevent it slipping into the bowel. It is to be filled about two-thirds with pulverized ice and salt, and a cork inserted. It is an extremely simple method of applying ice, and seems to aid other methods in internal hemorrhoids. The tube should become tempered to the cold before inserting. These tubes are made in several sizes—diameters one-fourth, three-eighths, one-half, and five-eighths of an inch. The three-eighths inch tube is the best size for general use. I often begin with the one-fourth inch tube, and then use the three-eighths inch.

449 PARK AVENUE.

THE CLINOSCOPE.

By GEORGE T. STEVENS, M.D.,

NEW YORK.

SEVERAL subjects of much importance in physiological optics have presented difficulties to investigators and have been viewed from radically different standpoints by distinguished authorities, because of the absence of definite and sufficiently accurate methods of examining the phenomena on which the investigations have turned. Among these controverted questions is that of the actual direction of the apparent horizontal and vertical meridians of the retina.

The doctrine of a declination of the vertical meridians, as indicated by the experiments of Volkmann and as accepted by Helmholtz, has not been received by some other investigators with unquestioned assent.

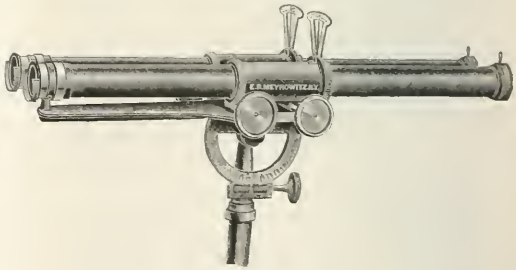


FIG. 1.

Researches of my own in this interesting field have

led to the construction of an instrument of precision, which I think will prove of value in this inquiry and in inquiries allied to it.

The instrument, which I have called the clinoscope (Fig. 1), consists of two cylindrical tubes, each about three centimetres in diameter and fifty centimetres in length. The tubes are mounted on a brass platform, which holds them firmly in the same horizontal plane, at a distance of 6.5 centimetres between the centres at the fixed points. The attachment to the

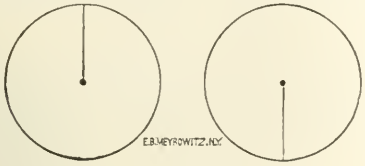


Fig. 2.

platform permits the tubes to be adjusted in parallelism, in convergence, or in divergence in the plane of the platform. The platform is attached by a movable joint to the upright standard, so that the instrument may be given any desired dip; and a scale and pointer indicate, as in the case of the clinometer, the dip with respect to the horizon.

The tubes are caused to rotate upon their longitudinal axes by means of thumb screws, as seen in the figure, and the pointer and scale above the tubes mark the rotation with accuracy.

At the proximal end of each tube is a clip, in which, if desired, the observer may insert a glass for the correction of his refraction, or any glass from the trial case.

At the distal end is another clip and provision for maintaining precise position of the diagrams to be used in the investigation. These diagrams are haploscopic figures, calculated to aid in the various experiments which may be made. These may be varied according to the wish of the investigator. Below are represented three pairs of these diagrams. Fig. 2 represents two pins, one to be seen by each eye. As the trained observer looks into the tubes, the two tubes and the two pins blend as one, and the head of the long pin now appears in the middle. An adjustment of the tubes by rotation on the long axis will show the true direction of the meridian, vertical or horizontal, according to the position of the diagrams, of each eye upon the scale above the tubes. For one who desires to test the accuracy of Helmholtz's theory of the leaning of the vertical meridian upward and outward, while the horizontal meridian remains horizontal, Helm-

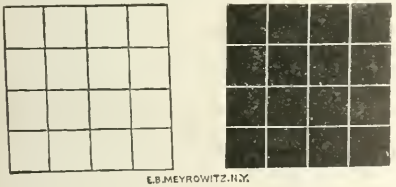


Fig. 3.

hôltz's diagram (Fig. 3), familiar to students of physiological optics, may be used.[1]

For testing the ability of the eyes to rotate upon the antero-posterior axes (torsion), a straight line running across each disc (Fig. 4) is the most useful figure. The lines may be placed vertically or horizontally. It will be found that the rotating ability is much greater when the lines are vertical.

[1] The engraver has represented these diagrams as quadrilateral. They are in fact circular, like those of Fig. 2.

The clinometer is primarily an instrument for physiological research, but as a practical instrument I have already found it of much value in determining the declination of the meridians in paralysis of the eye mus-

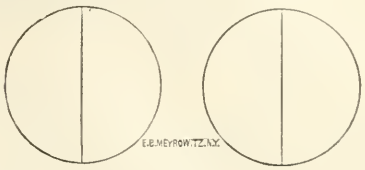


Fig. 4.

cles and in anomalous adjustments of the eyes in respect to the horizontal visual plane; and those who may be interested in determining the power of torsion or who hope to increase the torsional ability by exercise, will find the clinoscope a correct measure in the first case and an efficient aid in the second.

For the excellent mechanism of the instrument I am indebted to the skilful workmanship of Mr. E. B. Meyrowitz, of this city.

33 West Thirty-Third Street.

COMBINED WIRE SCISSORS AND EXTRACTOR.

By WILLIAM L. BRADLEY, M.D.,

NEW YORK.

This instrument, which I recently devised, was invented with a view to lessening the time usually required in the removal of sutures from the cervix uteri. It is so constructed that when once the loop of the suture is drawn down by the tenacular extremity of the scissors it can be divided and immediately removed without the necessity of laying down the ordinary wire scissors and applying a wire clamp. In some vaginæ with collapsible walls, the process of removing cervix sutures is a very tedious and long operation. It not only taxes the patience of both patient and operator, but necessitates the expenditure of much more time than the technique of such an operation should require.

The instrument itself consists of the regular wire scissors, in which one of the jaws is so projected outward as to form a tenacular extremity. Near the extremity of each blade of the instrument there is constructed a small rectangular plate, which comes in close contact with that of the opposite blade when the jaws are approximated. The opposing surfaces of these plates are corrugated, so that when once a suture comes within their grasp no escape of the same is possible.

The mechanism of the instrument explains itself.

The suture is simply retracted, divided, and extracted at one time. The instrument works equally well, whether it seizes at any part of the loop or at the knot.

The instrument is manufactured by Tiemann & Co., of this city.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 20, 1897:

	Cases.	Deaths.
Tuberculosis	248	140
Typhoid fever	6	2
Scarlet fever	174	9
Cerebro-spinal meningitis	6	6
Measles	147	8
Diphtheria	120	30
Laryngeal diphtheria (croup)	8	4
Chicken-pox	16	0

Tariff Fees in Prussia.—A new schedule of prices has gone into effect in the Fatherland for all medical services to whomsoever rendered. The poor are obliged to pay the minimum price fixed, and the rich can be made to pay the maximum; and the prices range from one mark for a single visit to five hundred marks for a Cæsarean section.

Increasing the Average.—In the seventeenth century the average duration of life was only thirteen years; in the eighteenth, twenty; in this century it is thirty-six. Look out for the twentieth!

They Do the Same Way Over There.—A good story is told of a rich manufacturer of footwear and a poor (*i.e.*, in the sense of not being rich) physician of a well-known European city. Mr. X—— had a maxillary tumor, which, according to the *Journal de Médecine de Bruxelles*, a surgeon had agreed to remove for the sum of 14,000 francs. All was in readiness, when an intimate friend urged him to defer the operation until he could consult the young man, who was fast gaining a reputation. Mr. X—— consented. An antisyphilitic course of energetic frictions and large doses of the iodides was entered upon, with such success that in a very short time the tumor had disappeared. In the mean time the young physician, thinking to patronize those who came to him, ordered at the establishment a handsome pair of shoes. On the first of the year the physician sent in his bill for 30 francs for the six office visits paid him. By return mail his bill came back, enclosed with one for 50 francs for the shoes. The question is, whether the patient would not have made the surgeon a present of the shoes if he had been cut 14,000 francs' worth.

Care of the Infant.—The first bath ought to be given with special care and as rapidly as possible, preferably without the tub. Lard is the best solvent for removing the vernix caseosa. When the tub is first used, the child should only be rinsed in the water after careful soaping and sponging on the nurse's lap, great care being taken to avoid draughts and undue exposure. A fairly strong and healthy child needs to be bathed once daily for at least two years, the late morning being the most suitable time. Cold baths and very hot ones are alike to be avoided. The temperature ought always to be determined with the bath thermometer, the proper temperature at birth being 100° F., during first month, 97° F.; from one to six months, 95° F.; six to twelve months, 90° F.; one to two years, 86° F. The best grade of castile soap is fittest for infants. Soaps containing an excess of alkali are apt to lead to erythema or eczema. A dusting-powder is seldom required if the skin is normal and properly dried after the bath. Talc is the best powder for this purpose, though lycopodium, pulverized rice, magnesia, and starch are almost as good. Subnitrate of bismuth is an excellent application for chafing. The scalp should be cleansed daily with soap and water until the child is six months old, and then less often. Fear of the bath can be overcome by placing a sheet over the tub and gradually lowering the baby and the sheet into the water.—*Archives of Pediatrics*, November, 1896.

Infected Heirlooms.—To become the possessor of old family relics, to step into the shoes of one's ancestors, to inherit the family mansion with all its old associations, its antique furniture, its ancient tapestry, is usually regarded as an enviable lot. Some cool headed, calculating, severely matter-of-fact bacteriologist has actually had the audacity to examine into the bacteriology of some old, beautiful, and otherwise priceless tapestries in an old country mansion. This bacteriologist found that the tapestries were teeming with micro-organic life, and that they were nothing less than hotbeds for the culture of tubercle bacilli. Will the mural adornments of the "tapestried chambers" throughout the country survive this terrible indictment? It may be that they will. But who after this will be able to look upon the "tapestried" presentments of, say, the lively "Adventures of Dionysius," the wonderful career of "Medea," or the patriotic manœuvre of "Mettius Curtius," without some feeling of repulsion which such a revelation could not fail to create?—*Medical Press.*

The Effect of Wearing Veils upon the Eyesight.—Dr. Casey A. Wood (*Boston Medical and Surgical Journal*, December 3, 1896) writes as follows: The fact that the wearing of veils is productive of weak eyesight, headaches, and sometimes vertigo and nausea, is within the experience of every ophthalmologist. Not only are these effects produced by the eye strain consequent upon the added efforts made by one or both eyes to see through or around an obstruction, but the irregular figuring on the veil itself is, in some instances, a source of annoyance to the wearer. As in other cases of abuse, the burden rests heaviest upon the weakest eyes, and probably the reason why one encounters so comparatively few instances of asthenopia directly due to veil wearing is that the embarrassed eyes are able to overcome the additional strain when the vision is normal, the oculo-muscular system in proper equilibrium, and the general health good.

The Anatomy of Rape.—Dr. W. Constantine Goodell (*University Medical Magazine*) gives the following brief summary: 1. That complete penetration, with the ejaculation of semen, is not necessary alone to constitute rape, but that merely partial penetration of the male organ between the lips of the vulvar orifice, with or without ejaculation, is sufficient. 2. That defloration of a very young virgin, even supposing that force was not used, should show evidences of rape, from the very disproportion in size between the penis and the vagina. 3. That the hymen is of the greatest value in determining whether coitus has taken place or not, notwithstanding the unanimous opinion of the older writers to the contrary. 4. That there is a line of demarcation, formed by the edge of the genital mucous membrane, within which, impinging of the male organ, with or without the ejaculation of semen, would as surely constitute rape as though complete penetration had occurred. 5. The great difficulty and often absolute impossibility of determining whether rape has been committed, when only partial penetration has been secured and ejaculation has not taken place. 6. The inability successfully to differentiate between marks of violence due to the penis and abrasions from attrition caused by walking, or some form of traumatism.

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Original Articles.

THE SEMI-CENTENNIAL OF THE NEW YORK ACADEMY OF MEDICINE.

ORATION DELIVERED BY

A. JACOBI, M.D.,

NEW YORK.

MR. PRESIDENT!

MR. PRESIDENT AND FELLOWS OF THE NEW YORK ACADEMY OF MEDICINE, LADIES, AND GENTLEMEN: One century has expanded this nation of three millions into its present population of seventy. Its democratic constitution attracted Europeans weary of class differences, prejudices, and sufferings. Liberty and equality, inscribed on its flag, opened opportunities to intelligence and diligence, roused legitimate rivalry, and developed inventive genius and independence of character. While inventive genius, coupled with industry, led to prosperity, independence of character found or fought its way out of political errors or actual calamities, sometimes without, other times with the guidance of clear-headed, unselfish, determined, and consistent leaders. But a young nation in its infancy has, properly speaking, no preconceived designs. It is like a product of nature, unfolding spontaneously. In evolving its organic life it rises to self-consciousness, and possibly to the development of an ideal.

It was on the same democratic basis that one-half of a century ago the New York Academy of Medicine was founded. But it differed from the national commonwealth in this, that it required no time to exhibit concerted aims or definite plans. Nor was it without an ideal from its beginning. It was well understood that our Academy was to differ materially from what is called an academy of medicine in Europe. A European academy is always a government institution, in some way or other supported by centralized national means. Its members comprise the intellectual and sometimes the social heads of the profession only. Young faces are but seldom seen among its fellows. Membership is, as a rule, obtained after a long life of successful scientific pursuits only. Their labors and efforts are not intended for practical aims or objects, but they become beneficent by the action of that logical force which ordains that there is no scientific result, no truth ever so abstruse, but will finally terminate in some tangible application. Though all this be true, the limitation and exclusiveness of membership results in a sort of aristocratic estrangement from the masses of the profession, and still more from the community at large.

The New York Academy of Medicine has a broader basis. The high and lowly, the old and young, the mature and the youthfully ambitious, though they represented the most different and various types, combined for the same purposes.

According to a circular issued years ago, in the possession of many, the Academy is not connected with any school or college. It is self-supporting, and carried on in the interest of the whole profession. There are no fees or emoluments of a private or individual nature. It is a democratic community, with equal duties and rights. It is not subsidized by the State or municipal corporation. Its aims are the elevation of the profession to a higher scientific standard for increased public usefulness. We claim that these aims concern the public as much as they do the profession. Increased scientific attainments on the part of the medical men of the country secure to the people great advantages and more effective service. Here it is that the interests of the nation and of the profession meet. Ay, I shall prove to you that the immediate interests of the whole community have for many years been uppermost in the creed and in the deeds of the Academy. Indeed there is abundance of evidence to demonstrate that the Academy deserves the general interest and sympathy exhibited to-night by so many distinguished not only in society but in all the professions, and in literature and science; ay, by the Chief Magistrate of the nation.

The history of the New York Academy of Medicine as a scientific institution is contemporaneous with that of modern medicine as created by Virchow and the German school which rapidly rose and broadened into scientific cosmopolitanism. In this wonderful evolution the Academy has freely participated. It was fully prepared for it by its ancestry. That ancestry was Anglo-Saxon medicine, which, since Sydenham, never swerved for any length of time nor suffered from philosophical theories built on clouds, or from the chaos of mysticism which reigned supreme in a part of the European continent during the first half of this century. The American medical profession, like its Anglo-Saxon ancestry, was penetrated by the spirit of intelligent scrutiny. The best of the one hundred and eighty-four founders of the Academy developed it, the plainer men shared it. The fifty years of its existence have furnished wonderful proof of the facile adaptation of Anglo-Saxon clinical empiricism to the equally solid results of modern pathology, histology, and bacteriology.

The very first paper printed in 1847 for the Academy was a historical sketch, by Pliny Earle, of the institutions for the insane in the United States of America. Much later, in 1861, Parigot read his paper on moral insanity in relation to criminal acts. The interest in that all-important subject, so replete with dangers both to the actual or alleged criminal and to human society, has never died out in the Academy, until it could sustain a few years ago the movement to transfer our insane to State care, with which the name of Louisa Lee Schuyler will forever be indelibly connected. The report of a committee upon the comparative value of milk formed from the slops of distilleries and other food, in 1848, was followed by one on solidified milk, in 1854, and another one on city milk, in 1859. William H. Van Buren's and Gurdon Buck's papers on tracheotomy in croup, and Van Buren's on hip-joint amputation, were read in 1850. Valentine Mott's (the first to operate for aneurism of the innominata) remarks on the importance of anæsthesia from chloroform date from 1848; his case of aneurism and ligature of the left subclavian artery from 1851. Not long after, C. E. Isaacs communicated his original work on the structure and physiology

of the kidney, 1856; and John C. Dalton his memorable researches on the anatomy of the placenta in 1858.

Some time previously the accessibility of the larynx and bronchial tubes was first proven in the Academy by Horace Green—that was more than forty years ago. The cholera epidemics of previous times were the subjects of papers, thoroughly enjoyable to-day, by John W. Francis. The diphtheria discussion of January, 1860, was an incentive to observation and study all over the States and beyond. Gurdon Buck invented his and our present method of treating femoral fractures, in 1861. J. Marion Sims, whose statue adorns Bryant Park, benefited mankind by his silver sutures, by improved and by new operations, and by many papers and discussions. John Watson wrote for the Academy his learned history of medical men in ancient times in 1856. On the floor of the Academy J. Toland Metcalfe, and P. Camman had facilitated diagnosis by the double stethoscope, still in use, taught his brilliant theories of the functions of the pleura and of the respiratory murmurs.

Not long after, 1863, Louis Elsberg instructed the profession in the topical medication of the larynx and neighboring organs under sight. John C. Dalton spoke on "Vivisection, What it Is, and What it Has Accomplished," in 1866; and the Academy published Robert T. Edes' prize essay, 1869, on the physiology and pathology of the sympathetic or ganglionic nervous system; also a report of William C. Roberts on the causes of death and disease in the metropolis, 1868. There were also notable discussions on cholera, on chronic metritis, on ventilation, and on sanitary police in 1866, and the paper in 1867, by A. C. Post, on the curative effects of blood letting. There were contributions by Willard Parker, Alonzo Clark, Austin Flint, and a host of others, whose names will not be forgotten, though they be not mentioned here. For it cannot be my intention to review all the Academy has accomplished during its lifetime. What I have told you refers to those whose faces and voices are known to our memories only. Indeed, while I was glancing over the sacred list of the one hundred and eighty-four founders, my eye was arrested by at least forty names of men who by original investigations and contributions have deserved well of the science and art of medicine.

As to those still living, a single allusion must suffice. One of the later great results of academic work was the memorable discussion on intubation of the larynx in croup, on June 2, 1887. It followed the discoverer's long continued labors and his paper on "Intubation versus Tracheotomy," and carried the renown and influence of American ingenuity all over the globe. Let me also mention the debates of last year on the diphtheria antitoxin, which have contributed much to the study and dissemination of the employment of that beneficent antidote.

Such are the method and line of work by which this American institution has exhibited its power, enlarged its sphere of influence, and rivalled the countries of old Europe. Such is the kind of competition as is bid a hearty welcome all over the world. That is the only kind of interference with and combination against Europe which, without collision, but with co-operation, is worthy of the great American people. There is your reciprocity without a treaty, indeed not only reciprocity of mutual giving and taking, but the proof of intellectual solidarity and fraternity of civilized mankind.

The distinctive feature, however, of the New York Academy of Medicine, as a peculiarly American institution, is not its merely scientific work. This it has in common with similar organizations in monarchical countries. Its characteristic superiority consists in this, that it is composed of citizens. The American is or ought to be, the "*zoön politikon*," the political creature of Aristotle, a co-operative cell in the organism of society. From that point of view let me glance over the fields on which you will find the members of this association in full activity; let me indicate what they are doing for you individually as practitioners: for you as a community as sanitarians, to the utter neglect of self-interest; let me also show the relation of the Academy to its own members and to other scientific bodies. Finally let me consider what it and you combined may be capable of achieving for the future of medicine and of mankind.

As practitioners, the members of the profession, academicians and others, have amply satisfied the reasonable expectations of the sick in the community. In former times almost every man, the most illustrious surgeon of the day not excepted, was a general practitioner. Specialists were not so numerous as they are to-day; indeed, there existed but few. These were men of ripe general experience, who would confine their work to a special organ or line of practice. When medical science broadened out and its progress depended on thoroughly specialistic study and research, the big old tree divided up into branches and branchlets; and in the practice of medicine the number of specialists, both mature and immature, justifiable or otherwise, increased almost incredibly. Time will be demanded to correct the mistakes and incongruities of overgrowth. Meanwhile, I am glad to be able to assure you that general practitioners still exist, and also that many specialists, known or unknown as the case may be, have not ceased to be doctors. You know them well and intimately. Your doctor is summoned night or day, by your servant, or your telegram, or telephone. You order, there he is. He is expected to aid you with therapeutical and other means—*therapos* means servant; and to cure—the very word means care. If ever there is a class of persons who deserve to be decorated with the device "*Ich dien*," "I serve," it is your doctor. He must not know, he does not know, the difference between night and day. With doleful jealousy he might hear of the efforts of philosophers, philanthropists, statesmen, and even of politicians, in favor of an eight-hour or ten-hour day. He is expected and willing to work indefinitely to lighten somebody's burden, like sun, or moon, or stars, that know of no rest. If anybody, your doctor is not the lily in the field that does not spin.

The same doctor goes a few streets to a hospital or to a dispensary. There he serves the poor, or the alleged poor. One of the hundreds of necessary and unnecessary institutions of the kind with which different grades of exigency, or philanthropy, or officiousness, or greed, or the wants of a teaching institution, have supplied the city claims his service. He meets the poor and also those who don the clothing of their servants to appear poor, sometimes those who leave their carriage and footman around the corner. He must not complain. He has heard of the woman in the Gospel who, before she applied to the Master Healer, is said to have "suffered many things from the physicians;" and concludes that the time has now come when the physician is to suffer from the many. Thus he aids, though ever so unwillingly, in robbing himself and his professional brethren, and in demoralizing and pauperizing a goodly part of the community. That is another unwelcome outgrowth of modern science and philanthropy, to correct which time and thought, and the co-operation of the profession and the public are urgently demanded.

Thus he works on and on. It is but a few weeks ago that an old practitioner told me of his life. It was all work and never so much as a vacation. Exhausted he was at night, tired in the morning. He

lived on the stimulants of duty performed and on the intellectual and moral interest he took in his work, complaining only that he could not do it to his own satisfaction. Perhaps some of you remember having gazed at a statue in Munich. It represents a youth climbing upward, passing disdainfully the golden calf to attain what he evidently believes to be a crown of laurel in the hands of the goddess. What he finally snatches is a crown of thorns. Still he climbs, maybe to reach the stars, to which Ralph Waldo Emerson bids us hitch our wagons. In spite of failures, I say to my young friends, hitch your wagon to the stars. Not everybody falls like Icarus, and the horizon enlarges from the heights. This your horizon, let it be vast; unless it be so, both the morals and the science and art of medicine will suffer. It is from that point of view also that I exhort my friends, either pure scientists or practitioners, never to forget that there is no antagonism between the two classes. The time is past, and partly through the efforts of your Academy, when the pure scientist looked upon practice as inferior, and the practitioner on pure science as beyond the pale and unpractical. Helmholtz, than whom this century has produced no more intense worker in pure science, proclaimed that mere knowledge is not the aim of man; that you may dignify it in two ways only, either by applying or by enlarging it. Knowledge without its application in the service of mankind, is like a library without readers, a museum without visitors, a symphony without hearers. Apply what you know and daily learn in the community's service. Do not forget that there is no power more worth possessing and inestimable than life and health. That truth is certainly in the minds of the American public, misguided though it be when it feels like paying two hundred million dollars, annually, for proprietary drugs. Nor should you be discouraged by what Pliny said and others credulously accept: "Say you are a physician, and you will be believed. Detract from your neighbor and you will be considered superior." Mind what you may have read over the gate of a Swiss hospital, "*Res sacra miser.*" So your community, when in danger of health or life, is "*res sacra*" to you.

What has the Academy done for its members? As a previous practice of three years in the city is required of a candidate, and the scrutiny of the committee on admission is always painstaking and fearless, the average standing and proficiency of the fellows is high and their moral tone elevated. The committee on ethics of former decades has, therefore, been abolished together with the abrogation of the official code. No authoritative body of rules is required or recognized in place of the unwritten law of gentlemen. Alleged cases of transgression are relegated to the decision of the council, but none was required for years. In the Academy of Medicine there are no professional politics. It is considered neutral ground, and the differences of schools, cliques, and combinations are supposed to be left behind when a fellow passes the entrance gate. Still, we are not all angels. That secret will come out some day, and may as well be whispered in public. That is why questions beyond the domain of the Academy are, however, forced in sometimes. That is to be deplored. Battlefields there are as many in New York City as in the Virginia Wilderness, or about Lake George or ancient Rome; but Rome had its temples of Vesta and Peace. Let the profession of New York remember and revere the Academy as the one temple of safety, impartiality, and neutrality.

To none has the Academy been of more service than to the younger members. To become fellows after a fair examination of their claims to admission is in itself an honor and improves their standing. Besides, all of the eleven sections have been in working order these twelve years. That means that eleven times as many fellows found a direct encouragement for work, both in private and in public. In the section meetings, the future officers of the Academy and teachers of the profession find a new incentive to labor and research, and are always certain of an appreciative audience.

Our relations to the public at large and to the city and State have frequently been the subject of discussion. You may have been told that we demand special class legislation. If that were true, we, democratic American citizens, should be on the level of German students before they were deprived of their clannish jurisdiction, or of the Prussian military officer, whose moral is based on his sword and sense of justice on the prerogatives of his degenerate nobility. In a few words, the public may learn the attempts on the part of the profession to secure a so-called special legislation. These twenty years we have been fighting in Albany for a preliminary education of matriculants, also for State examinations as a condition upon which alone the license to practise should be awarded. We, the Academy in conjunction with the rest of the profession, have worked to increase the duration and the number of college courses. The profession, particularly as it is represented in the Medical Society of the State of New York, has secured laws against quackery, and the Medical Society of the County of New York has undertaken to extinguish it in this city. This committee sacrifices its time, and the society its own money, to combat frauds, quacks, and diploma mills. That does not look like class egotism. You should admit it is something entirely different unless you wish a low grade of knowledge in your medical advisers.

Your Academy and your profession were ever of the opinion that there must be no free trade in human flesh. Many of your old doctors were abolitionists when this nation was still disgraced by slavery. All of the old and young members who are imbued with respect for human life and health, and with the sense of their own responsibility, have combined to do your fighting, the community's fighting, against the dangers of quackery. It is not the existence of the profession, it is the safety of you, the public, that is enhanced by your special legislation. Two things I have been told; sometimes one was that, no matter how low the standard of medical men was in some parts of the country, they were always superior to their community; the other word was, doctors were generally better than the public deserved or deserves. You can prove that such is not the case by co-operating with your doctors. We beg of you, we insist upon it, that you and your delegates, the legislators in Albany, may continue to protect you and yours from the inroads of charlatanry and ignorance. Do not forget, however, I speak here of the battle against positive ignorance, assumption, and downright illegal quackery.

The Academy does neither recognize nor fear, as in times long gone by, isms and sects, and for that very reason does not propose to war against them or even to denounce them. In its whole history of the last quarter of a century and perhaps longer, I fail to read of a case of persecution of a man or of a body of men directed against their scientific principles or prejudices. Moreover, to discuss honest scientific errors, alleged or real, in an inimical spirit is to endow them with new life. If there was animosity it has been dying fast. Not that I mean to say that the medical world was always just. Semmelweiss, who was driven by his alleged peers into an insane asylum because he preached and practised upon the knowledge of the contagion of puerperal fever, about the same time that our own Oliver Wendell Holmes wrote his wonderful

essay on the same subject, or our own Atlee, who was vilified and harassed because of his leading in an operation that at present is of daily occurrence, are evidences of shortsightedness and impressibility. Still, after having observed and co-operated with the profession in this city these forty-three and with the Academy of Medicine these forty years, I know, though errors may have crept in, that none but the purest and most altruistic motives have governed the actions of the profession. Least of all is Herbert Spencer correct when he says that "the incorporation of authorized practitioners has developed a trades-union spirit which leads to jealousy of the unincorporated practitioners, that is, the irregulars; and, like the religious priesthood, the priesthood of medicine persecutes heretics and those who are without diplomas." I trust the great philosopher's sympathy with heretics and those who are without diplomas will never revenge itself upon him and his health.

Great questions of the day have always inspired the medical profession. Both old Socrates and modern Kant expected the light pre-eminently from medicine. It is true that in the politics of our country we have but few medical combatants, compared with the good done by medical statesmen in Europe; but that of Benjamin Rush outweighs many names not belonging to his and our profession; and until the latest time physicians have participated in your reform movements. The Committee of Seventy of 1872 had among its most active members one of the most prominent men the New York Academy of Medicine ever counted among its own, Ernst Krackowizer. In public concerns the Academy was always interested. It took the initiative in many movements, the realization of which had long to wait. Medical school inspection, inaugurated just now, was urged by the profession in open meetings twenty-five years ago, and again by members of the Academy half a dozen years ago. The Willard Parker Hospital was planned and its organization pushed by a member of the Academy. Again it was a fellow of the Academy who renewed, if not instigated, the agitation for the new factory laws in behalf of women and children in 1882. Clean streets, or rather muddy and unhealthy streets, also the tenement-house question, also school houses, and the reception hospital were the subjects of many debates. It was a committee appointed, at the request of the board of health, which originally started in the Academy, and which, under the leadership of C. R. Agnew, whose mind and heart have immortalized him in the memory of those who were so fortunate as to live and work with him, reformed the quarantine of the port of New York, and elaborated the plans and estimates according to which the legislature finally restored Hoffman and Swinburne islands to their present condition. Another committee of the Academy looked after the Croton water and the watershed.

It was through a committee of the Academy that medical inspection of the eyes of all the inmates was introduced in public institutions. If that practice were continued conscientiously, and attention to the eyes of the newly born suffering from the same contagious ophthalmia were made compulsory, there would be many vacancies in our future blind asylums.

The Academy's efforts joining those of other medical bodies of the land in favor of the establishment of a national board of health, were, however, not successful. They will prove so in future. For just as certainly as this nation means to continue "now and forever, one and inseparable," its most sacred boons, viz., health and life, interdependent as they are over the vast area of the country, should be secured by uniform legislation. It was the Academy of Medicine, again, which was called upon to protect the port and the city against the invasion of cholera. That was four years ago—a long time, perhaps, for republican memories: but it is not forgotten that the committee men, though among the busiest of the city, were always at their post: that their efforts were successful and at that time appreciated; that they aided in keeping cholera out, and, at the same time, protected the commercial interests of the country. We trust the chamber of commerce has not forgotten its own estimation, as then expressed, of the Academy's services. Nor have the poor of this city, and of others that imitated its example, a reason to forget the Academy. The agitation for the establishment of free public baths was begun by one of its fellows in 1890, and has resulted in the erection of four such institutions. Two hundred and fifty thousand people availed themselves of the opportunities thus offered in a single year.

The responsibility toward both the public and the profession was always deeply felt by the Academy. Its library is free to the whole profession, fellows or not, and to the public at large. Beside medical works, it has many of interest to the legal profession. By both it will be readily admitted that there are more useful and more congenial relations between them than when they meet in a court of justice, where the medical man, clad with the mantle of partisan expertship or expert partisanship, does not shine to advantage, and is apt to contribute less to the honor and dignity of his profession than to the miscarriage of justice.

The Academy's hospitality is constantly exhibited in the cases of the numerous national medical societies which convene gratis under our roof. The Society for the Relief of Widows and Orphans of Medical Men, the Saturday and Sunday Hospital Association, the Ladies' Protective Health Association, are made welcome on the same conditions.

The Academy is recognized as their head centre by other medical societies which cluster around it. It is in its section rooms or in Hosack Hall where they hold their regular meetings; one at least gave up its independent organization to become a section of the Academy. It cannot be avoided, however, that the generosity of the Academy is occasionally abused. Now and then we hear of desirable men who refuse to join and pay the annual contribution, on the plea that without personal membership they enjoy the privileges of those who pay their dues, that is, access to the building, the meetings, the papers, and the free library and reading-room. Such occurrences do not prove much, while exhibiting the broadmindedness of the Academy, except the occasional presence in the medical ranks of selfish men. Fate made a mistake when it admitted them to American citizenship and to a liberal vocation. Membership in a profession is by itself not sufficient to ennoble a man; it is the noble man who adorns and exalts his profession.

Nor do the academicians confine their labor to their own institution or to the city. There is no national association in which they are not interested and co-operating. It was a fellow of the Academy who established a section for diseases of children in the American Medical Association. Its members are largely represented in the Association of American Physicians, and in the American surgical, pædiatric, climatological, gynæcological, and other societies. In the transatlantic congresses, the British Medical Association, and the international medical congresses, their names are frequently met with.

What I could say, fragmentary though it be, should have convinced you that the best individual and collective efforts of the profession as represented in the Academy, are being spent in the service of the community. In the same degree that the intellectual and scientific development of medicine and of the profession has been progressing, that service became more

valuable. Now, on all your lips I am reading the question: What can the community do for the science and art and the profession of medicine, and particularly for that of the city?

The monarchies of Europe, particularly continental Europe, have had medical schools these five hundred years; in this century their number increased. The facilities for teaching and learning were enlarged. In the last twenty-five years laboratories and clinics and libraries grew steadily with growing demands. The professors are salaried, their future is secured by pensions, their incidental expenses are paid, their lives are allowed to be dedicated exclusively to scientific research: for they and their children will not go hungry. All this is done without individual exertion or contributions. No matter whether wars crippled the means of the people, or whether militarism sucked the marrow of the land, or the sterile soil did not even feed the mostly agricultural population, the universities were provided for more or less generously by the government, at public expense.

With us the community is its own providence. The democratic citizens are their own sovereigns, and their means permit them to give way to their generosity. Schools, churches, nurseries, hospitals, libraries, have been its main beneficiaries. Medicine, however, has not yet received its full share. Still the benefactor of Johns Hopkins University and Hospital, the New York family that erected and endowed college buildings, laboratories, and hospitals for a medical school, the donors of the Carnegie and the Loomis laboratories, the founder of the Pepper Laboratory in Philadelphia, and of the Bender Laboratory of Hygiene in Albany, have accomplished exactly and often most generously, what is carried out by the sacrifices and exertions of whole monarchies. Again, only a week ago, we learned of the offer of a million dollars, made by a fellow-citizen, to whom our Academy also is under obligations for powerful aid, for purposes both of relief and instruction. You call that "royal"? No, ladies and gentlemen, that is not royal: it is the spirit of republican citizenship, dreamt by a Plato, realized by an American. Nor am I disposed to forget what we, the New York Academy of Medicine, owe to the New York public. It is with its spontaneous and valuable aid that we were enabled to erect the spacious and commodious building in which we hope to meet you again to-night. Though I am forbidden to mention the names of the living, I cannot abstain from recalling the ample bequest of the late Celine B. Hosack. It is to that liberality of the community that we have again appealed lately in our efforts to raise our library fund to one hundred thousand dollars. The response elicited thus far appears to justify our hope of attaining our ends in the nearest future: it certainly proves that a generous public appreciates the additional factors of learning and erudition in its skilled medical advisers.

Nor does the Academy appeal to you in its own behalf only. Every advance in the standard of medical education is a new ally to the Academy. The medical schools need endowments, like ourselves. Medical teachers are not rich: they should not be expected or made to look for a livelihood to the fees obtained from the students: that is a fact now acknowledged, and an ideal realized in the medical department of Columbia University. Laboratories of hygiene, chemistry, physics, botany, biology, should not be supported by the contributions of medical men only, or perhaps not at all. What monarchy is in the old world, that is democracy in the new, namely, the evidence and representation of the condition of its political and moral civilization. Hospitals you have built in large numbers, and in some instances more than required, and still some more are demanded. No scholar is imaginable without a library, no anatomist without a dissecting-room and a museum, no chemist or physicist or physiologist without experimentation, no medical graduate who is to practice on you and yours without instruction in a clinical hospital intimately connected with the medical school, and situated on or near its grounds. Imagine, mothers, that every year hundreds of men and women begin the practice of medicine without ever having seen a baby sick in bed.

There is many another way in which the community may render itself useful to the medical profession. See to it that no personal interest, vanity, or misapprehension interfere with the progress of medicine. It is through our own efforts that we overcame the lack of knowledge on the part of legislators, and the opposition of medical schools, when we enforced a certain amount of preliminary education and the establishment of state examinations. See that these your gains, for they are yours, be not taken away from you; they were conquered in your behalf. See that scientific study and progress are not shorn of their prerogatives, that is, experimentation, and that your legislators are not influenced except by facts. When, for instance, agitators speak to you of the cruelties of vivisection, remember that they select that hard word in order to conceal what it means, that is, animal experimentation, which is already secured and protected against barbarousness and cruelty by a well-adjusted and satisfactory law, that was passed by former legislatures and ought to be left intact. Tell them also that you know that the action of many therapeutical remedies useful to them and their children could be studied by animal experimentation only: that one of the most formidable calamities of former times, the terror of every woman who was to become a mother, childbed fever, has been reduced to the very lowest figure wherever the teachings of animal experimentation have been heeded; that hydrophobia, always fatal, has been made accessible to treatment with at least fair results; that tuberculosis may be and is in part confined within certain limits; that the prevention of cholera, even that of the plague, is no longer a dream; that the mortality of diphtheria is reduced to nearly one-half of what it was; that quite certainly the future therapeutics of scarlet fever, measles, typhoid fever, and other scourges of mankind will be based on antitoxins; that the success of surgical operations under the influence of antisepsis and asepsis is simply marvellous; and that all these blessings are the direct result of animal experimentation. Tell them also that the horse or sheep that furnishes the antitoxin which is to save American children does not even suffer, and if it comes to the worst, if rabbits and guinea-pigs have to be sacrificed by humane men armed with skill and anæsthesia, that the future ought to belong as much to mankind, ay, more to mankind, than to rabbits and guinea-pigs, or to those animals that you hunt over fences and brooks, and with the permission of the law shoot to death amidst the excited laughter of sport, but pretend to shed tears over when science tries to fathom new wonders, to establish more firmly the foundations of health and life for old and young, and to discover new means of salvation for this republic and mankind.

In what I state I identify the demands of the profession at large and of medical science with those of the New York Academy of Medicine. Ours is "*Una fides, altare commune*," one faith and a common altar. That shibboleth you will find is the sole inscription on our home in Forty-third Street. What you will do for one you will be doing for all. Whatever you do, you will contribute to the medicine of the present and of the future, and to the great work in store for it. We know that it is levity only that makes empty hypotheses, sometimes, unfortunately, even laws; that

much labor, however, and hard work are required to obtain great results. In all humility, but with earnestness, medical men tender you their labor in practice, in hospitals, on the teachers' platform, in the laboratories. What they expect and look forward to is appreciation not of the individual, but of the aggregate work, and co-operation on the part of the public, for the immediate results of our work are at the same time humane and practical. The reduction in your death rate of one in a thousand means, beyond the saving of one life, a lowering of more than thirty in the total number of cases of sickness, and therewith prevention of much anxiety, wretchedness, and financial loss or ruin in as many families. Results like these are liable to be accepted as natural; they are claimed, as it were, as the normal appendages of modern civilization. It should not be forgotten, however, that they are obtained only by the work of medical men who labor for the good they can do, often as hermits, unknown and unappreciated, always bent upon the diminution of the number of problems which hitherto were deemed hopeless. The medical searcher is like the astronomer who differentiates in nebulous distances stars big and small, luminous and dark, fixed and migrating. More than any other man, he spies for the relation and connection of things and phenomena, and becomes the true philosopher and physician, who was called godlike, by a great poet three thousand years ago.

Much of what I touched upon has been, or is being accomplished. The rapidly increasing facilities of investigation have changed the methods and aspects of modern medicine to such an extent as to make me anxious to know what the orator of the next semi-centennial celebration will have to say to you. Part of it I know, and you will know it too when I beg you to consider with me during the last minute of my address the possibilities and the certainties of medicine. Its methods of investigation will never be changed, for they have become those of natural science, and these, because they are based on observation and experimentation, are unalterable. Indeed, medicine is a part of the natural sciences; the human organism, well and sick, physical and spiritual, is the subject of its scrutiny. Man's nature, both normal and abnormal, belongs to the domain of medical inquiry. Psychology has for some time past become a branch of physiology. The sound mind, its aberrations and freaks, the soul with its holiness or turpitude, no matter whether considered by the believing philosopher or the searching materialist, are topics of biological study. The explanation and relations of most intimate physical and psychical processes are sought for, will always be sought for, by the sanitarian, the teacher, the clergyman, the judge, the statesman. It is in medicine that they will find them. The time will soon come when the culture of a nation will be estimated according to the mutual relations of medicine and the people.

Is this an ideal? It is, but no Utopia. Indeed, much of what was an ideal twenty-five years ago has been achieved. It is probably true, however, that no ideal will ever meet with its entire consummation, and ideals will be modified or expanded. Nor do I believe that even the star guiding the three sages of the East shone always with equal splendor. Thus it is possible that what I earnestly hope for in the next half century will not be completely fulfilled; but woe to the man, to the profession, to the nation, without an ideal as a guiding star. To medicine in its legitimate and just meaning that star is the improvement of man both individually and collectively. It demands and promises the combination of scientific research into the wants of mankind, with the application of preventives and remedies for its physical, intellectual, and moral dangers and defects. To keep and fortify medicine on that platform is the ideal of our calling. By working for it, medicine and medical men may create that power which alone protects individuals against hebetude or despair and nations against wreck and perdition. That power is benevolence, beneficence, and mutual assistance.

A SUCCESSFUL CASE OF EXTERNAL ŒSOPHAGOTOMY FOR TOOTH PLATE TWENTY-TWO MONTHS IMPACTED IN THE ŒSOPHAGUS, WITH SUMMARY OF ONE HUNDRED AND SIXTY-SEVEN OPERATIONS RECORDED UP TO JANUARY, 1897.[1]

By WILLIAM T. BULL, M.D.,
AND
JOHN B. WALKER, M.D.

C. L——, a maid, single, forty years old, native of Scotland, in previous good health, noticed after a slight fainting attack that an upper plate carrying two false teeth had disappeared. This was in November, 1894. The plate (Fig. 1) was of platinum, one and one-fourth inches long, three-fourths of an inch broad, irregularly indented in front, and provided with two half-circles of small wire for hooking on to the sound teeth. There was trifling pain, but next day she could swallow nothing. Dr. C. F. Barker, of Newport, R. I., found it impossible to pass a bristle probang farther than six inches. The following day liquids were swallowed, and slight swelling and tenderness were detected just above the sternal notch. The facility of swallowing increased, and she could take solid food at the end of five or six weeks. The local swelling disappeared after a few days. She had no marked difficulty and no disturbance of her general health till toward April, 1896, eighteen months from the time the plate was swallowed. Then dysphagia was noticed, with loss of flesh and strength, and feebleness and hoarseness of the voice. In four months, March to July, 1896, her weight decreased from one hundred and twenty to ninety pounds, and she took only liquid food. About the middle of July I saw the patient. She was thin, anæmic, weak; able to go about, but not to work. Pulse, 80; temperature, 98.5° F. Palpation revealed nothing, and no sort of œsophageal bougie could be passed beyond a point about seven inches from the teeth. No laryngoscopic examination was made. Rectal feeding was added to the nourishment by mouth for five days previous to operation. External œsophagotomy was done, July 27, 1896 (twenty-two months after the accident), with the help of Dr. Barker and the staff of the Newport Hospital. The œsophagus was exposed readily on the left side through tissues that showed no trace of inflammation, but the body could not be felt by the finger. The œsophagus was opened just above the sternum upon a bougie, and the edges of the incision were held apart by loops of silk. The wall was healthy

Fig. 1.—Tooth Plate (1¼ inches by ¾ inch) in œsophagus twenty-two months, removed by œsophagotomy. Recovery.

[1] Read at a meeting of the Practitioners' Society, New York, January 8, 1897.

here. An inch lower, behind the first part of the sternum, all exploring instruments were at first arrested, apparently by soft tissues. Eventually a whalebone passed through to the stomach along the anterior wall, and a probe beside it entered a pouch in the posterior wall and grated against the plate. The œsophageal wound was enlarged downward till its entire length was about one and one-half inches, and the plate grasped with a curved artery clamp; but it could not be easily extracted until the mucous membrane in front of it had been cut with scissors. These manipulations were somewhat prolonged and difficult from the interposition of the sternum. It was evident that the plate had sunk into the posterior wall and been lodged, with its long diameter vertical, in a sort of pouch of the mucous membrane, which had ulcerated at one point, leaving only the upper and lower end of the plate exposed in the lumen (Fig. 2). The wound was lightly stuffed with iodoform gauze about a large soft-rubber catheter, which reached four inches below the site of the foreign body and was brought through the dressing of sterilized gauze. The operation lasted two hours.

No vomiting followed. The temperature was 101 F., with pulse 110 for a few hours next day; then ranged from 98.5° to 99° F., with pulse of 80. For twenty-four hours only rectal feeding was resorted to; then three or four times in twenty-four hours fluids, beginning with four ounces of boiled water, were introduced though the catheter without any stomach irritation. The mouth was frequently irrigated, but nothing swallowed. Occasional cough and expectoration of mucus were quieted with small doses of morphine hypodermically. The iodoform packing about the catheter was changed three times in the first ten days, when the catheter was withdrawn and replaced by a clean one. On the thirteenth day the wound was much contracted and granulating well, and the catheter was withdrawn, leaving only a light wick of gauze down to the œsophagus. Up to this time there had been no escape of œsophageal or stomach secretions into the wound. In forty-eight hours after removing the catheter nourishment was given through the stomach tube, passed twice a day; then swallowing was permitted and rectal feeding discontinued. The œsophageal wound had apparently closed, for none of the swallowed fluids escaped. The sinus was healed entirely at the end of seven weeks, the patient having been out of bed at the end of a week. From the end of the fourth week a No. 19 (English) œsophageal bougie was passed, and this or a No. 20 introduced on alternate days during the next month. There was a rapid gain in flesh. The voice remained rather feeble and hoarse, and a laryngoscopic examination made by Dr. Powell showed the left vocal cord to be motionless. For this the faradic current was given for several weeks, with gradual restoration of the voice to its natural strength and clearness, according to the patient's statement and that of her friends; but no subsequent examination of the throat was made. Four months after the operation her condition was perfectly satisfactory.

The length of time (twenty-two months) intervening between the swallowing of this plate, and its removal without accident, make this case worthy of special note.

In the one hundred and sixty-seven cases reported up to 1897, which Dr. J. B. Walker has compiled, the only longer periods are four—viz., one of twelve years, one of three years and three months, one of two years and three months, and one of five years and nine months' duration. In fact, forty-six cases have been operated on within the first three days, seventy-four within one week, and ninety-six cases within four weeks.

The point of arrest was fortunate. It was just above the dangerous proximity of the tracheal bifurcation and the aorta, and its position made it possible to remove it without damage to the œsophageal wall. Had it been a trifle lower down, its extraction through the neck would have been impossible, for the fold of mucous membrane overlapping could not have been appreciated and divided; and the same disposition of the mucous membrane (see Figs. 1 and 2) would have made it difficult to dislodge by any efforts from the cardiac end by a gastrotomy.

Immediately after lodgement it could, considering its size and situation, probably have been removed through the mouth by the coin catcher, and certainly by a simple œsophagotomy; but it is natural, in view of the facts that the instruments were not at hand and that the dysphagia soon disappeared, that the attempt was not made. The plate, though attached to the wall, evidently offered but little obstruction to food until the mucous membrane became so folded about it as to constitute a stricture of the œsophagus. In fact, in approaching the case I did not feel at all sure whether I had to deal with the plate alone constituting the obstruction, or a stricture resulting from injury done by it, or the plate plus a stricture. The woman had not been continuously under Dr. Barker's observation, and her history was vague, and the instruments introduced gave no evidence of being arrested by a solid body. In the future an invaluable aid to diagnosis will be afforded by a resort to skiagraphy, as was done first by Dr. J. William White, whose case is recorded in *Annals of Surgery*, August, 1896, p. 238. In that case a jackstone, lodged at the level of the second and third dorsal vertebræ, was successfully removed by means of gastrotomy. As White has pointed out, the skiagraph will not only indicate the existence of the foreign body, but point out its exact situation more clearly than one can estimate it by bougies, and thereby enable us to select the proper method of treatment.

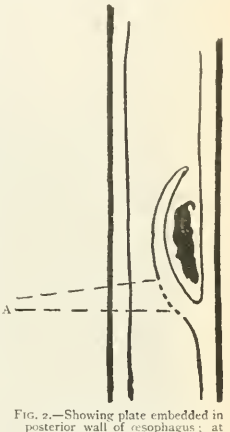


FIG. 2.—Showing plate embedded in posterior wall of œsophagus; at A, the fold of mucous membrane having ulcerated.

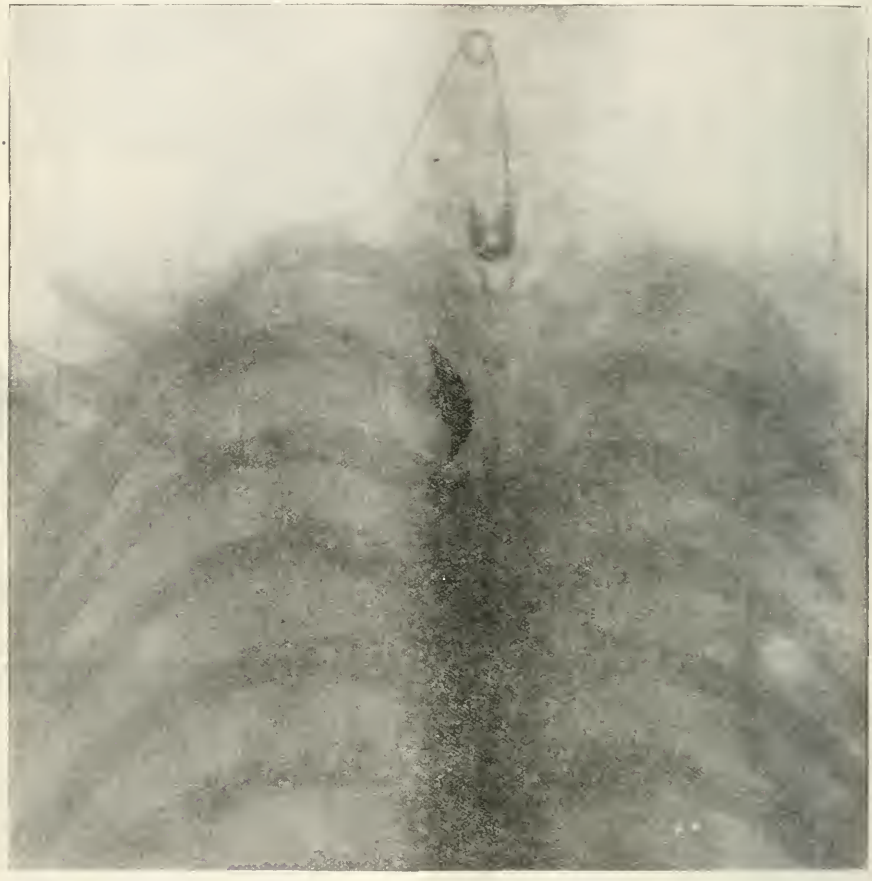
Being curious to subject this plate to the *x*-ray test, I placed it in the œsophagus of a cadaver, so as to lie wholly behind the upper part of the sternum, and got, with the aid of Messrs. O'Connor and Hawks, the accompanying skiagraph (Fig. 3). The plate was at the back. The sternum is not apparent, but the situation can be inferred from the vertebra, ribs, and scapula, which are fairly distinct. In the same œsophagus I placed a large safety pin just below the cricoid cartilage and a peach stone at the cardiac end. The pin is very distinct, but the stone escaped detection. A stylographic pen in the stomach was clearly delineated.

It is worthy of note, though not relevant here, that a sponge or a gauze compress left in the abdomen, three gall stones placed against the neck of the gall bladder, three fragments of phosphatic calculus as large as an olive, put in front of the kidney, gave no trace of their presence: but two fragments of a broken needle in the abdominal wall, a pair of forceps in the pelvis, and a shot in the appendix were recognized on the negative and depicted in the skiagraph. A uric-acid calculus in the bladder (about one and one-half inches long by one inch wide) was seen only after the subject was laid on the stomach. With the fluoroscope only the

safety pin and the forceps in the pelvis were made clear.

Egloff enumerates twenty-five different articles that have been arrested in the œsophagus. Of these, sixty-two per cent. are represented by dental plates and bones in equal proportion. Of the remainder, at least fourteen are of such materials as would likely be recognized by skiagraphy. Hence the importance of this addition to our surgical resources cannot be overestimated.

The œsophageal wound in this case healed in fifteen days, after the catheter had been worn thirteen days. It would have been unwise to atttempt suture of the wall of the œsophagus, on account of the late moment of the operation and the condition of the parts within. Not every case, however, will tolerate so quietly the presence of a tube, etc., or be so free from regurgitation of mucus into the wound. In the weak condition of these patients rectal feeding is indispensable, and it may be relied upon exclusively for several days when sutures are applied to the wall of the œsophagus. This, which is the ideal procedure, should be attempted only when the case is a recent one and when extraction has been accomplished with no damage to the œsophagus. Even then the wound outside should be protected by being kept open with gauze, though absolute primary union of both wounds has been accomplished in one instance by Post.[1] This is attended with some risk, as Richardson[2] points out. The stomach tube must be employed after rectal feeding for a day or two, according to the condition of the patient, and it may break down the union in the œsophageal wall and permit infection of the deeper parts of the wound—a condition which, at the root of the neck, is attended with much risk. With the œsophageal wound carrying the stomach tube or catheter there is some risk from hemorrhage. One case ended fatally from erosion of the internal jugular vein; but in a wound properly protected by gauze about the tube and kept aseptic this accident is not likely to happen. Dr. Walker notes thirty-eight cases in which after the operation enemata were employed for forty-eight hours and followed by feeding through the tube, all of which terminated in recovery; while in sixty-two cases where the stomach tube was left about fifty per cent. died. The total mortality of one hundred and sixty-two cases up to 1897 is 24.07 per cent.



For further statistical information, I refer to the following facts gleaned by Dr. Walker:

The first series of important statistics upon this subject were completed by Fischer in 1889.[3] It consisted of 120 cases.

In 1894 Egloff[4] brought this forward with a col-

[1] Boston Med. and Surg. Journal, December, 1893.

[1] Dennis' "System of Surgery," vol. iv., p. 5.
[2] Deutsche Zeitschrift fur Chirurgie, 29, p. 97.
[3] Beiträge zur klinischen Chirurgie, 12, 143.

lection of 15 cases. The writer has collected 32 additional cases, making 167 cases for consideration.

Of these 32 operations, 13 have been performed in this country, 10 in France, 8 in England, 1 in Germany.

The nature of the foreign body was as follows: In 17 cases the foreign substance was a dental plate: 13 recovered and 4 died: in 6 the substance was a coin; in 3 a stone, of which last cases 2 recovered and 1 died; in 4 a button: in 1 a piece of bone; and in 1 a walnut.

Mortality: Egloff calculated a rate of 24.4 per cent. in the 135 cases at his disposal, and with these additional 32 cases the mortality is now slightly reduced to 22.5 per cent. In the present 32 cases (with 5 deaths), the mortality is diminished to 15.6 per cent. This gain has been due to the facts that the operations have gradually been performed earlier (before the tissues were so much damaged by the prolonged and severe measures first to remove the body through the mouth without an operation) and that the technique also has been much improved. It can be said that the less the tissues are irritated or damaged by manipulation, and the earlier the operation is performed, so much better is the prognosis.

The time which elapses between the accident and the operation is of much importance. In 14 cases in which the operation was performed on or before the third day 3 died (a mortality of 21.4 per cent.). In 7 cases, between the third and the seventh day, 2 died (a mortality of 28.6 per cent.). The shortest period which elapsed was twelve hours; the longest, five years and nine months. Both patients recovered.

The location of the foreign body is also very important. In only 1 case was it lodged above the cricoid; in 17 cases (of which 13 recovered and 4 died) it was either at the level of the cricoid or between that and the top of the sternum; in 11 cases (of which 10 recovered and 1 died) it was behind or near the head of the sternum; in 1 case it was within one and one-half inches of the cardiac end of the œsophagus. In this case œsophagotomy was first performed, and when it was found impossible to extract the dental plate from above, gastrotomy was performed and the plate removed through the stomach incision. In searching the literature on this subject, there have been found 8 cases (see foot note, "Gastrotomy") in which the foreign body was so near the cardiac end of the œsophagus that it was necessary to perform gastrotomy.

Treatment of the wound: In 16 cases the œsophagus was primarily sutured with catgut or silk, the external wound was partially closed, and a gauze drain or tube was inserted down to the sutured wall of the œsophagus. Primary union is stated to have occurred in 2 cases, and it probably occurred in some others, but was not definitely stated. The average time of healing of the œsophagus was seven days, and of the external wound twenty days. In 11 cases no sutures were used, and the wound was drained by gauze packing or a tube: the average duration of healing was twenty-seven days.

Nourishment: In 9 cases none was taken by the mouth during the first forty-eight hours, the nourishment being given by enemata, and none of these cases died; whereas in 12 cases where the nourishment was given from the beginning through the stomach tube, 3 died. In going over the entire 167 cases, one finds that in some cases these details are not given: but in 62 cases where the stomach tube was used from the beginning 40 cases recovered and 22 died, whereas in 38 cases where it was not used, at least not until after forty-eight hours from the operation, the only nourishment being by means of enemata, all recovered.

The cause of death was sepsis in 4 cases, and in 1 case a mediastinal abscess.

GASTROTOMY.

1. Richardson: Boston Medical and Surgical Journal, December 16, 1886. Plate, eleven months; recovered.
2. Thornton: Lancet 1, 1886, p. 57. Mass of hair; recovered.
3. Bull: New York Medical Journal, October 29, 1887, p. 481. Peach stone; six days; recovered.
4. Perier: La Semaine Médicale, 1890, p. 150. Coffee spoon; eighteen days; recovered.
5. Finney: Johns Hopkins Bulletin, 1892, p. 117. Peach stone; sixty days; recovered.
6. Wallace: Lancet, 1894, March 24th. Dental plate; twelve hours; recovered.
7. Gangolphe: Lyon Médicale, 1895, 69. Dental plate: eight months; died. Plate had perforated artery in lung. Hemorrhage.
8. Morton: Annals of Surgery, 1896, p. 415. Dental plate; twenty-one months; died. Septicæmia on eighth day.

No.	Operator; Reference.	Age.	Sex.	Kind of Foreign Body.	Symptoms.	Elapsed Time Since Accident.	Location of Foreign Body.	Treatment of Wound.	Result.	Nourishment and Remarks.
1	McLean, Leroy. N. Y. Med. Rec., Sept. 13, '84.	40	M.	Plate.	Pain; only liquids.	4 days.	Just below cricoid cart.	Both wounds left open, packed with gauze.	R.	Enemata; 48 hrs., drank milk; 72 hrs., swallowed fluids, quite well; 6th day, no leaking; 20th day, healed, home.
2	Perier, La Semaine Méd., 1890, 150.	10	F.	Shirt button.	Pain; only small amounts liquids.	12 days	Region of cricoid.	Œs., catgut; skin, silk; gauze drain.	R.	3 weeks well.
3	Morse, Brit. Med. Jr., 1891, 2-21, 403.	32	F	Plate, 1×1½	Pain; dysphagia.	48 hours.	inches below teeth.	Open; two drain tubes; 21 days, well.	R.	Enemata; nothing by mouth for 72 hours.
4	Woods, Brit. Med. Jr., 1891, 917.	29	M	Stone, 620 gr.	Pain; dyspnœa.	24 hours.	inches below teeth.	Open ext. wound; œs closed.	D. Sepsis.	Stomach tube; enemata.
5	Furner, Lancet, 1891, 1, 979.	44	F.	Plate, teeth.	Pain; dysphagia; emaciation.	5 years months.	1 inches below teeth.	Œs not closed; skin open; gauze packing, drain tubes.	R.	Enemata every 4 hours; 4 oz. beef tea; nothing by mouth for 48 hrs.; 72 hrs., wound septic and leaking; 5th day, stomach tube; 21st day, swallowed bread and milk; 28th day, healed.
6	Wight, An. Surg., 1891, 100.	25	M.	Bone.	Pain; dysphagia.	4 days.	1½ inches below teeth.	Open, drain.	R.	Stomach tube; much regurgitation; fed with enemata considerably; would not use stomach tube in another case.
7	Gay, Boston Med. & Sur. Jr., 1892, p. 332.	3½	F.	1 cent piece, ⅝ inch.	Pain, gradually increasing; dysphagia; emaciation.	8 months.	2 inches below top of sternum.	Wound left open; drain tube 24 hrs.; 13 days, about ward; 25 days, completely healed.	R.	6 hours later, water; 24 hrs., milk 8 o.s.; some leaked through; enema every 2 hrs.
8	Gay, Boston Med. & Sur. Jr., 1892, p. 332.	28	M.	Dental plate, 4 teeth.	Pain; dysphagia.	4 days.	4 inches below top of sternum.	Closed with silk; 3 days, water, slough.	D. 5 days. Sepsis.	Stomach tube; enemata; delirium; leaking.
9	Paul, Liverpool Med.-Chir. Jr., 1892, 231.	33	M.	Plate.	Pain; bloody mucus; dysphagia.	48 hours.	Top sternum.	Œs. closed, catgut; ext. wound open; 12 days well.	R.	48 hrs. by mouth; little escaped; 4 days, closed.
10	Alexandroff, La France Méd. et P. Méd., 1892, 235.	2	M.	Button.	Pain; bloody mucus; dysphagia.	2 days.	cm. below teeth.	Œs. closed, catgut; ext. wound open; 12 days, well.	R.	Recovered without complications.

No.	Operator; Reference	Age.	Sex.	Kind of Foreign Body.	Symptoms.	Elapsed Time Since Accident.	Location of Foreign Body	Treatment of Wound.	Result.	Nourishment and Remarks.
11	Post, A., Boston Med. & Surg. Jr., 1893, Dec. 28	12	F.	25 c't piece.	Pain; dyspnœa; only liquids	5 days.	Midway between cricoid cart. and sternum.	Closed, first intention; no leaking; wound closed top and bottom; drainage.	R.	Milk by mouth 24 hrs. after operation; none through wound.
12	McLean, Leroy, N. Y. Med. Rec., Sept 13, '84.	16 m.	F.	Penny.	Pain; dysphagia; regurgitation, inanition.	7 days.	Level of clavicle.	No sutures; packed.	R.	Rapid and complete.
13	Terrillon, Rev. d. Chir., 1803, 330.	26	M.	5 fr. piece.	Pain; dysphagia; regurgitation.	3 days.	22 cm. below teeth.	No sutures; packed.	R.	Enemata for 3 days; afterward also milk by mouth; 11th day, well.
14	Ségond, Rev. d. Chir., 1803, 330.	40	F.	Plate, 5 teeth.	Pain; dysphagia.	3 days.	Head of sternum.	Œs., catgut; external wound packed.	R.	Stomach tube.
15	Jalaguier.	2½	M.	Bit of lead.	Pain; dysphagia.	6 days.	1, cm.	Œs., catgut; external wound packed.	R.	Milk by mouth all right till 3d day, when it leaked a little; recovered.
16	Wallace, Lancet, 1894, March 24, p. 734.	28	F.	Plate with 3 teeth.	Pain; dyspnœa; dysphagia; only liquids.	12 hours.	1½ in. above lower end of œsoph.	Œs. closed with cat gut; gauze drain to m. m.; superficial wound open. Stomach m. m., continuous silk; serous coat with Lembert silk; external wound closed.	R.	Stomach in 8 days, œs. in 38 days. Nothing by mouth for 44 hrs., then 2 oz. barley water; none escaped from wound; then by mouth every 4 hrs. for 4 days; then little escaped; fed by stomach tube t. i. d.; nutrient enemata every 4 hrs. for 5 days.
17	Wilson, Liverpool Med.-Chir. Jour., 1894, 480.	65	M.	Plate.	Pain; dyspnœa; dysphagia; only liquids.	24 hours.	Level of cricothyroid.	All open.	D. Sepsis.	Stomach tube every 6 hrs.; stomach washed.
18	Bickersteth.	50	M.	Plate.	.....	3 days.	.....	All open.	R.	
19	Froelich, Arch. Prov. d Chir., 94, 698.	19	M	Peach stone.	Pain; dyspnœa; dysphagia; profuse mucus.	30 hours.	18 cm. below teeth.	Œs and skin, open; gauze packing, drain tube.	R.	1st day, milk by stomach tube; 2d day, introduced stomach tube every 8 hrs. and fed; 3d day introduced stomach tube by nose every 8 hrs. and fed; regurgitated fluid alongside of tube; 14th day, œs. healed; 21st day, skin healed.
20	Cahier, Arch de Méd. et Phar. Mil., 1894, 13-98	27	M.	Plate.	Dysphagia; bloody mucus, pain.	48 hours.	20 cm., level of cricoid.	Œs. not sutured; s. tube through mouth; ext. wound packed.	D. Sepsis.	Enemata; fluids through stomach tube; 72 hrs., dead. Autopsy—œs. walls ulcerated and perforated; mediastinal abscess; œdema of glottis.
21	Schmuegelow, Rev. de Laryngol., 1894, 289.	38	M.	Plate.	Dysphagia; bloody mucus; pain.	4 weeks.	Cricoid.	Mucous coat, gauze drain.	R.	Stomach tube through œs. for 8 days; left for 2 weeks; then eating; 4 weeks, well.
22	Hamilton, Med. News, 1894, p. 98	24	M.	Walnut.	Pain; dysphœa; dysphagia	16 hours.	7½ in. below teeth.	Œs., catgut sutures, gauze drain; skin, silk.	R.	3d day, wound dressed; some leaking; slight suppuration; stomach tube through nostrils for 3 weeks; well in 4 weeks.
23	Deaver, J. B., New Eng. Med. Month, 1895, 400.	..	F.	Plate.	Pain; dysphœa; dysphagia.	7 days.	.....	....	D. Sepsis.	
24	Chavier, Arch. Prov. de C., 1895, iv., 117.	22	M.	Plate.	Pain; dysphagia; emaciation.	6 weeks.	Head of sternum.	Œs., catgut; skin, gauze packing.	R.	1st day, enemata; 2d day, stomach tube. 16th day, œs healed, no leaking; 28th day, well; solids by mouth.
25	Abbe, N. Y. Med. Jour., 1895. 1–319.	35	M.	Plate with 4 teeth.	Pain; dysphagia; emaciation; regurgitation; stricture had formed which would not admit even the smallest œs. bougie.	15 months.	9 to 10 in. below teeth, 4 in. below cricoid.	Fine catgut through muscular coating and submucous coats of œs.; ext wound packed with iodoform gauze.	R.	1st day, enemata; 2d day, sterile milk through soft-rubber stomach tube; 3d day, gauze removed, small drain tube inserted; 10th day, œs. healed primarily, no leaking; 11th day, soft solids; 15th day, external wound closed; 2 months, average-sized œs. bougie passed easily.
26	Gangolphe, Lyon Méd., 1895, 69.	47	M.	Stone.	.....	2 days.	21 in. below teeth.	Œs. and skin left unsutured: packed.	R.	Tube passed into stomach through external wound and fluids poured down this tube 4 t. d.; regurgitation alongside of tube; tube left here for 16 days, then through nose for 12 days.
27	Ferguson, Am. Jr. of Surg. and Gynæ., 1896, 128.	36	M.	Plate with 3 teeth.	Exhaustion.	12 days.	Cricoid level.	Œs., silk sutures; ext. wound partly closed; gauze packing.	R.	First 5 days enemata alone; 7th day, swallowed milk and leaked; 21st day, fistula closed and well.
28	Maylard, Glasgow Med. Jour., 1896, 216.	3	M.	Penny.	Dysphagia.	2 days.	Behind head of sternum.	Œs. sutured; skin packed, drain tube.	R.	Recovered rapidly; enemata.
29	Schramm, Cent. fur Chir., 1896, p. 211.	1	..	Button.	.....	2 days.	Behind head of sternum.	Œs. sutured; skin packed; drain tube	R.	Nursed from breast the same day.
	Curtis, B. F., personal commun.	35	M.	Plate.	.....	5 weeks.	Level of cricoid.	Œs. sutured, silk; ext. wound packed.	R.	Swallowed after 24 hrs.; well in 4 weeks.
31	Curtis, B. F., personal commun.	3	M.	Button badge with pin.	.....	3 weeks.	Between cricoid and sternum.	Œs. sutured, silk; ext wound packed.	R.	Swallowed after 24 hrs.; œs healed in 7 days; nearly complete primary union.
32	Bull, present case.	40	F.	Plate.	.....	22 months.	Behind head of sternum.	Both wounds left open; packed with gauze and drain tube.	R.	Enemata only for first 24 hrs.; then fed 4 t. d. by stomach tube; œs closed 15th day.

Wandering Spleens.—In a paper read recently before the Medical Society of London, Bland Sutton (*British Medical Journal*, January 16, 1897, p. 132) maintained that splenectomy for wandering spleen is not only justifiable but also a highly successful operation, the rate of recovery being equal to that of oöphorectomy in skilled hands. He has collected a score of cases thus operated upon within the last twenty years without a death. It has occurred to many that it would be desirable, if it were possible, to secure the spleen in the left hypochondrium by means similar to those for fixing a movable kidney. The results in two reported operations of this kind show clearly that the patients ran much greater risk and had much longer confinement to bed than if the spleens had been removed. The spleen may be regarded as a highly developed and specialized lymph gland, and there seems to be no more reason for hesitating to remove it when "wandering" and troublesome, in so far as remote consequences are concerned, than in excising a chain of enlarged glands. In fact, many if not all individuals with wandering spleen are thin and gaunt, and they retain this character when deprived of this organ.

ON THE REPLACEMENT OF A DEPRESSED FRACTURE OF THE MALAR BONE.[1]

By ROBERT F. WEIR, M.D.,
SURGEON TO THE NEW YORK HOSPITAL.

FRACTURE of the malar bone is not a common injury, and the depression of the broken bone into the antrum is yet more infrequent. From this complication marked deformity ensues, from the flattening of the cheek and from the bony irregularity along the outer part of the inferior margin of the orbit. Disturbance is likewise produced in mastication and other movements of the lower jaw from the compression of the temporal muscle by the zygomal end of the fracture. Its recognition is easy, but the reposition of the displaced bone is usually difficult. The following cases illustrate a method that satisfactorily overcame the deformity, replaced the bone in its normal position, and restored the function of the temporal muscle. The measure adopted in the two instances to be presently detailed consisted in making a small opening with a gouge into the antrum within the mouth, just above the canine teeth, so that through this a No. 12 or 14 (English) sound could be introduced and by this means the depressed fragment forced upward and outward into its proper position. This procedure sufficed in each instance to a very satisfactory degree. The cases in detail are as follows:

CASE I.—Patrick McC——, aged twenty-one years, entered the New York Hospital, October 22, 1890, having been struck six days previously in the face with a heavy mallet, which felled him to the ground and left him for a time unconscious. When admitted to the hospital he was in good general condition, with his right eye nearly closed by an ecchymotic swelling, which invaded also the cheek. A depression existed not only in the region of the malar eminence, but also along the outer part of the inferior margin of the orbit and at the anterior extremity of the zygoma. A sharp projection of bone could be felt just beneath the skin where the fracture terminated in the orbit. He was treated by local applications but suffered from the pain in the upper jaw, with, however, but little in mastication. He came under my observation about three weeks after the injury. The deformity from the difference in the two sides of the face was very pronounced and disagreeable.

Under ether, November 16th, an incision was made through the mucous membrane, just above and to the outside of the right upper canine tooth and the antrum opened by a small gouge. Through this opening a steel sound was passed and with but moderate force the depressed bone was loosened and raised into its proper place. Though it seemed firmly held in its normal situation, it was thought best to retain it by packing the antrum with a long strip of iodoform gauze. This was withdrawn on the fourth day after the operation and replaced, and finally withdrawn on the tenth day. One week later he was discharged, the little wound in the mouth healed, contour of face natural, function of mastication perfect, and only a slight irregularity along the orbit, to be felt but not seen. When inspected several months later the restoration remained equally satisfactory.

CASE II.—Charles K——, aged thirty-one years, was struck by a flying hammer June 1, 1896, receiving a simple fracture of the left malar bone. Two weeks later he entered the New York Hospital. Besides the sunken appearance presented by the left side of his face, there was inability to open the mouth more than three-eighths of an inch. Above the left alveolar margin of the upper jaw, a piece of broken bone or tooth protruded, covered by mucous membrane. Under ether the attachment of the upper lip and cheek to the left superior maxilla was divided and the soft parts were reflected upward until the line of fracture appeared. The malar bone had been crushed down into the antrum of Highmore. No marked irregularity existed along the orbital margin. A urethral sound was passed through the incision under the lower edge of the fractured bone, and the displaced fragment was pried up into position. The antrum was tightly packed with iodoform gauze, which served to hold the malar bone in its correct position and acted as a drain. There was no reaction and four days later the patient was discharged, but the gauze was not finally withdrawn until ten days later. He was seen several months later and the shape of his face was fully restored. In this case, after the malar bone had been replaced, it was found to be so mobile, and to have carried with it a large flake of the anterior wall of the antrum, that difficulty was anticipated in being able to maintain the replaced fragment in good position, but a firm packing of gauze accomplished the purpose.

[1] Read at a meeting of the Practitioners' Society, January 5, 1897.

THE DISPENSARIES OF NEW YORK CITY; THEIR USE AND ABUSE.[1]

By WALTER BROOKS BROUNER, A.B., M.D.
NEW YORK.

THE statistics herein presented, originally gathered to satisfy my own curiosity as to the number of persons annually treated in our city, and to contrast from a numerical standpoint the work done in our various institutions, showed such stupendous aggregates, and the deductions thereof were of such interest to me, that I have ventured to make my investigation the subject of a paper, which I present for your thoughtful consideration to-night. It would seem almost a work of supererogation on my part to revive the moot question of the use and abuse of dispensaries, yet when we read the statistics and ponder well upon their significance, one cannot fail to recognize the possibilities of good accomplished and of evil done—the latter to the profession and laity alike; for surely when in one year more people than the combined populations of Arizona, Colorado, Delaware, Illinois, Maine, Nevada, Wyoming, and Vermont were treated practically free, there must have been many unworthy recipients of one of the grandest and noblest charities of Christian civilization.

The statistics presented were obtained from the last annual report, or, if no report was issued, from those who had charge of the work in the various institutions. The table shows 44 institutions which treated individually patients varying in number from 84,647 to 1,326.

As will be seen by glancing at the table, these 44 institutions treated 707,058 patients, who made in all 2,026,360 [2] visits (being an average of less than 3 visits to each patient), for whom the large number of 1,039,632 prescriptions were filled; for which a fee, ranging from ten to twenty-five cents, was charged in the vast majority of cases in all of the 44 institutions, excepting those under the department of charities and the North Western Dispensary. The 5 dispensaries treating the largest number of new patients were in the order mentioned: Good Samaritan, 84,647; New York Dispensary, 52,109; Bellevue Out-Patient Department, 48,932; Vanderbilt Clinic, 46,449; North Western Dispensary, 40,390.

The 5 dispensaries having the largest number of visits made by these same patients were: Vanderbilt,

[1] Read before the Society of the Alumni of St. Luke's Hospital, New York City, November 10, 1896.

[2] Approximate at the rate of three visits to each new patient, judged from statistics obtainable.

145,305; an average of 3.1 visits made by each patient. Good Samaritan, 138,683; average, 1.6. New York Dispensary, 135,361; average, 2.5. North Western Dispensary, 121,170; average, 3. Bellevue Out-Patient Department, 93,434; average, 1.9.

Of the 44 institutions 12 treated 20,000 or over; 5 treated 15,000 or over; 8 treated 10,000 or over; 5 treated 5,000 or over; the remainder treated less than 5,000.

Another item of interest is to note the distribution of the 715,764 new patients treated: 147,266 were as now most of our hospitals have adopted a practically uniform method in their annual reports.

The following item may be of passing interest to those who are actually engaged in dispensary work. These statistics relate only to those institutions doing a general and not a special dispensary work. The largest surgical service was at the Hudson Street House of Relief: medical, Good Samaritan: orthopædic, Vanderbilt; women's and children's, Good Samaritan; eye, ear, throat, and nose, Vanderbilt; nerve, Vanderbilt; venereal, Bellevue; vaccination, Good

THE DISPENSARIES OF NEW YORK CITY—THEIR USE AND ABUSE. STATISTICAL TABLE BY WALTER BROOKS BROUNER, M.D.

Name of Dispensary.	Patients Treated.	Visits Made.	Prescriptions. Free.	Paid.	Total.	Surgical.	Medical.	Orthopædic	Women.	Children.	Eye.	Ear.	Throat and Nose.	Nerve.	Skin.	Venereal.	Vaccination.	District Visits	Dental Cases.
Good Samaritan	84,647	138,683	4,426	89,446	93,872	15,964	22,382	....	16,520		5,437			....	....	....	8,966	4,327	11,030
New York	52,109	135,361	.....	..	52,109	3,117	9,839	....	1,059	4,398	3,639			....	1,637	3,049	830	3,761	5,425
Bellevue	48,938	93,434	122,540	.....	122,540	8,034	20,280	290	1,900	6,030	1,390		3,385	1,325	3,001	3,497			
Vanderbilt	46,449	143,305	5,597	142,884	148,481	5,066	15,788	517	3,042	4,610	3,219	1,271	4,193	2,492	3,806	2,535			
North Western	40,390	121,170	84,922	.	84,922	3,711	11,670	....	830	7,810		2,051		....	2,193	....	787	7,072	4,266
Mt. Sinai Hospital	36,057	98,308	.....	....	87,762	5,304	11,556	....	3,160	5,655	1,806	3,370		1,380	3,678	....	.....	148	
Demilt	33,413	77,491	14,953	49,205	64,158	1,607	7,177	....	1,590	6,266	2,019		1,150	296	1,176	....	1,144	5,663	3,794
German Hospital	31,739	82,253	11,808	35,316	45,124	4,148	9,154	....	1,697	4,572	1,931	3,357		1,174	3,138		.....	.....	2,568
N. Y. Eye and Ear Infirmary	27,007	76,971	.....	.....	.....	.....	.....	....	....	....	18,926	5,352	2,729						
Roosevelt Hospital	23,892	81,286	.....	.....	65,159	10,988	11,886	....	....	.....	.....	.....	.....	....	.....	....	418		
Hudson St. House of Relief	21,057	59,641	.....	....	.....	17,191	3,866												
North Eastern	20,062	*70,000	.....	.....	60,421	.....	.....	....	.....	.....	.....	.....	.....	....	.....	....	.....	3,396	1,038
Post-Graduate	19,324	84,000																	
Manhattan Eye and Ear	18,960	88,560	3,530	18,830	22,360	.....	.....	....	.....	.....	12,412	3,334	2,778	436					
East Side	16,518	.....	.....	.....	18,483	.....	.....	....	.....	.....	.....	.....	.....	..	.....	....	1,135	65	
N. Y. Polyclinic	*15,000	*50,000	.....	.. ..	20,000														
Beth Israel	14,980	.....	1,649	19,352	21,001	3,774	4,928	....	1,695	4,007		576							
N. Y. Infirmary for Women and Children	14,582	55,796	.....	.. ..	.....	1,193	3,497	114	3,665	2,785	639		472	....	499	....	.....	1,718	
Presbyterian Hospital	13,944	42,722	.....	.....	37,479	.....	.....	....	.....	.....	.....	.....	.....	....	.....	...	400		
Metropolitan Dispensary and Hospital for Women and Children	†12,687	.....	.....	.....	.....	....	..	....	5,912	6,779									
Northern	12,355	26,375	.. ..	.....	19,673	1,034	2,724	....	713	2,591		518		....	310	59	58	3,115	1,233
N. Y. Ophthalmic and Aural	10,825	.....	...	.....	... .	...	.....	..	.....	.....		10,825							
West Side German	10,119	21,449	3,159	18,443	21,602	738	2,278	....	1,125	1,768	943		1,012	....	1,766			489	
University College	*10,000	.....	.....	.. ...	20,000														
Hospital for Ruptured and Crippled	9,815																		
N. Y. Hospital	9,803	43,832	.....	....	.....	4,206	4,282	134	613	.....	.....	....	....	....	568				
Harlem Hospital	8,251																		
Manhattan	5,778	12,219	.....	.....	.....	2,362	3,086	....	.....	.....	38	....	....	....	100				
St. Bartholomew's Church	5,619	31,412	.....	.....	....	1,404	1,070	....	..	.....		3,145							
Women's Hospital	4,704	9,365	.....	....	.....	...	.....	....	4,704										
Harlem Union Medical Mission	4,008																		
Walker Dispensary (St. Mary's)	3,962	7,101																	
Harlem	3,728	9,436	.....	.....	6,007	343	1,903	....	127	.....		989		....	202	....	164		
Trinity Church Association	3,061	6,322	2,628	5,013	7,641	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	352	
N. Amsterdam Eye and Ear	2,894	6,066	.....	.....	.. ..	.....	.....	....	.....	.....	1,712	456	726						
Memorial Baptist Church	2,684	4,749	.....	.....	3,390														
N. Y. Orthopædic	2,683	19,058																	
St. Chrysostom's Chapel	2,489																		
Metropolitan Throat	2,286	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	....	2,286						
Harlem Eye, Ear, and Throat	2,216	7,020	.....	.....	.....	.....	.....	....	.....	.....	1,285	458	473						
N. Y. Medical College for Women	2,205	. .....	.....	.....	6,378														
Twenty-Five Cent Provident	*2,000																		
N. Y. Skin and Cancer Hospital	1,814	†10,903	....	.....	11,061														
Fordham Hospital	1,326																		
Total	707,058	1,718,300	255,212	376,498	1,039,632	90,184	147,266	1,055	31,841	57,265	41,320	10,871	19,204	7,013	16,692	9,140	13,902	30,306	29,354
TotalGrand	.....	.....	...	.....	... .	.....	.....	....		105,626		410,242				31,304			

* Approximate.

† Hospital and dispensary reports not separate.

medical cases; 110,242 were eye, ear, throat, and nose cases; 90,184 were surgical cases; 105,626 were children's and women's disease cases; 31,304 were skin and venereal cases; 7,013 were nerve cases; 1,055 were orthopædic cases. The remainder were divided between vaccinations, district visits, and dental cases. Surely a marvellous array!

Right here I might state that these figures do not begin to show the real aggregate, inasmuch as many institutions in making up their reports fail to classify their cases. The writer suggests that it might be a good idea if all our dispensaries would, so far as possible, adopt a uniform system of reports in the future; just

Samaritan; largest number of district visits, North Western Dispensary; largest dental practice, Good Samaritan.

This in a general way gives one an idea of dispensary work in New York City for the year 1895; yet you will notice that even this list is but partial, for it does not include the large number of private dispensaries, nor the smaller dispensaries connected with church work, nor does the table include the work done by homœopathic, eclectic, or other institutions. These statistics compare favorably with London and its dispensaries, as shown by the following:

"The London hospitals treat about 87,000 in-

patients and about 1,299,000 out-patients every year. This does not include the large number of out-patients who are treated in the free dispensaries. Besides the 92 voluntary hospitals in London, there are 39 charitable dispensaries, and these in 1895 dealt with 205,833 new cases. Further, there are in London 26 poor-law infirmaries, which deal with about 10,500 patients daily, apart from the inmates in the sick wards of workhouses; and in the course of the year more than 130,000 'permanent,' 'ordinary,' and 'midwifery' medical orders are issued in connection with 44 poor-law dispensaries."

Did time and space permit, we should like to show the per capita cost to each institution for patients treated; *e.g.*, one institution made it a matter of record that the per capita cost for treating over 23,000 patients was less than one-half cent. One thing that struck us as being worthy of note, was the fact that even in the poorest and most densely populated districts, dispensary patients were charged the same for medicine as those visiting the more favored and better-equipped institutions.

Having now disposed of that part of our subject relative to the use of our dispensaries, we come now to the other side of the question—a question of great moment, of vital interest to the profession, a question which some day may occupy the attention of metropolitan physicians to the exclusion of all others, inasmuch as on the proper solution of it depend the chances for a livelihood of many worthy men—namely, the abuse of our dispensaries.

Are Dispensaries Abused?—In gathering the statistics of the various institutions, most of which I visited personally, I was surprised to find the large number of men officially connected with the same who upon being questioned in regard to their individual experience were unanimous in the view that a large part of those treated free were well able to pay a doctor a moderate fee: indeed, in one of the so-called poor institutions, I was told that on a conservative estimate at least forty per cent. of those treated were able to pay a doctor. Indeed, it is not a novel experience for one to meet at the theatre or out riding on a wheel the very patients who were too poor, forsooth, to pay a doctor, and hence availed themselves of dispensary treatment. In the clinic in which I am an assistant, it is not an unusual thing for men to ask if their urethral or prostatic trouble would be aggravated by the use of a bicycle; indeed, one patient had the temerity to ask me if horseback riding was likely to prove injurious! And so I might go on citing instances *ad infinitum*.

What Constitutes Ability to Pay a Moderate Fee?—Herein lies the stumbling-block to a proper solution of the question of dispensary abuse. It is absolutely impossible to tell from the look of a toad how far it can leap; so with our dispensary patient, we cannot judge from external appearances the deserving from the undeserving. Yet from a large experience, a series of cross-questioning, etc., I have come to the conclusion that the number of those who really can afford to pay a small fee is legion (by small fee, I mean $1). When we consider that most patients have to pay car fare, that as seen in my statistics (excluding Bellevue and the North Western Dispensary) at least ninety per cent. of the patients pay for their medicine in sums ranging from ten to twenty-five cents, and when we consider that a large proportion of the men—and women, too—is losing time and pay for absence from work, it is evident that many dispensary patients delude themselves: for they are really expending more than it would cost to pay a private doctor.

Who is Responsible for the Abuse?—It must be said on behalf of the people that they in a measure are not to blame; they are human—no more, no less. Who would not accept a free annual pass for the theatre, or for the elevated railroads, if they were as easily obtained as dispensary treatment, with practically no restrictions—simply to be had by the mere asking? The comparison is not overdrawn a bit. When we as physicians begin to recognize that our services are as much a commodity (having a fixed value) as anything offered in the market: when we as clinical assistants look upon the unworthy clinical patient in the same light as the deadbeat, who sometimes—alas, too often—is found in the "profit and loss" column of our ledgers; and when we give them their just deserts—then perhaps our responsibility for the abuse will not be so large as it is now.

It seems to me that the object for which most of our charitable institutions was founded—namely, the relief of the worthy sick poor—has been lost sight of, so that to-day all are admitted alike: it is simply a case of asking and receiving. In gathering the statistics herein presented, which involved an enormous amount of reading, I can recall only one institution which gave the number of patients refused treatment because of their ability to pay. In short, on ultimate analysis the responsibility for the abuse is evident. The institutions themselves are to blame, and, incidentally, the men who like myself give their services in a cause so unnecessarily abused—a cause which in a measure accounts for the dearth of private practice. Think of it; if a doctor attend a clinic three times a week for fifty-two weeks, treating daily on an average five patients, every one of whom could pay a moderate fee, say $1 (yet this is a small average), what has he done? Simply deprived the profession of $780 in one year. It does not take much of an arithmetician to estimate the net result of a year of such work. If we suppose that twenty-five per cent. of the two million and odd visits made by patients at dispensaries had been paid for in our offices instead, at the small sum of $1 per capita, $500,000 would have been placed to the credit of the profession. This means that if five hundred doctors of New York City had gotten an even share of the work, each would have had to his credit in the bank $1,000 for the year 1890!

How Can We Remedy the Abuse?—As has already been stated, there are at present no deterrent factors at work to discourage this evil practice: just so long as our dispensaries are open freely to all comers, just so long will the abuse continue. My suggestion is that, commencing with the year 1897, all institutions inaugurate a thorough and systematic effort to separate the worthy from the unworthy, after the following plan. Let each applicant for dispensary treatment be registered on a card, giving name, age, exact address, occupation, salary, and the number of those dependent on applicant for support. For this registration a small fee should be charged. Let all applications be investigated by a paid corps of inspectors, whose salaries could be paid out of the registration-fee fund; the reports to be submitted by the inspector to the clerk of the dispensary should state the inspector's opinion as to the worthiness of the applicant, based upon the truthfulness of the applicant's statement, environment, etc. As soon as the case had been passed upon, a printed notice could be mailed by the clerk in a sealed envelope, stating that upon suitable investigation the individual had proven worthy or unworthy. For example:

Mr. John Jones applies to-day, Tuesday, the 10th, for treatment, between 1 and 2 P.M., having filled out the application. At 3 P.M. the card is given to the inspector, who looks up Jones and submits his report on the same within twenty-four hours. On the day following the application the result of the investigation is mailed to the applicant, so that by Thursday, the 12th,

Mr. Jones knows the result at an hour early enough to permit him being treated that day at 2 P.M.

Against such a system it will be urged:

1st. That many will be unable to pay a registration fee; for such, let the registration be free and the cases investigated nevertheless.

2d. That acute or emergency cases might be neglected. The same rule could apply—let the case be treated at once and likewise investigated.

3d. That such a system of inspection would not be feasible. The fact is, few institutions average one hundred new cases a day; it would be a simple matter for four inspectors to do all the work.

The advantages claimed for such a system of registration are:

1st. That as soon as the people know of it, there will be a marked falling off in new patients; for then only those who truly are needy and deserving will apply.

2d. The people will realize, what they do not now realize, that dispensaries are intended only for the sick and worthy poor.

3d. After the registration system is thoroughly established it will be possible for each institution to work within certain city limits, thus conforming more to the local dispensary plan: *e.g.*, a Harlem patient applying at a down-town institution would be referred to an institution in Harlem.

4th. It would do away with the large out-of-town contingent, most of whom are fully able to pay a doctor.

5th. It would minimize the baneful effects on the masses, who are led into the temptation of accepting what is not lawfully theirs; it would substitute thrift for indolence, independence for dependence, honesty for dishonesty.

And, lastly, it would make possible what is now for many New York physicians an impossibility, viz., a comfortable livelihood, derived from the "Simon-pure," old-fashioned, time-honored, private practice.

256 West Twelfth Street.

IMPROVED TECHNIQUE OF VAGINAL LIGATION OF THE UTERINE ARTERIES FOR UTERINE FIBROMATA. INDICATIONS FOR THE OPERATION.[1]

By AUGUSTIN H. GOELET, M.D.,

Professor of Gynæcology in the New York School of Clinical Medicine, etc.

The purpose of this operation, which was suggested and executed first by Martin in this country and by Gottschalk in Europe, in 1892, is to produce atrophy of the tumor by cutting off the nourishment afforded by the uterine arteries which furnish the uterus with two-thirds of its blood supply. The operation has not received the attention and consideration it deserves as a conservative surgical measure, because the results were not perhaps in every instance what were anticipated or promised for it. Failure to obtain results with any new operation is usually due to misapplication or to a faulty technique. It is certainly true that some operators (Martin for one) have obtained from this operation a fair measure of success, sufficient to induce them to repeat it in certain carefully selected cases. From my own experience I am inclined to believe that it has a place in gynæcological surgery, and when it has failed the circulation has probably not been permanently cut off, because the vessels have not been completely and permanently obliterated, or its indications have not been clearly understood. Some operators have declined to try it, and others, after a few attempts, have apparently abandoned it before giving it a fair trial, in favor of hysterectomy, the mortality of which has been reduced by improved technique and a more extended experience to a point where it is now regarded as a justifiable procedure. But we must not lose sight of the fact that this latter is a radical operation, which, while it unquestionably removes the tumor *in toto*, unsexes the patient. It is true that in some cases this cannot be avoided, but when it can be avoided it should be.

To convey some idea of the inefficient manner in which ligation of the uterine arteries has been executed by some operators, I will say that several with whom I have conversed have admitted that they have passed the ligature without incising the vagina or attempting to isolate the vessels. This will explain some failures. One operator informed me that his method was to feel for the pulsation of the artery; then a curved needle with a catgut ligature was passed up through the vaginal wall in front and around, then brought out behind the vessel, and then tied, including a portion of the vaginal wall. At best, if the vessel happened to be included in the ligature, this would cause only temporary compression, and the circulation would be restored when the ligature loosened.

Martin believes that it is essential to include the tissues of the base of the broad ligament, the nerves as well as the blood-vessel, in order to destroy the function of the nerve supply. By including these tissues with the artery in the ligature, permanent obliteration of the vessel is by no means certain; as a fact, it is very uncertain. When the ligature is first tied, with other tissue surrounding the vessel included with it, the circulation may undoubtedly be temporarily arrested, but permanent obliteration of the artery is not necessarily secured. As the included tissue shrinks from compression of the ligature, it loosens, and if the coats of the artery have not been ruptured the circulation is restored. Hence it is evident that positive and permanent obliteration of the artery can be secured only by carefully isolating it and tying it separately, or tying it with the tissues at the base of the broad ligament *en masse* and dividing it. As this artery will bleed from both ends, owing to the free anastomosis with the ovarian artery, it is necessary to apply two ligatures and divide between them. I contend, therefore, that in order positively to secure complete obliteration of these arteries it is necessary to divide them. In doing so, the nerves at the base of the broad ligament are also divided if this is important.

My observations bear me out in this conviction, since my best results have been obtained when this method was adopted. I have, of course, been careful to select my cases, and have employed the operation only in interstitial growths which have not reached above the level of the umbilicus and small subperitoneal growths which spring from the wall of the uterus below the fundus, and when extensive adhesions have not formed through which the tumor might receive nourishment. Subperitoneal tumors attached at or near the fundus would receive their nourishment from the ovarian arteries, and cutting off the blood supply of the uterine arteries could not be expected to influence their nutrition.

The temporary improvement in some of Martin's reported cases would go to show that with his method of ligation *en masse* without division of the vessels he only secured temporary arrest of the circulation.

In order more clearly to comprehend the nature of this operation, let us recall the anatomy of the uterine blood supply and the relation of the ureters, which are in such close proximity to the field of operation that they are in danger of being wounded. The uterine arteries, springing from the anterior division of the

[1] Read at a meeting of the New York State Medical Society at Albany, January 26–28, 1897.

internal iliac, pass inward along the vaginal vault on either side until they reach the sides of the uterus about on a level with the internal os. Here they take a sharp turn upward along the side of the uterus and meet the ovarian arteries, with which they are continuous. There is, therefore, a free anastomosis between the uterine and ovarian arteries. Several small branches are given off from the uterine arteries before they reach the uterus, which supply the cervix and the upper part of the vagina. The cervix is likewise supplied with blood by the azygos artery of the vagina, which empties into the circular artery of the cervix.

The pelvic portion of the ureters lies close to the pelvic wall in the first part of their course. At first they diverge on entering the lesser pelvis, then converge in their course downward, crossing behind the uterine arteries about on a level with the internal os, at which point they are from one-half to three-quarters of an inch from the side of the uterus. This distance is nearly constant. They then converge still more in their course along the anterior vaginal wall until they reach the point where they enter the bladder, where they are two inches apart.

Technique of the Operation.—The patient is prepared as for a vaginal hysterectomy, the vulva being rendered absolutely aseptic by shaving and scrubbing with softsoap, and irrigation with lysol or bichloride solution. She is anæsthetized and placed on the table in the exaggerated lithotomy position, with the buttocks near the edge of the table. A short broad perineal retractor is inserted in the vagina and held by the nurse, who sits to the left of the operator. A traction ligature is now inserted through both lips of the cervix, and the uterus and canal of the cervix are carefully curetted, then irrigated with a one-per-cent. solution of lysol, and packed with iodoform gauze.

The exact manner of exposing the base of the broad ligaments with the uterine arteries will vary with the condition found. If the tumor is of moderate size and the arteries have not become misplaced by the position of the tumor, a lateral incision through the vaginal wall, entering at the utero-vaginal fold, will be sufficient to enable the operator to secure the vessel without difficulty. But if the tumor is large or the arteries do not occupy the usual position, it will be necessary to have more room for comfortable work, and in these cases I have employed with satisfaction the incision demonstrated by Ségund as the first step in vaginal hysterectomy, which affords more room. This incision is made as follows, viz.: the cervix is drawn down and with a scalpel a longitudinal incision through the mucous membrane is made on each side of the cervix, beginning near the external os and terminating a little to the outer side of the cervico-vaginal fold. These incisions are now joined by another through the mucous membrane across the front of the cervix and behind. Drawing the uterus down by traction upon the ligature, the mucous membrane is dissected back with the thumbnail all around to a little beyond the cervico-vaginal fold. This gives a larger and freer field for work and facilitates finding the vessels when the position of the tumor has distorted their course.

From this point on the technique is practically the same in all cases. The vaginal wall being penetrated and the base of the broad ligament exposed by either method, the uterus is drawn down and over to the right, so as to put first the left broad ligament on the stretch. With the index fingers inserted in the anterior angle of the wound, the bladder is carefully separated from the broad ligament and the ureter is pushed to one side. At the posterior angle of the incision the broad ligament is freed behind in a similar manner, without penetrating the peritoneal cavity. If now a traction ligature is inserted in the lateral flap of the vaginal incision, it will facilitate the subsequent steps of the operation. The broad ligament is now grasped with a pair of clamp forceps close to the side of the uterus and between it and the ureter, which at this point is half an inch or more away from the uterus. A strong catgut or silk ligature is now carried through the tissues of the broad ligament outside of the clamp, from before backward, by means of an aneurism needle. This ligature is tightly tied close to the clamp. The tissues between the clamp and the uterus are then divided with the scissors, and the severed uterine end of the artery is picked up with the pressure clamp and tied. The clamp is now removed, the wound is irrigated with lysol solution, and the vaginal incision is closed by continuous catgut suture. The vaginal wound is dressed with markasol gauze, which is removed after forty-eight hours, and thereafter every twenty-four hours until union is complete, which will usually take place in from four to six days. The gauze is removed from the uterus at the end of forty-eight hours, when the cavity is freely irrigated with one-per-cent. solution of markasol and the packing is removed or not, as required. Usually it is not replaced in the uterus. After removing the gauze dressing permanently the vagina is irrigated daily with one-per-cent. solution of markasol This is preferred for vaginal irrigation, because it is antiseptic and moderately astringent without being irritating.

One operator had sloughing of the cervix follow ligation of the uterine arteries in three of his cases, which led him to abandon it. I have never had such a result, and think it must have been due to a faulty technique, perhaps too extensive dissection and unnecessary mutilation. When the lateral incision is employed, the nutrition of the cervix is not materially interfered with by cutting off the supply of the uterine arteries, since the azygos artery of the vagina would afford sufficient blood supply.

The apprehension that obliteration of the uterine arteries may result in gangrene of the uterine tissue is entirely unfounded, since sufficient nutrition is always afforded by the ovarian arteries. It has been reported that no such result followed ligation of both uterine and ovarian arteries, showing that the supply furnished by the small arteries of the round ligaments is sufficient.

Likewise the objection raised by one surgeon, in a recent discussion before the New York Obstetrical Society, that there is not sufficient space between the ureter and the side of the uterus to apply two ligatures and cut between them, is not justified, in the face of the fact that it has been done repeatedly. By drawing the uterus down to one side, this space is increased, and the ureter is pushed considerably to one side in the preceding steps of the operation and held there by means of a lateral retractor.

While this operation has only a limited application in fibroid conditions of the uterus, it possesses some advantages which commend it, viz.:

1. It involves little or no risk when carefully executed.
2. It does not involve a tedious convalescence.
3. It is quickly and easily performed.
4. Its immediate result is to afford prompt relief of the symptoms.
5. Its ultimate result, which is manifest within six months, is complete or almost complete atrophy of the tumor.
6. It does not unsex, mutilate, or disable the patient.

128 West Seventy-Fifth Street.

Oklahoma has one physician to each two hundred of population.

Progress of Medical Science.

Associated Movements in Paralyzed and in Unparalyzed Idiotic Children.—At a recent meeting of the Berlin Society for Psychiatry and Nervous Diseases, Koenig (*Berliner klinische Wochenschrift*, January 4, 1897, p. 17) detailed the results of a study of forty-six cases of cerebral palsy of various kinds in children and of thirty-eight cases of unparalyzed idiotic children of from seven to twenty-one years of age, undertaken for the purpose of determining the frequency and distribution of associated movements. He classified these movements into four varieties: (1) Typical or corresponding associated movements, viz., involving the same muscles of symmetric parts; (2) irregular corresponding movements associated, viz., involving symmetric parts, but not the same muscles; (3) atypical associated movements, viz., involving indifferent and not corresponding muscles; (4) reflex associated movements, viz., those induced by peripheral irritation. It was found that associated movements were not present in fifteen per cent. of the paralyzed and in thirty-four per cent. of the unparalyzed children. All varieties of associated movements observed in the paralyzed, with the exception of the reflex, were present also in the unparalyzed. The most conspicuous difference between the two sets of cases was that the associated movements were more common, more pronounced, and less under the influence of the will and of training in the paralyzed than in the unparalyzed. The associated movements were not characteristic of any special form of cerebral infantile palsy, although it appeared that among cases of pure hemiplegia those in which associated movements occurred as well with movements of the paralyzed fingers as with those of the unparalyzed fingers preponderated over those in which the associated movements occurred only on one side of the body. The well-known fact was confirmed that the associated movements in the fingers were those that are most seldom absent and are of the greatest importance. From a pathologico-anatomic point of view it was found that associated movements attend lesions of the cortex as well as those of the basal ganglia. Movements were also observed in conjunction with disease of the pyramidal tracts, as well as in the absence of such lesions. Associated movements were noted in idiots up to the age of eighteen years. In three beyond this age they were not observed, possibly from accidental circumstances. No rule could be formulated for the frequency of associated movements in the unparalyzed idiots with relation to age.

The Influence of Constitutional Disturbances upon the Teeth.—At a recent meeting of the Berlin Society for Internal Medicine, Neumann (*Berliner klinische Wochenschrift*, January 4, 1897, p. 14) discussed the influence exerted by constitutional diseases upon the state of the teeth. He pointed out that rachitic erosions occur symmetrically upon different teeth at varying levels through interference with the process of calcification. The deciduous teeth may also be eroded, but only at the same places as the permanent teeth. The erosions may in some instances begin before birth, but as a rule they take place during the first five months of life. The morbid process on which they depend terminates in fifty-four per cent. of cases in the second half of the first year of life, in thirty-eight per cent. in the second year, and in six per cent. at a later period. Many theories have been invoked to explain these erosions, but none is adequate. The lesions occur as the result of a morbid process continuing at least for several months and frequently longer. They bear no relation to syphilis and are dependent exclusively upon rachitis, and upon that special form involving the bones of the head. They are exceedingly common, being found on the permanent teeth in eighteen per cent. of children and on the teeth of fifty-four per cent. of children dying during the second half of the first year of life. The teeth peculiar to hereditary syphilis differ from rachitic teeth in the disease not being local, but consisting in a malformation of the entire tooth. The impression that only the upper median incisors are affected is not correct. Such teeth are characterized by standing far apart, by being rotated on their axes, by standing in divergent relations with each other and by malformation of the crown. They are not common. The malformation occurs between the seventh month of fœtal life and from the third to the fifth month of extra-uterine existence. It does not involve the deciduous teeth, because the rudiments of these are formed at a time when syphilis of the fœtus usually results in abortion. The common form of caries begins on the incisor and gradually invades the surface of the entire tooth. It bears no relation to rachitis. It reaches its maximum of development during the second year. It is often observed in connection with chronic disease of the nervous system, especially idiocy. Circular caries is characterized by early discoloration of the teeth at the gingival margin. Caries of the neck takes place and progresses deeply until the distal extremity of the tooth is cut off, leaving an unrecognizable root. It occurs in connection with grave disease, especially tuberculosis, of which it is diagnostic.

Syphilitic Disease of the Heart Wall.—From a clinico-pathologic study, Phillips (*Lancet*, January 23, 1897, p. 223) concludes that syphilis may give rise to the formation of gummata or the production of general fibroid changes in the wall of the heart. Gummata of the left ventricle, unless of very small size, are dangerous to life, and when near the apex of the ventricle may cause sudden death. Such gummata may be suspected if in an individual with syphilitic antecedents there occur signs of derangement of the action of the left ventricle, with symptoms of embarrassed action, especially angina pectoris, tachycardia, syncopal or epileptiform attacks; or in the right ventricle when dyspnœa, otherwise unaccountable, occurs. Extreme feebleness of the heart, without dilatation, gradually increasing in young or middle-aged persons who have had syphilis, suggests syphilitic disease of the left side of the heart; and long-standing dyspnœa may point to similar disease of the right side of the heart. Dilatation of either side of the heart in syphilitic persons may result from syphilitic fibrosis. Hypertrophy of the heart, without ascertainable cause and without corresponding increase in strength of heart, suggests syphilis. Aneurism of the heart wall may result from syphilitic local lesions and may be fatal, with or without rupture. It is probable that gummata and fibroid disease in early stages may be relieved by the usual specific treatment, and there is every reason to believe that syphilitic lesions of the heart wall are not less amenable to treatment in their early stages than syphilitic lesions elsewhere, though no cure can be expected when advanced tissue changes are already produced. Syphilitic disease of the heart is probably more common than is generally recognized. Its importance is the greater because it affects persons at an earlier age than the usual degenerative conditions of the heart, and may insidiously advance until it causes sudden death in persons in the prime of life and apparently in perfect health. The existence of syphilitic affections of the heart cannot be without influence on the action of anæsthetics.

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SEVERE VOMITING DURING PREGNANCY.

To this subject Grailly Hewitt has given special attention, having collected records of a hundred cases and adding much valuable matter in an essay. He urges that a proper distinction be made between the vomiting of pregnancy which is produced by and directly dependent upon the condition itself, and vomiting occurring during pregnancy yet due to diseases or causes not connected with the pregnant state. In twenty-four cases recorded the severe vomiting was found to have for its origin one of the following abnormities: chronic gastritis, gastro-enteritis, cancer of the pylorus, carcinoma of the liver, biliary calculi, fatty degeneration of the liver, pulmonary and cerebral tuberculosis, polypoid disease of the intestines, etc. These cases of severe vomiti g all resulted in death, and the post-mortem examinations revealed the fact that definite lesions existed causing the distressing condition, that was not directly due to the physiological process that was going on. The cause of death in a case reported by Matthews Duncan is set down as icterus gravis, formerly called yellow atrophy of the liver. This, Hewitt remarks, is an important record, since it has been made the basis of a generalization on the vomiting of pregnancy, Duncan stating in his book on diseases of women that in healthy pregnancy the first stage of this disease occurs. According to physiologists, the great glands of the body, the liver and the kidneys, especially the liver, undergo in healthy pregnancy and lactation a certain amount of parenchymatous degeneration, almost identical with the first stage of Bright's disease and acute yellow atrophy of the liver. As this change proceeds farther in the kidneys or the liver, eclampsia or pernicious vomiting results. Bile retention alone is hardly sufficient to give rise to the serious complications observed in the grave forms of catarrhal icterus affecting pregnant women, in which convulsions, severe vomiting, and hemorrhage may occur. Somer suggests that altered nutrition changes peculiar to the situation, resulting in special susceptibility to poisons, give the true explanation. Biliary acids retained in the blood, like phosphorus, are capable of producing disintegration of the blood corpuscles. This same icterus gravis occurs in men and women alike; but it is unusually fatal in pregnant women, for the foregoing reasons.

In the majority of cases in which severe vomiting marks a process that should be purely physiological and without disaster, there are usually present abnormal conditions in or about the uterus. There may be displacements, or induration, thickening, contraction of the cervix, or inflammatory effusions in the vicinity of the uterus. Relief of these abnormities usually stops the vomiting. In other instances induced abortion is the only cure. Even this is at times inefficacious, so profound is the exhaustion induced by the previous chronic starvation. Innumerable drugs have been recommended, most of them quite useless in severe cases. Those likely to be of service are sedatives—cocaine, opium, and the bromides. Local medication is of benefit in some instances. Vaginal tampons saturated in poppy decoction are of great use; also cocaine applied to the os or to the interior of the cervical canal, and caustic applications. Hot douches not too frequent, and rectal suppositories containing opium, morphine, belladonna, or hyoscyamus, suggest themselves as valuable aids. The administration of food is of great importance. Sometimes the stomach will retain nourishment given in minute quantities and at frequent intervals. In certain cases starvation can be prevented for a time by the systematic use of suppositories containing nutrient substances. Each case must be dealt with on its merits. Good food, nerve tonics, fresh air, and general hygienic measures may give relief when the trouble is not severe. Rest in fair amount Hewitt insists upon, and the horizontal position, maintained in varying degree of strictness, is essential in all cases.

ARE THE BRITISH DEGENERATING?

A NOTE of warning has recently been sounded in England concerning the danger to the physical strength of the nation of cherishing unduly the sick and the feeble. The occasion of the protest, which was uttered by Mr. Arnold White, was the proposal to celebrate the rounding out of sixty years of Queen Victoria's reign by the establishment of many new nursing-homes for the extension of hospital work among the poor. Mr. White would not go to the Spartan length of making way with incurables and the congenitally unfit, but he thinks it is time to do something to prevent their multiplication. Too little, he thinks, is done to improve the physical condition of the well, and too much to bring up the weak and the diseased to a state in which they will be just able to procreate their kind. "What is aimed at," he says, "is not the murder or neglect of the sufferers who have entered the world, but to obtain partial control over the supply of suffering."

Some have thought that the immense standing armies are a direct menace to the future of the nations of continental Europe, since compulsory service withdraws from the business of procreation large numbers of the strongest and physically most perfect men, at an age too when they are most fit for fatherhood, leaving behind the smaller and the weaker to beget future citizens. But Mr. White thinks otherwise. "The

marked improvement," he says, "in the physique of the French and German people since their adoption of a compulsory military service is so remarkable that even the English hospital authorities might well ponder over the deterioration of fibre among certain classes of their own country. Thirty years ago the French were regarded as monkeys or satyrs. Now they are men. The French soldiers of 1896 are vastly superior to their fathers of 1870. Foreign generals note the contrast between the physical renaissance of the continental nations and the fool's paradise in which England basks. Our separate caste of fighting men, our cult of sickliness and worship of weakness, our heedless conversion of the rural population into pasty-faced townsmen, and our cheerful dependence on the food produced by healthy races and possible enemies, are matters that are watched abroad with delighted surprise."

It is unquestionably true that the softened conditions of modern life and recent discoveries in medicine and hygiene have led to the prolongation of many lives which, from the stock breeders' point of view, are of doubtful value. But the same factors have also carried untold numbers of the well and strong over periods of danger and stress, which in former ages they would not have survived. And so the account is even, or, despite Mr. White's gloomy view, rather on the side of a physical betterment of the human race, including, we would fain believe, that portion of it which peoples the British Isles.

THE CHARITY ABUSE.

To such as are interested in the study of the present status of medical charity there is much in this issue of the RECORD to merit attention. The situation is a serious one when committees of county organizations are appointed to report upon it and when lively discussion in open session is thus invited. The time has come when there should be some very plain talk on the subject. There is a disposition on the part of the lay managers of the hospitals and dispensaries of this city, not only to ignore the protests of the profession regarding the free treatment of patients who can pay, but openly to defy any reasonable effort to remedy an incorrigible outrage. The number of patients treated who are undeserving of charity is simply appalling. Such are taken from the legitimate sources of the younger practitioners' income, formerly small at best, but now barely adequate for decent subsistence. Strange as it may seem, no other profession save that of medicine is expected to give so much of charitable service even to the very poor. The lawyer does not, neither does the clergyman. The former always insists upon a retainer before work is commenced. The guarantee fee is always demanded either from the client or his friends. The clergyman must always be provided with a living salary before he starts on his charitable errands. To the doctor, however, the urgency of human suffering admits of no qualification in its appeal for the necessity of willing and immediate help. Advantage has been taken of the latter condition from the time the good Samaritan attended the notable charity patient of history, and the ever-ready doctor has been the victim of every scheme for the furtherance of all charities true or false. Unconsciously he has become the tool of every corporation that claims to do for the poor. True to the instincts of such lay combinations, there is now being developed a system of monopoly of charity, in which money overvalues medical service and controls the market against every legitimate means to the proper end. Hence we find millions of money put into hospitals that have no use whatever. In proof of this and in spite of enormous donations from duped philanthropists, these institutions become chronic beggars on the community at large in consequence of too much zeal in the charity-booming business. From the managerial point of view it is very gratifying to play philanthropy, even if it is a costly game. The doctors, however, who are the real essentials for this work, are the only persons who suffer. The hospital, when once started, must pay in some way or other. It must show its reason for existence by the large number of cases treated. To expect any discrimination of proper cases on the part of hospital authorities under the circumstances is almost hopeless. The doctors are there for practice and they get it. The managers can smile when they are asked to show fair play to the men who do all the work. The hospital must pay as a business investment if possible. Hence private rooms are fitted up, the public is invited to see them, and is educated to believe that medical or surgical treatment is the only thing to be obtained free and without question. Doctors are apparently too plenty to quarrel about extra privileges. If one staff resigns, there is another with hat in hand, ready for the vacancy. So the managers boss the situation and table all resolutions of protest. What is wanted is concerted action by the doctors. If the medical attendants were to refuse treatment to improper cases or resign, and if the places could not be filled by respectable men, most if not all the hospitals would be compelled to close their doors. But then what would the diamond dispensary of the West Side do for its clinical material and the one-dollar dispensary of the New York Hospital do for its much needed income? And what, too, would become of the poor doctors who must hold their places in these clinics? The managers understand the situation perfectly, and smile complacently while the suffering doctors discuss, resolve, and protest. "The doctors protest! Good gracious! what business is it of theirs?" say the managers.

AN HONEST CONFESSION.

THE editor of one of our esteemed contemporaries in a Western city, commenting upon certain unethical modes of advertising in practice among his colleagues, and for which they were taken severely to task by a speaker at a meeting of one of the local medical societies, remarked, with all the evidences of real contrition:

"To the charge of having one's name placed in a hotel directory we ourselves must plead guilty, but, hav-

ing as we believe a strict regard for the code and all its principles, it was only after being assured by the solicitor for this directory that some of the most prominent of the older members of the local profession—whom we regarded as ethical models—had subscribed to the scheme, that we consented to permit our name to be used. But

> "'To wilful men
> The injuries that they themselves procure
> Must be their schoolmasters,'

and now we wish we had back our three dollars. All of this advertising is wrong, very wrong. It is degrading to professional standing, and indeed is, we believe, more to the detriment than to the good of the advertisers."

This has the right ring. It is true repentance. The confession is honest and manly. We rejoice while we chronicle it, and it leads us to hope even yet for the conversion of fifteen Chicago physicians, whose portraits and biographies appeared in the *Inter Ocean* last summer, just after their return from Atlanta. There were many other professional advertisements on the same page, of chiropodists, gynecologists, genito-urinary specialists, catarrh specialists, and others. But these were small and inconspicuous, and not illustrated; so the subjects of them did less violence to the code of ethics. Moreover, the latter were pariahs anyway, and repentance would do them no good: but we doubt not the American Medical Association would restore the others to good standing if they would but turn back and with true contrition beg forgiveness.

News of the Week.

A Modest Appeal.—The managers of St. Luke's Hospital have issued an appeal, copies of which have been sent to many if not all of the physicians in New York, for contributions of money to enable them to fill their building with patients. The hospital has room for more patients, they say, but the wealthy managers "cannot open the wards at present unoccupied, or begin other departments of service as yet unorganized" (probably a free dispensary for the well-to-do residents of the West Side), without more revenue, to be obtained by "donations of any amount, from $10 upward, renewable annually at pleasure of donor." This appeal to the doctors for financial assistance in the good work of taking care of the doctor's patients is signed by the eight members of the executive committee, representing an aggregate wealth exceeding by many million dollars the total possessions of all the three thousand or more medical practitioners in the city.

The Western Surgical and Gynecological Association.—The sixth annual session of this association was held at Topeka, Kan., December 28 and 29, 1896. General Caldwell delivered an address of welcome on behalf of the State. He took occasion to compliment the medical profession of to-day, and declared that it had accomplished more in the past thirty years than in all previous time. Mayor Fellows, of Topeka, delivered an address of welcome on the part of the city. On Monday evening a banquet was served at the Copeland Hotel. Denver was selected as the next meeting place of the association, and December 28 and 29, 1897, as the time. The following officers were chosen for the ensuing year: *President*, Dr. Joseph Eastman, of Indianapolis, Ind.; *First Vice-President*, Dr. D. S. Fairchild, of Clinton, Iowa; *Second Vice-President*, Dr. B. B. Davis, of Omaha, Neb.; *Secretary and Treasurer*, Dr. Herman E. Pearse, of Kansas City, Mo. Dr. W. W. Grant, of Denver, was chosen chairman of the committee of arrangements.

A New Chapel at Bellevue Hospital.—The Arthur Leary Memorial Chapel at Bellevue Hospital was dedicated on last Saturday forenoon by Archbishop Corrigan. The chapel will be in charge of the Carmellite fathers.

Alexander J. C. Skene, M.D., LL.D.—A cablegram from London states that the senate of the University of Aberdeen has decided to confer the degree of LL.D. upon Professor Skene, of the Long Island Medical College, Brooklyn, N. Y.

Lord Playfair's Medical Qualifications. — The *British Medical Journal* quotes, with disapproval, a paragraph from the MEDICAL RECORD concerning Lord Playfair, in which it was stated that he was a physician. Our information was derived from the London *Medical Press*, which we assumed to be a reliable authority on all matters in which its hatred and ignorance of things American did not come into question. We apologize to Lord Playfair or the British medical profession, whichever party may feel itself the more aggrieved.

Injuries from Football.—*The Lancet* of January 9th gives some interesting notes on football in England. It seems that from December 21st to time of going to press, there were nine players who were severely injured at the game, and out of this number one died and one was lying at the point of death when last heard from.

Quarantine Against the Plague.—Travellers embarking from ports known to be contaminated by the pest can now enter France only at Pauillac, Saint-Nazaire, Havre, and Dunkerque, and then only after a detention of from four to eight days and fumigation of their effects.

Wisconsin's Shame. — Frederick Rutland, who calls himself a doctor and president of the Wisconsin Eclectic Medical College, has been arrested in Chicago by the government officers, on the charge of using the mails to defraud. He has sent out thousands of circulars to druggists and others, offering to furnish medical diplomas upon payment of from $10 to $50. Rutland claims that his college is a regularly chartered corporation under the laws of Wisconsin, and that his proceedings have been regular in every way.

He claims to have "graduated" nine hundred and seven students last year. Wisconsin gave the man a cloak of legality, and Chicago gave him a home, but the United States postal authorities have, we trust, put an end to his nefarious trade.

Obituary Notes.—Dr. John C. Lewis, of Panama, N. Y., died of pneumonia, February 6, 1897, at the age of forty-eight years. He was graduated in medicine from the University of Buffalo in 1874, and had been in active practice in the town of Panama for twenty-two years, where he enjoyed the esteem of his patients as well as of his fellow-members of the Chautauqua County Medical Society.—Dr. Henry K. Huntington died suddenly on Sunday morning at his home on City Island. At one time he was a physician at Hart's Island. Dr. Huntington was fifty-one years old.—Dr. Saturnino M. Jiménez died of pneumonia at his home, 16 West Eighty-fourth Street, on Wednesday, the 18th ult. He was born in Matanzas, Cuba, in 1851. He was graduated from the Jefferson Medical College of Philadelphia in 1878, after which he went to Europe to study. He returned to this country and served as an interne in the Blockley Hospital in Philadelphia, and afterward in the Pennsylvania Hospital. He came to this city to take charge of the practice of Dr. Juan Cisneros, who retired. Dr. Jiménez was an active worker in the Cuban cause.—Dr. John Kirby, for twenty-one years first assistant at the State Hospital for the Insane at Trenton, N. J., died on February 27th, at the age of seventy-one. He was a graduate of the University of Pennsylvania.—Dr. Michael W. A. Wuelfinch died at Reading, Pa., on February 17th, at the age of fifty-one years. He was born in Holland, and was graduated from the University of Amsterdam in 1876. He was a surgeon in the Dutch army for several years, and located in Reading in 1880.—Dr. William R. Little, coroner of Hunterdon County, N. J., died at Phillipsburg, on February 13th, at the age of forty-seven years. He was graduated from Lafayette College in 1873, and from the medical department of the University of Pennsylvania in 1878.—Dr. Henry S. Gross died at Philadelphia on February 21st, at the age of fifty-seven years. He was born in Montgomery County, Pa., a short distance above Collegeville, and was graduated from the medical department of the University of Pennsylvania in 1861. He at once enlisted in the Union army, and became assistant surgeon in the twenty-sixth Pennsylvania regiment, serving until the close of the war.—Dr. J. C. Claudy died at Newville, Pa., on February 20th, at the age of fifty-five years. He was graduated from Bellevue Medical College in 1865, and entered the United States service as surgeon in 1866.—Dr. Eugene K. Mott died at Chester, Pa., on February 22d, at the age of fifty-six years. He was graduated from Jefferson Medical College in 1868.—Dr. William B. Henderson, one of the oldest physicians of Dauphin County, died at Steelton, Pa., on February 22d. He was a graduate of the medical department of the University of Pennsylvania, and during the war served in the Union army as a surgeon.

Lancaster (Pa.) City and County Medical Society.—The fifty-second annual reunion of the Lancaster City and County Medical Society was held on February 17th, a large number of invited guests from other cities being present. Dr. Alexander Craig, of Columbia, acted as toastmaster, and the following toasts were responded to: "The State Medical Society," by Dr. E. E. Montgomery; "Microbes," by Dr. John B. Roberts; "Medical Education," by Dr. H. A. Hare; "The Family Doctor," by Dr. J. L. Ziegler, of Mt. Joy.

A Doctor Convicted of Murder.—Dr. Thomas L. Johnston, of Duncannon, Pa., who killed a druggist in September of last year through jealousy, has been convicted of murder in the second degree and sentenced to solitary confinement for twenty years.

Joint Meeting of Two State Societies.—The Illinois State Medical Association will meet in East St. Louis, on May 18–20, 1897, and the Missouri State Medical Association will meet in St. Louis on the same days. It is proposed to hold a joint session of the two societies on one of these days, and this to be followed by an excursion in common on the Mississippi River.

The New York Doctor's Successful Rivals.—Here, then, in this one corner of the city, stand side by side a luxurious hospital with a very large out-patient department; a great building for the free treatment of the rich poor who can pay for their rooms; a clinic only to be described as palatial in its appointments, and to which patients ride in their carriages; and a large lying-in establishment, whose advantages have been widely advertised. Is it any wonder that the local practitioner starves? All that is needed to reduce the mass of the profession to pauperism are two or three more such institutions, endowed with a million or so apiece by sham philanthropists.—*The Clinical Recorder.*

For the Benefit of Young Male Consumptives.—A woman, who recently died in Paris, Mme. Géroult by name, has bequeathed her entire fortune to the Assistance Publique of that city, to be devoted to the establishment of a hospital for young men from fifteen to thirty years of age, suffering from pulmonary tuberculosis.

Sir Spencer Wells was an ardent advocate of cremation, and left directions that such disposition should be made of his own body. Ten years ago, when discussion on this mode of disposing of the dead was active and somewhat acrimonious in England, he wrote a letter to the *Times*, advocating cremation, not only from a sanitary point of view, but pointing out what an impetus its adoption would give to the arts. Cinerary urns, he contended, have in all countries where the practice is carried out been among the most beautiful features of the temples and other resting-places of the departed.

The Pasteur Gardens.—The municipality of Mexico has given the name of Pasteur to the gardens situated in front of the National School of Medicine in that city.

Sanitary Plumbing in San Francisco.—It has been discovered that the plumbers employed in the San Francisco City Hospital failed to connect the pipes with the sewers, and that all the waterclosets, etc., have been discharging their contents on the ground under the hospital wards. But bad as the atmosphere of the wards is, says the *Pacific Medical Journal*, the board of health finds the place permeated with a moral corruption, even worse than the atmospheric pollution. The board, our contemporary continues, is completely under the domination of the politicians and is forced to fill all the places in the department with creatures of the party leaders.

The American Medical Association in Denver.—Colorado, especially Denver physicians, are discussing rather nervously the expediency of inviting the American Medical Association to meet in Denver in 1898. They would like to have the advertisement which the meeting would give the city and State, but they question whether it would be worth the expense. It seems to be taken for granted that the American Medical Association would go to Denver if invited.

Jefferson Medical College.—Dr. J. Chalmers Da Costa has been elected clinical professor of surgery in Jefferson Medical College. He had been for a number of years demonstrator of surgery and chief clinical assistant in the out-patient surgical department of Jefferson Hospital. In the former position he will be succeeded by Dr. George W. Spencer, in the latter by Dr. Martin H. Williams.

The British Medical Association.—Dr. William Osler, of Baltimore, will deliver the address on medicine before the British Medical Association at the Montreal meeting in August next. Dr. Stephen Mackenzie will be chairman of the section on medicine, Mr. Christopher Heath of the section on surgery, and Mr. Watson Cheyne of the section on pathology. Lord Lister has announced his intention to be present.

Homœopathic Surgeons.—The *Hahnemannian Advocate* bewails the fact, which it thinks is humiliating to the members of that school of medicine, that "the brightest, keenest, wisest men to be found standing under the banner of *similia* are surgeons," and that "our brightest students so quickly cast to one side the cherished principles and precepts of the master and eagerly grasp the opportunities for securing manual dexterity." The reason for this is, it says, that homœopathy is not well taught in the schools.

Philadelphia Neurological Society.—A stated meeting of the Philadelphia Neurological Society was held on February 22d, the president, Dr. C. W. Burr, in the chair. Dr. Alfred Stengel exhibited a case of arsenical neuritis in a child treated for chorea with Fowler's solution. Dr. F. X. Dercum reported a case of primary neurotic atrophy and one of disseminated sclerosis of hemiplegic type, and exhibited also three cases of cerebral spastic palsy in one family. Dr. D. Riesman exhibited two cases of brachial tremor, one probably as a manifestation of paralysis agitans and the other of hysteria. Dr. W. G. Spiller exhibited a case of right hemiplegia with aphasia, setting in after emotional disturbance. There was a difference of opinion as to whether the case was one of hysterical or hemorrhagic origin. Dr. H. A. Hare reported a case of hemiplegia exhibiting extensive brachial œdema.

The Prince of Wales' Fund.—In the appeal for subscriptions to this fund, the Prince of Wales says that, the Queen having no wish to express a preference for any one of the many proposals suggested for commemorating the sixtieth year of her reign, he feels at liberty to bring to the notice of the inhabitants of London a project which lies very near his heart, "its object being to attach the sentiment of gratitude for the blessings which the country has enjoyed for the last sixty years to a scheme of permanent beneficence." He proposes therefore to invite subscriptions of one shilling per annum and upward from all classes for "the Prince of Wales' Hospital Fund for London, to commemorate the sixtieth anniversary of the Queen's reign." The amount which it is hoped to raise each year is from £100,000 to £150,000. It is proposed to seek subscriptions not only from individuals but also from railway and other corporations, owners of land, and all other large employers of labor.

Baron Lister of Lyme Regis in the County of Dorset is the official title of the new medical peer.

Disinfection of Mails from Plague Districts.—The Pennsylvania State board suggests to the postmaster-general, in view of the fact that the plague is a germ disease, the importance of taking the necessary steps to insure the disinfection of all mails coming from districts in which the disease may prevail.

An Accident Ward at the Charité.—What *The Hospital* calls "rather a novel departure" has been taken at the Charité Hospital, Berlin. This is the establishment of a department for accidents only, where the patients will be retained until their complete restoration to health. Medical baths and apparatus will be provided to further recovery. The patients will be expected to pay three marks per diem. Members of trade unions will be allowed to receive the visit of the doctor of their association in conjunction with the visiting staff, who will thus be able to watch the treatment and progress of cases sent in by them.

Physicians and Druggists.—A Prussian law forbids physicians to direct their patients to any special pharmacist in order to have their prescriptions compounded. A medical man has recently been fined three hundred marks, under this statute, for displaying in his waiting-room a notice requesting his patients to have their prescriptions dispensed by a neighboring druggist. In the course of the trial another law was cited which debars pharmacists from giving Christmas presents to physicians.

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on February 25th, Dr. W. C. Burr in the chair. Dr. S. M. Hamill exhibited a parasitic cyst of the spleen, probably either ecchinococcus or pentasto-

ma. Dr. M. H. Fussell exhibited a ruptured aneurism of the abdominal aorta and also one of the thoracic aorta; further, a specimen of purulent cerebro-spinal meningitis from a man who had presented during life only general malaise and irregular elevation of temperature. Dr. J. D. Steele exhibited a specimen of syphilis of the liver, with microscopic sections, and also sections of syphilis of the femur. Dr. D. Riesman exhibited hemorrhagic infarction of the lung from a case of empyema in an infant, with sections showing micro-organisms in the thrombus. Dr. W. M. L. Coplin exhibited a specimen of purulent cystitis from a case of fatal gunshot wound of the spinal cord in the dorsal region. Dr. D. Riesman exhibited specimens of small round-cell sarcoma of both kidneys from a cat. Dr. Joseph Sailer exhibited a section displaying degeneration of the ganglion cells of the crus cerebri.

Philadelphia School of Anatomy. — The annual commencement of the Philadelphia School of Anatomy was held on February 24th, diplomas being awarded to one hundred and fifty-two graduates.

College of Physicians of Philadelphia. — At a stated meeting of the section on general medicine of the College of Physicians of Philadelphia, held on February 23d, Dr. D. L. Edsall read a paper on "The Examination for Clinical Purposes of Hydrochloric Acid in Gastric Contents;" and Dr. H. A. Hare, a paper on the "Relative Value of Digitalis in the Heart Disease of Childhood."

Insomnia is reported to be unusually prevalent in London this winter, the cause, as alleged by some advocates of "seasonable weather," being the mildness of the winter.

The French Army Medical Service.—There is much dissatisfaction among French army surgeons over a new rule, making promotion depend not upon seniority, but upon "merit," which those passed over read "favor." The resignations are increasing in number constantly, and a large number of the surgeons resign as soon as they have completed thirty years' service, which entitles them to a pension.

Vital Statistics of Philadelphia.—For the week ending February 20th there occurred in the city of Philadelphia 530 deaths—10 less than during the preceding week and 59 more than during the corresponding week of the previous year. There were 150 deaths in children under five years of age. The most important individual causes of death were pneumonia, 115; pulmonary tuberculosis, 57; heart disease, 52; diphtheria, 27; old age, 21; convulsions, 20; influenza, 18; apoplexy, 17; carcinoma, 17; bronchitis, 14; nephritis, 12. There were reported during the week 85 cases of diphtheria, 62 of scarlet fever, and 26 of typhoid fever.

Medical Fishermen.—The *British Medical Journal* notes a recent article in which François Coppée calls the attention of the public in France to a strange arrangement in the French fishing-fleets. By the law of their country French shipwrights and sea captains are bound to see that every kind of craft that sails with a crew of over twenty men carries a medical officer. Very large smacks put to sea for Iceland and Newfoundland in considerable fleets every season. The shipwright or owner, obliged to conform to the law, but unwilling to pay for a useless pair of arms, demands that each doctor should help the fishermen to cut up and salt the fish. M. Coppée states that at Granville, Paimpol, and Fécamp as many doctors as are wanted can be found only too ready to accept these terms. The duties of the surgeon on British whaling-vessels of half a century ago were very similar. Dr. F. E. Barnes, in a recent letter to *The Lancet*, describes his experience in the *Cowslip*, which was perhaps the last sperm whaler out of England in 1856–59. The surgeon on such a ship had a rough time of it, having to go aloft daily regularly on the lookout, and being held responsible for the safety of the boats when away from the ship after whales, not a nice job in squally weather or when the boats were away after sundown and the lights of glimmering lanterns had to be kept sight of, with only four boys to work the ship. He had also to take an occasional spell at boiling oil.

Professor Nocard, of Alfort, has received the award of the Lacaze prize, $2,000 in value, for his researches in animal tuberculosis.

Dr. James E. Pilcher, captain and surgeon U. S. A., now at Columbus Barracks, has, we learn from the *Columbus Medical Journal*, been appointed on the editorial staff of the *Journal of the American Medical Association*.

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on February 24th, the president, Dr. James Tyson, in the chair. Dr. W. W. Keen read a paper entitled "Resection of the Sternum for Tumors, with a Table of the Previously Reported Cases," in which he detailed the history of two cases wherein he had performed this operation, exhibiting also one of them. Dr. F. X. Dercum read a paper entitled "A Brief Outline of the Theory of the Neuron as Applied to Normal and Pathologic Mental and Nervous Processes." Dr. G. Hudson Makuen exhibited a boy, fifteen years old, who, though otherwise intelligent, had, as a result of illness and related conditions, never learned to speak intelligibly. Four weeks of training in the clinic for speech defects of the Polyclinic Hospital had resulted in the acquirement of a considerable degree of facility in speech, which it was hoped in a short time to increase sufficiently to enable the boy to speak almost as well as any one.

New York University Alumni.—The alumni of the medical department of the New York University met for their twenty-sixth annual dinner at the Hotel Waldorf, on February 23d. There were about one hundred members of the alumni present. Before the banquet the thirty-first annual business meeting of the Alumni Association was held, and there was an election of officers. Dr. H. F. Williams, '73, was elected *President* to succeed Dr. Charles E. Quimby, '78.

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 8, 1897.

ANDREW H. SMITH, M.D., PRESIDENT, IN THE CHAIR.

Report of a Case of Suppurative Appendicitis Complicating Seventh Month of Pregnancy; Operation; Recovery.—DR. ROBERT ABBE reported the case. "Mrs. S——, primipara, pregnant seven months, was seen with Drs. Draper and Heath, July 8, 1896. For five days she had been suffering with severe symptoms of appendicitis. When I saw her her temperature was 103.5° F.; pulse, 120. She lay upon her side in order to breathe, her distention by pregnancy as well as tympanites necessitating it. She was vomiting and presented the characteristic appearance of grave peritonitis. In spite of the unpromising outlook I operated three hours later. The relation of the viscera in the abdomen was of interest. A rather long lateral incision showed the round and broad ligaments drawn up into the usual site of the caput coli, which was crowded up into the lumbar region, the lateral abdomen and pelvis being filled by the uterus. The appendix was squeezed between the uterus and iliac fossa, where, when it was distended enough, it had burst, and set up septic peritonitis over the right half of the uterus, involving also the broad ligament, a portion of the rectum seen in the pelvis, and some coils of small intestine which came into view. There was a generally foul septic look about all the parts coming into view, and three or four ounces of soupy turbid effusion came from the precincts of the trouble. There were no lymph barriers apparent anywhere, though shreddy lymph was sponged away with the cleansing. It was impossible to irrigate; excepting to thrust sponges wet with salt solution among the invaded parts and mop them dry. The appendix, which had swollen and burst at the end, was cut off and its stump inverted by suture. Iodoform gauze was packed generally about that half of the abdomen and the wound left open. The temperature was normal on the second day and convalescence was rapid. The fœtal heart was vigorous at 140 and fœtal movements continued active. A vigorous boy was born two months later without complication. Mother and child remain well."

DR. CLEMENT CLEVELAND said he had never met with a case of the kind reported by Dr. Abbe. Some years ago he had opened the abdomen for pyosalpinx and found a suppurating appendix vermiformis attached to the left tube and ovary. All were removed. It was only under such circumstances that he operated for appendicitis.

DR. R. F. WEIR expressed special interest in the question raised by Dr. Abbe as to the extent of the peritonitis. He must confess that his views were somewhat at variance with those of the majority of surgeons with regard to general suppurative peritonitis. He had never himself been able to save a patient, nor had he seen one saved. By general suppurative peritonitis due to appendicitis he referred to that form in which the pus was general over the whole peritoneal cavity. He did not mean adhesive inflammation. While he hoped Dr. Abbe had had a case of recovery from general suppurative peritonitis, yet he was not sure that his case had been described as belonging to this class in the fullest sense. Usually the patients who recovered, and whose surgeons believed they had saved them by operation, did not belong among the worst class. They were usually cases either of fibrinous peritonitis or of suppurative peritonitis which did not involve the whole peritoneal cavity. Here was a point of interest to all, that there could be so large an extent of peritoneal surface involved and yet the peritonitis be limited. He had several times seen more than half of the abdominal cavity apparently in a state of intense suppurative peritonitis while the remaining portion was comparatively free. He had been fortunate enough in two or three instances to save such patients. Having thus explained what he meant when he had expressed regret at not being able to report a case of recovery from general suppurative peritonitis, he would ask Dr. Abbe whether his case belonged to that kind or whether it was one of fibrinous peritonitis.

DR. WILLIAM T. BULL was able to recall one instance of a patient three or four months pregnant, who was admitted to the New York Hospital with appendicitis and was submitted to operation very promptly. The condition found was that of appendicitis and local suppurative peritonitis; the termination was favorable. False membrane had not, he thought, extended to the uterus, which was felt but not seen. As somewhat in line with this class of cases, he recalled one of large uterine fibroid, the tumor reaching half way up to the umbilicus, in a woman over sixty years of age, to which he and Dr. Coe were called in consultation by Dr. Mendelson, on account of what was found to be suppurative appendicitis. Operation about seven days after the commencement of the attack. The whole inflammatory process had gone on independently of the uterine tumor. As bearing upon the question of the influence of operations in the pelvis on the course of pregnancy, Dr. Bull mentioned a case of fibroid which sprang from one horn of the uterus, which was noticed about the second month of pregnancy and which was operated upon in the fourth month. The fibroid was about the size of two fists, the pedicle about as thick as three fingers. This was some years ago and the pedicle, including its insertion at the uterus, was fastened into the abdominal wall and separated by slough at the end of three weeks. Notwithstanding the fact that the operative attack so closely approached the uterine cavity, pregnancy went on and terminated satisfactorily.

DR. ABBE replied to the question raised by Dr. Weir, which he thought was among the most important ones in the whole domain of surgery. He did not see how it could be stated that the infection was limited when no limiting barrier was found. In his case all the loops of intestine which appeared in the wound were infected to a moderate extent. While the distant ones were least infected, still none was free. He thought that if the peritonitis had been allowed to continue, it would have been more purulent the following day, still more purulent the next day, and therefore could be called purulent peritonitis even though the pus were not of the yellow variety. He could not see how one could assume that the entire peritoneal cavity was not involved when no limiting barriers were found and all of the coils of intestine seen were involved. During the operation most of the pus was removed, and that which was left at a distance in the cases of recovery nature was able to take care of. It seemed to him very reasonable that nature should care for a small amount of peritoneal infection, assuming that the principal part had been removed, provision made for drainage, and that the bowel was acting healthfully. Indeed, it seemed to him that in every case of recovery from purulent peritonitis we must look for some such explanation. When about two years ago Dr. McBurney read a paper on this subject and reported some cases, Dr. Abbe looked over all of his cases of purulent peritonitis and found that about seven out of thirty had ended in recovery. They were, he thought, of the gravest type, and in some all of the coils of the small intestine which came into view were

smeared and infected. Still the patients recovered, and in one the sequel showed that there must have been more general infection than that which came into view, for obstruction took place and secondary operation showed that a coil of intestine on the opposite side had been bound down by an adhesive band originating, no doubt, with the attack of peritonitis a few weeks before.

External Œsophagotomy for Removal of a Tooth Plate from the Œsophagus.—Dr. William T. Bull read the paper (see page 330).

Dr. Abbe said he had occasion twice to take dental plates out of the œsophagus, once at the end of twelve days, and again after several months. In the second case it was not known that the man had swallowed a plate, for it had happened during a state of intoxication on a Thanksgiving evening. Stricture of the œsophagus developed for which he sought counsel. The ordinary œsophageal bougie did not reveal the presence of a plate, but it did detect stricture. The plate obstructed its passage, but that was all, and it was only by accident that Dr. Abbe's suspicions were aroused and he was led to try a steel bougie à boule, which showed that the plate containing a tooth was present. In one case Dr. Abbe performed external œsophagotomy, in the other the foreign body was extracted with forceps.

Dr. Weir had once removed a jackstone from the œsophagus by external œsophagotomy, and the patient recovered. In another instance, in which a man had swallowed something and several unsuccessful attempts had been made by others to remove it, he performed œsophagotomy for the inflammatory process which had developed in the neck. The foreign body was not found, but the patient recovered.

Dr. Weir thought the skiagraph shown by Dr. Bull did not represent the dental plate in the œsophagus very plainly, and he should dislike to base an operation upon it alone.

Dr. Bull replied that the skiagraphic plate was a very large one, was not perfectly developed, and the photographer admitted that it was rather poorly printed. Still, with the history of the case before one, such a plate would be of great service.

The president, Dr. A. H. Smith, mentioned a humorous case. A man on retiring brushed a plate carrying one tooth, missed it, supposed he had swallowed it, and Dr. Smith was sent for in the night to extract it. He passed a number of instruments down the œsophagus, but met with no obstruction, and came to the conclusion that the plate had entered the stomach. As the plate had a projection on both sides for attachment to its neighbors, it was a question what might become of it in the stomach. The patient was fed for about three weeks on bran bread, etc., and the stools were watched closely, but the plate was not found. After three weeks, when the man had about recovered his equanimity, the servant, while sweeping the room, found the plate under the washstand.

The Treatment of Depressed Fracture of the Malar Bone.—Dr. R. F. Weir read the paper (see page 335).

Dr. Abbe said he had had his first experience with depressed fracture of the malar bone two months ago, and was not aware that Dr. Weir had had similar experience. His case was that of a young man whose head had come in collision with that of another man while they were playing football. Dr. Abbe saw him on the third day. His face was greatly disfigured. The malar bone was broken in, and when raised with a probe introduced under the lip it would not remain in place, but would dance back and forth in the antrum. He then supported it with a drill passed through the solid part of the zygoma, and after ten days or two weeks it had healed solidly in place and the drill was removed. There was no scar except a dent in the skin. The mouth wound was closed at once. He thought the advantage of this method over that of packing the antrum might in some cases be great. The procedure was very simple and preserved the antrum from possible infection. The only disadvantage was the small puncture scar made by the drill. Mastication was not interfered with. Dr. Abbe added that the lower wall of the orbit was also depressed by the injury and the appearance was very uncanny.

The President had once seen a case of depression of the malar bone and lower orbit caused by a railroad accident. Dr. Sands also saw the patient. Nothing was done, and there was horrible deformity the rest of life. Such an operation as had been described to-night would have been of inestimable value to that woman.

Case of Malarial Hæmaturia, with Some Peculiar Features.—Dr. Andrew H. Smith read the history of the case.

Dr. W. Gilman Thompson had seen four cases of mixed typhoid and malarial infection; but only in the one reported by the president, which had also come under his observation at the Presbyterian Hospital, had there been hæmaturia. Certainly hæmaturia in malarial affections was rare in this part of the country. Besides finding the plasmodium to confirm the diagnosis of mixed infection, there had been the typical symptoms of typhoid, such as the eruption on the abdomen and in some hemorrhage from the bowel. The temperature had run a very irregular course, falling in the interval of the malarial paroxysms.

Dr. A. Alexander Smith said that within three years he had seen a case of malarial hæmaturia in the person of a recent graduate in medicine who had no suspicion of the cause of his hæmaturia. Since the blood in the urine seemed to make its appearance periodically, he interrogated the patient closely and learned that he had come originally from the South where malaria was prevalent. His hæmaturia was of that kind which was often described as of mild character, not continuous, and most abundant just after the malarial paroxysm, which was of the third-day variety. During the intervening day the eye could detect no discoloration of the urine by blood. The case yielded to antimalarial treatment.

The speaker said he had recently received a letter from a doctor in a town in North Carolina, asking if malarial hæmaturia was frequent in the vicinity of New York, and added that in his section it was very frequent, occurring in from fifteen to eighteen per cent. of all cases of malaria. This seemed to Dr. Smith a somewhat extraordinary statement. Several of the members of the society said they had received a letter to the same effect, presumably from the same doctor.

The President had recently read in periodicals that some physicians in the South and West believed that hæmaturia occurred in malaria only when quinine was used. They were inclined to attribute it to the quinine rather than to the malaria. The fact that in the case of mixed infection of typhoid and malaria the temperature in the interval of the malarial attacks went down as if typhoid fever were not present had impressed him as very interesting.

Dr. H. M. Biggs asked whether mixed infection of typhoid and malaria was more common this year than previously. He had scarcely ever seen a case before, but this year three or four cases had come under his observation.

Dr. Thompson remarked that malaria had been more common in the vicinity of New York this autumn than for some years before, while typhoid had been of about the usual frequency. Doctors were more on the lookout for the mixed infection now than

formerly. The first case which he had seen and reported occurred four years ago. In the past it had been suspected that malaria and typhoid might occur at the same time, but it was not proven. Now the clinical diagnosis was confirmed by blood examination. Regarding the fall in the temperature, in one or two of his cases it had been so pronounced that he had suspected hemorrhage from the typhoid ulcers, but there was no subsequent evidence, and all of his cases of mixed infection had terminated in recovery. Quite a number of cases of mixed infection had been reported lately from different parts of this country and abroad.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, February 16, 1897.

L. F. BISHOP, M.D., CHAIRMAN.

The Scientific Spirit in Practical Medicine.—DR. BISHOP chose this subject for a brief inaugural address. He said: "In assuming the chair of the medical section of the New York Academy of Medicine, I can but feel the grave responsibilities which inhere to this position. In this section all the currents and undercurrent of our science should meet, to form a strong tide toward truth and unity in medicine. It is the duty of this section to uphold the dignity of general medicine in its relation to the other sciences and to the needs of humanity. The specialist has to do more frequently with local diseases, which, important though they may be to the individual at the time, still as a rule are mere incidents in his life. In conditions which permanently affect health and happiness, which lengthen or shorten life, and which threaten death, it is the general practitioner whose advice, counsel, and support are sought.

"We must, in the first place, invoke the true scientific spirit to control our deliberations and direct our work. The scientific spirit places the love of truth above prejudice, expediency, or even immediate concrete application. It approaches all subjects with an open mind, willing to receive light from any source and whatsoever be the medium through which it comes. It denies nothing, however improbable, until it has been disproved; it accepts nothing, however plausible, until it has been verified by the experimental method. The scientific spirit, while it seeks enthusiastically new truth and rejoices in fresh fields, finds its truest expression in that love of exact knowledge which labors patiently and intelligently for the perfecting of established truth and the correction of error. Thus, while from time to time we may have presented to us new products of discovery, yet if we meet here to perfect, chasten, and simplify our knowledge of the fundamental art and practice of medicine, we shall accomplish what, to my mind, is the chief value of the work of this section, both to ourselves and to the profession at large.

"Truth, however old, is always attractive. I remember, when the beauties of chemistry were first revealed to me, spending hour after hour repeating over and over again simple chemical reactions. There was nothing new to learn and nothing new to see in the immediate precipitations or the play of colors. The enjoyment consisted in the fact that after earlier years of harassing study in the schoolroom, there had dawned at last the image of something fixed and definite in human knowledge, the recognition of a sphere in which the appeal was to truth alone, and not to human authority or tradition.

"We must not be discouraged with the constant repetition of medical and scientific truth. If we have the true scientific spirit, the repetition will give us pleasure, will give us a sense of stability, will strengthen our love of truth, and relieve us from the pathological craving for novelty. We should seek always that which is true rather than that which is novel. But we should equally be ready to give a fair, impartial, and unbiassed hearing to any one who has something which he believes contains the germ of truth. Many a man is saved from the propagation of a false theory, or the carrying on of a false system of practice, or even the founding of a new sect in medicine, by kindly criticism and correction; such kindly reception and criticism should certainly be granted to those who bring the results of honest thought and faithful investigation before a body of men actuated by the scientific spirit. Every living error has in it a germ of truth, that gives it vitality and allows it to live. If by dogmatic assertion or violent criticism we attempt to destroy this error, the germ of truth may become forever inseparably adherent to falsehood; but take the new theory into the scientific assembly, allow it full expression and opportunity to vindicate itself, and by and by the gentle handling of mature and judicious minds will separate the little germ of truth, to add it to the sum of human knowledge, and the mass or error will fade so quietly away that its previous presence is almost instantly forgotten.

"We, therefore, appeal to you to bring to this section the results of your work, however incomplete or unfruitful they may seem, and we pledge you a fair hearing, kindly criticism, and, we trust, helpful suggestion."

Stimulation in Acute Diseases.—DR. HORATIO C. WOOD, of Philadelphia, opened the verbal discussion of this subject. In entering upon any discussion, the first thing necessary seemed to be a definition of terms. Some years ago he would not have hesitated to say that he knew what stimulation meant, but he must confess that if asked to-day to define the word he would have considerable misgiving. He had lived to see one great revolution in the science of therapeutics, and it seemed to him that we were almost in the presence of another, and that the therapeutics of the next decade would be very different from the therapeutics of to-day. He thought the work of Gaskill, of London, had not received the attention which it deserved. It went to show that there were two periods in the life of the heart—a period of action, of functional performance; and then a period of rest. The period of rest, of upbuilding of structure, was dominated by trophic nerves: the period of functional excitement, of tearing down of structure, was dominated by nerves antagonistic to the inhibitory. Dr. Wood believed this was the plan of the whole animal—function performed at the expense of structure: then rest, reconstruction, the two processes governed by antagonistic nerves. When we thought of this in connection with the subject of stimulation, the difficulty of the situation at once became apparent. Should we call that drug a stimulant, if there was such, which produced quiet, rest, upbuilding of structure? Or should we call the drug a stimulant, if there was such, which promoted functional activity and destruction of tissue?

Setting these questions aside for a moment, there was another class of drugs which, so far as we knew, neither promoted rest and upbuilding of structure nor functional activity with destruction of tissue, but which in some way appealed to the vital power of the structure and enabled it to resist morbific influences. We did not know whether they acted chemically, as stimulants, or in what manner, further than that they added in some way to the resisting power of the tissues to invading micro-organisms.

Passing, then, to drugs themselves, there were some, like aconite, which only depressed function. We

called them sedatives. Then there were certain drugs which, like strychnine or digitalis, excited functional activity and caused death in a moment of functional activity. On the other hand, there were certain substances, such as alcohol, ether, ammonia, which whipped the heart into furious activity at first and then produced paralysis, so that death took place in relaxation. Were all these substances stimulants?

When we looked at the process of disease which we wanted to reach by stimulants, we noticed that there was so-called exhaustion. Exhaustion was lack of force, lack of power. And there was depression, which was not lack of power, but lack of functional activity for the moment. In passing, Dr. Wood said a word with regard to that form of exhaustion called neurasthenia. We thought we knew a great deal about it nowadays, because we called it neurasthenia. But did we ever think of the fact that names were, after all, but toys, with which men amused themselves as a child might amuse itself with a doll, and thought it knew the thing because it knew the name? In olden times they called neurasthenia debility, and later nervous debility.

Returning to the subject of exhaustion and depression, what we wanted to do, perhaps, in the future, was to get some drug which would build up structure. The loss of resistive power was neither exhaustion nor depression. In diphtheria it was not the exhaustion of the throat nor its depression which deprived it of the power of resisting the micro-organisms. When we came to treat individuals we had to think of all these things, but, unfortunately, we did not know our drugs to-day so as to be able to apply these principles as well as we ought. Was it not astonishing that millions of dollars in these United States were donated to art galleries and all sorts of things of comparatively little use, when there was not a dollar to be found to pay a few men of genius, that they might devote their lives to finding out the issues of life and death? A million, or even half a million of dollars properly directed would in the next ten years revolutionize medicine. But it did not come.

To apply these principles, take a simple case of pneumonia. What was to be done in a case of pneumonia? In his opinion, one had first to learn this great therapeutic principle, namely, that although the pathologist labelled the disease with a certain name, to the therapeutist it was not the same disease. To the therapeutist pneumonia was no more pneumonia than it was cholera, or yellow fever, or anything else in different cases. What was life to one patient was death to another. The first principle, then, was to study the individual for that particular time. What was to be done in the case of a feeble man when stricken down with pneumonia? Hold him up, sustain him. But a strong, robust person, in the vigor of manhood, developed pneumonia while facing a Dakota blizzard; his heart was rapid, his pulse bounding, his temperature high. Have we to hold that man up? No. But by bleeding him we might save life; or the same thing could be accomplished—giving rest to the lungs and the heart—by administering veratrum viride. This did not cure the pneumonia, it did not put an end to the coccus; but the coccus in pneumonia was only one of the factors. We stayed the local ravages and gave the man a chance to recover his power. But there came a time when the heart was wearied by the appeals made to it from everywhere, and the forces were being reduced. To give a sedative to that man's heart would do harm. We would give him a substance like digitalis, which, if there were any power left, would give the heart force to drive the blood through the lungs by the energy of its systole. But it should be noted that digitalis did more than this, for it was the one substance which was known to have the power to which he had referred, of giving nutrition to the tissues. It was a stimulant not merely to functional activity, but also to nutrition. The pneumogastric was undoubtedly the trophic nerve of the heart, and this drug stimulated the trophic heart nerve. It brought long periods of rest for upbuilding, and it brought a strong systole. It was this power of increasing the trophic activity of the heart which made digitalis so valuable in the long stages of a failing heart. It gave energy to the contraction, and filled the heart with blood at a time when before that energetic contraction little blood had got back through the coronary arteries to the exhausted, starving muscle.

He had no faith in the modern chemistry of digitalis, nor in the ancient either. It probably acted through different substances, for it was almost inconceivable that one substance or chemical principle should act on two functions apparently so antagonistic.

Take a case of acute collapse, of surgical shock. What was surgical shock? Vasomotor paralysis chiefly. A stimulant was wanted exactly adapted to the case. When he was a student, a man was brought into the hospital, suffering from shock. They poured alcohol into him, and he wrote in his diary that alcohol to bring about recovery from surgical shock was about as useful as alcohol poured down a rat hole. Why? Because, if alcohol had any effect on the vasomotor nervous system, it was depressing. More than this, the heart itself passed into depression the moment one gave alcohol in excess. The stimulant must be adapted to the needs of the individual case at the time. Alcohol was a mild stimulant to the heart, a very mild one. Go into the laboratory, and it would be found to raise the blood pressure a little, but not nearly so much as would cocaine, strychnine, digitalis, or a host of other drugs which were sometimes used in that other disease which he took as a second example, typhoid fever. He doubted very much whether the stimulating power of alcohol in typhoid fever counted for much. But had it not other functions? Probably it had the power of increasing the resisting forces of the tissues. But he could not prove it. Here was another subject which needed investigation. There was this curious thing about alcohol, which set it aside from all other drugs so far as his knowledge went, namely, that one might give a man in health half a pint of whiskey, and the odor would be noticed from the breath and everywhere; but give the same amount in typhoid fever, and it would not be noticed at all. As soon as a sufficient quantity was given in fever to be noticeable in the breath, it indicated that we were overdoing the stimulation. This was the best practical guide known to him for the use of alcohol in typhoid, for as soon as the odor appeared in the breath it meant that the system had lost the power to burn it in the quantity administered. It indicated but did not prove that in these low fevers the drug probably acted in part as a stimulant, in part by increasing the resisting power of the tissues, but more probably than in any other way it acted by burning up in the system and supporting the tissues which were being destroyed by the fever. While that was probable, yet it was a subject for research.

When should alcohol be given in typhoid? Some said in the beginning, others said late, and a few said not at all. Dr. Wood said that, when given, it should be given for a different purpose and in a different manner at the beginning from what it was late in the disease. In the first instance, it should be given in small amount, teaspoonful or two-teaspoonful doses, and with the food, to increase the activity of the stomach and upper intestine in the time of their weakness, and to furnish something to the needs of the system which could be burnt up. But when the time came

when the patient was sinking, and all the functions seemed about obliterated, and the fever ran high in spite of cold baths, then give alcohol in such doses as the system could burn. That was the measure of the dose—whether it was a teacupful, a quart, or a Great Eastern.

When did other stimulants come in? When they were specially indicated. Digitalis should be given when there was danger of the heart failing, but not before the time came. In administering digitalis, let it be for the effect, not for the dose. If five minims were sufficient, let that be the dose. If a drachm were required to produce the effect, give it. The same rule applied throughout therapeutics.

With regard to the reinforcement of one stimulant with another, Dr. Wood mentioned an experiment which he had made some years ago, giving a dog chloral and resuscitating him with strychnine. After carrying this to the farthest point, he gave cocaine and the respiration came back to nearly normal. A man while reduced by erysipelas developed pneumonia, and in spite of strychnine as a stimulant he thought he would die, and all the doctors who had seen him thought he surely could not live. After leaving the house it occurred to him to give cocaine, and he did so. That man, with erysipelas, pneumonia, and six doctors lived. Think of it!

Definition of Terms.—Dr. William H. Thomson said we were under obligations to Dr. Wood for bringing before us one of the most important subjects in the whole range of medicine, namely, that of arriving at greater discrimination in our ideas of the sense of terms which we used in therapeutics. He had no doubt that the discussion would bring out a great variety of views with regard to stimulation and sedation or depression. Dr. Thomson gave us an example of pure stimulation—dry heat; as an example of pure sedation—moist heat, water at the temperature of the surface of the body. Cold first acted as a depressant, causing shock; but in the reaction which followed it was a powerful stimulant. There was no general nervous stimulant, and no general nervous sedative except death. Stimulants and sedatives acted only on a part of the system. Ammonia was a stimulant whose stimulating effect was neither preceded nor followed by depression; hydrocyanic acid was only depressant; opium was both a stimulant and a depressant at the same time. Dr. Thomson thought alcohol was a cardiac stimulant, but this effect was not so apparent in the pulse, because it at the same time dilated the arterial system. But it was sedative to the sensory nervous system, and the motor inco-ordination was due to that fact and not to paralysis of the motor centres. Of all words which needed defining or abolishing because they could not be defined, was the word tonic. Strychnine, iron, digitalis, sea air, mountain air, etc., were tonics according to the circumstances; yet how various and even incompatible in action!

Stimulation and Depression Not the Only Modes of Action.—Dr. Andrew H. Smith thought we became confused at the outset of the discussion by the idea that a change, if any were produced, must be up or down, stimulation or depression. This was no more necessary than that all motion must be up or down. The moment that we regarded any drug as simply increasing or simply diminishing function, we limited its action in an unwarranted way. There were variations in other planes as well as in the vertical. Alcohol, for example, acted in many directions. It influenced the heart, the arteries, the nervous system, it acted as a food, it restrained molecular movement and destruction. Regarding digitalis, it gave the heart more power, but it also, through action on the arteries, increased its work. Given, however, in larger doses, it seemed that the last-named effect counteracted the first to a less degree.

Dr. William H. Draper said he would limit his remarks to the two diseases which had been taken by way of illustration—pneumonia and typhoid fever. As to the necessity at times for stimulation in these two diseases, he thought there was no longer any question. He must confess that he was surprised when his friend, Dr. Wood, spoke of venesection as imperatively demanded in certain cases of pneumonia. In an experience of considerable length he had never seen such a case. He had also been surprised to hear the statement that alcohol used in shock might just as well be poured down a rat hole. He thought it was inconsistent with the rest of the speaker's remarks regarding that drug. Dr. Draper had long regarded alcohol as a stimulant and food. He had been pleased with the statement regarding the dosage of alcohol in typhoid fever, for he had himself been guided by the rule, essentially the same, contained in Graves and Stokes' "System of Medicine." What alcohol did in pneumonia and in typhoid fever was simply to stimulate the heart and keep up nutrition. As soon as the process in the intestine in the one disease and in the lung in the other ceased, then we should cease giving alcohol and give food instead. It should not be forgotten that pneumonia was not a disease which could be controlled by any drug.

Dr. Beverley Robinson thought none of us knew precisely what alcohol did. We did not know precisely what was the poison evolved in the various diseases which we counteracted with alcohol, but we did know that we frequently accomplished good results with its use. But it was a most difficult thing to decide how much to give and how often. It was necessary to be very careful in its use in alcoholic subjects. He was glad Dr. Wood had mentioned coca—not cocaine, but coca. Dr. Robinson had obtained effects from coca which he could not from strychnine or alcohol. He frequently used stimulants by the hypodermic method. Concentrated black coffee was often a very valuable stimulant in acute affections, like pneumonia, bronchitis, etc. Regarding alcoholics, effects differed at times according to whether whiskey, brandy, or some particular form were used, when chemical analysis might indicate no special difference. Rectal stimulation was mentioned, also applications over the heart, especially heat. Dr. W. Gilman Thompson had carried out experiments which proved that nitroglycerin applied directly to the heart was second only to heat as a cardiac stimulant.

Dr. R. W. Wilcox was in sympathy with Dr. Thomson's desire that the word tonic should be either abolished or more definitely defined, but attempts in that direction had been frequent and unsuccessful. But the word tonic did not cover any more heterogeneous points than did many others in medicine—stimulant, for instance. Regarding the statement made by one of the speakers, that alcohol in pneumonia did not diminish the duration of the disease—while it would be difficult to prove that it did, yet, since the same speaker admitted that it increased the resistance of the tissues, it would seem that it might limit the amount of the inflammation and the duration of the disease.

Dr. Joseph Collins said that the subject of stimulation in acute disease was by no means exhausted by a consideration of its application to the acute infectious diseases. Such diseases are self-limiting and tend toward recovery without medication, and in them stimulation means a temporary borrowing to assist nature. Stimulation is serviceable only in asthenic and asynergic diseases. Very few of the acute infectious diseases are thus characterized, except in the later part. All nervous diseases, whether acute or chronic, are of such a nature, and it is in the treatment of these

diseases that a knowledge of how intelligently to administer stimulants—and by that is meant substances that will increase the executive capacity of the nervous system in contributing to constructive metamorphosis—is of great service. Take two diseases of this category—acute melancholia and acute neurasthenia. Opium, to conserve the neural energies and prevent the exhausted nerve protoplasm from wearing itself out in futile efforts at repair, combined with rest and food, is the ideal treatment. Naturally, the objections to the administration of opium in asthenic nervous conditions were in mind; but, nevertheless, the only stimulants of any real service in these diseases are the alkaloidal ones. He had never been able to understand the claims of some that symptom medicines, stimulants, do not cure or assist in the cure of organic diseases, such, for instance, as melancholia. If a stimulant, whose action can be secured by one dose, conserves sufficient integrity of the organism and prevents it from undergoing dissolution until the constituents of the circulation restore it to a normal condition, the stimulant, the symptom medicine, has had an important part in the cure of that disease. Concerning the dose of a stimulant, it could not be stated in weights and measures, but in physiological terms the dose was the quantity that did the work and met the required indications or approached them, no matter how small or how large the quantity was.

Dr. Wood said, in closing, that his address was simply intended to be suggestive. He could not compass heaven and earth, and all that therein was contained, in twenty minutes. One speaker gave coffee and brandy, and found that the coffee acted as a stimulant. It reminded him of the man who half filled a tumbler with brandy and filled it up with hot water, and the hot water made him drunk. Another speaker had treated neurasthenia a year and attributed good results to morphine. Was not the man under hygienic care during that time? How did he know the drug did it? Regarding functional disease and functional remedy, Dr. Wood thought the time would come when these terms would be banished from our vocabulary. The changes had simply not been revealed by our microscopes. Regarding the word tonic, let us call that a tonic which built up structure. There we had the whole thing. The barbarism of new names had afflicted the profession enough. Regarding venesection, he had never seen a case of pneumonia in which he thought venesection was imperatively demanded, but he had met intelligent doctors who practised among a hardy, robust class of people, descendants of the men who deserted from the Hessians and who spent their lives out of doors; they had told him that if they did not bleed these people when they got a pneumonia they would die. We were too apt to be bound by the narrowness of our own experience, and infer that because the people among whom we practised—enfeebled by alcoholism, by syphilis, and the degenerating influences of luxurious living—did not require venesection when they contracted pneumonia, therefore venesection was never demanded. We were like the frog which thought its own mudhole was the limit of the world, until it climbed up the bank and saw many larger ones.

English as She is Translated from the German.—A translation from Dr. Hillebrecht's article on the treatment of scrofula and "tubercular," incorporated in a circular just issued by a drug house, begins: "Who has opportunity to witness many dissections will literally get used to it, to find, by dissections for other causes of deaths, by a large percentage, at least in half of the cases, as occasional and incidental observations, old, healed tubercular hearths."

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 22, 1897.

Robert A. Murray, M.D., Vice-President, in the Chair.

Pulmonary Tuberculosis and the Health Board.—The following was the report of the committee on hygiene referred to the *comitia minora* at the last meeting:

"Realizing the need of proper measures for preventing the spread of pulmonary tuberculosis, and regarding it an essential preliminary that all physicians be impressed with the importance of making an early diagnosis of the same by microscopical examination of the sputum, we earnestly recommend that physicians avail themselves of the offer of the bacteriological department of the board of health to make such examinations. We approve of the compulsory reporting of cases of pulmonary tuberculosis, if the inspectors are forbidden to visit or have any communication with the patient without the consent of the attending physician, believing that the attending physician is capable of giving all the necessary instructions.

(Signed) "W. H. Katzenbach, M.D,
"Robert C. Myles, M.D.,
"Charles N. Dowd, M.D.,
"Egbert Le Fevre, M.D."

Dr. Le Fevre moved that action on the resolutions be postponed until a future meeting, that more time might be given to discussion of the scientific subject of the evening. Carried.

The Diagnosis of Malaria.—Dr. William Osler, of Baltimore, read the paper. Points of interest in regard to malarial fever were: 1. It was a disease well known to the old Greek and Roman physicians, some of whom gave a wonderfully accurate description of its clinical varieties. 2. It remained after two hundred years the only acute infection for which we had an absolute specific. 3. It was the most important known disease due to a protozoon parasite. 4. Physicians were prone to diagnosticate malaria for other diseases, and other diseases for malaria, which led to serious errors in vital statistics.

There were three well-known varieties: 1. The tertian organism, which matured in forty-eight hours and produced quotidian paroxysms if two crops were present, tertian if only one. This was the parasite of common, simple, intermittent malarial fever of the spring and autumn. 2. The quartan parasite, which had a cycle of development of seventy-two hours, and if only one crop was present gave the regular quartan intermittent; if two or more crops were present, the paroxysms might occur every day or every other day. The quartan type was rare north of the Chesapeake Bay, Dr. Osler having found it in only about fifteen out of one thousand cases at his clinic. 3. The parasite of irregular malarial fever—the remittent, continuous, and pernicious types. This variety of organism was smaller, less readily recognized, was not so abundant in the peripheral circulation, and in pernicious forms might select curious sites, as the brain or mucosa of the intestines. It was further characterized by the development of crescents—a fact of greatest moment in diagnosis.

The recognition of the invariable association of these parasites with all forms of malarial fever, their etiological relation to the disease, and their importance in diagnosis, had resulted from the labors of Laveran and of his followers in Italy and other countries. The Italians deserved special credit for their continued work in this line. Much yet remained for investigators to do in showing the relations of the different varieties of these protozoons to one another,

the significance of the different forms, their life history outside of the body, and the mode of infection. Was it a facultative parasite? How long might it remain dormant in the system without producing symptoms?

It was not easy to obtain a correct knowledge of the forms of the malarial parasite. It required months of careful study and plenty of material. Some papers had been published in this country and in India, which bore evidence that the authors had approached the subject without due technical knowledge. Dr. Osler urged that in all doubtful cases, particularly in all cases of supposed mixed infection, as of typhoid and malaria, cover-slip specimens of the blood be preserved, which if necessary could be submitted to the judgment of an acknowledged expert. This specimen when stained was of almost equal value with the fresh blood.

The diagnosis of malaria in a large majority of cases was a very easy matter. The subject might be considered under three heads: 1, The diagnosis of regular malarial intermittent fevers; 2, of irregular, remittent, and pernicious forms; 3, of spurious malaria.

Simple intermittent, the only form of malaria common in this country, was characterized by paroxysms developed at the end of forty-eight hours if a single group of parasites was present, at the end of twenty-four hours if a double group existed or one which matured every day. There were three features by which the ague might be recognized: 1. The character of the febrile paroxysm. The duration of the pyrexia from the rise above 99° F. until the fall to normal was from eleven to twelve hours, rarely shorter, still more rarely longer. 2. The blood showed the hæmatozoa in all stages of development. There was no leucocytosis. 3. The administration of quinine caused rapid disappearance of the parasite and prevented further development of the paroxysms.

The three points referred to, but especially that of the period of fever, served usually to distinguish this type from the forms of septicæmia, since in the latter the period of fever varied, lasting from six hours up to eighteen or twenty. In septic conditions, too, there was absence of hæmatozoa, resistance to quinine, presence of leucocytosis. Dr. Osler had seen some cases of tuberculosis in the early stage, with chill and fever, treated for malaria and valuable time lost. Abscess of the liver was treated all over the country for malaria, and the patients were drenched with quinine. Cases of stone remaining in the gall ducts sometimes kept up an irregular fever for months or years, and were often mistaken for malaria. Influenza was sometimes diagnosticated malaria, as were various other affections. But the chief difficulty was in distinguishing between those cases of irregular malarial fever and remittent fevers simulating typhoid. Even in the hospital they had mistaken some cases of malaria for typhoid and given the patients the bath, rather to their displeasure. But the mistake consisted oftener in diagnosticating malaria as typhoid rather than typhoid as malaria. Important differential points were, first, the mode of onset, which in malarial remittent was much more sudden than in typhoid: absence of the protracted period of malaise, greater frequency of chills, rarity of epistaxis, more rapid rise of fever, rarely presenting a step-like rise, temperature reaching as high even as 106° F. by the second or third day, which was rare in typhoid. Perhaps the most important point in diagnosis between malaria and other fevers was the character of the fever in malaria which was intermittent from the outset.

A third point was the general appearance of the patient. In walking through the wards of a hospital one could pick out cases of malaria, particularly those of the intermittent type, by the facies within a week after the plasmodia had been nibbling at the red blood cells. There was anæmia, and, as a rule, it was shown by the sallowness of the complexion. During the first week there might be little difference in the appearance of the patient with typhoid and one with remittent malarial fever. Herpes, rare in typhoid, was exceedingly common in all forms of malaria. Such general features as bronchitis, gastro-intestinal disturbance, and headache offered no special criterion.

The fifth diagnostic element related to blood examination. Usually the diagnosis could be made clinically by the tenth day, and one might not find any evidence of malaria in the blood before the end of a week, while Vidal's reaction in typhoid was rarely elicited before the sixth or seventh day. Marked remissions of temperature, with falls to subnormal, and the development of anæmia, usually confirmed the diagnosis of malaria by the eighth or tenth day. If there were doubt, quinine would clear it up. The author believed they had not had a single case at the Johns Hopkins in which malarial remittent fever had resisted the proper administration of quinine for more than three days. But the parasites did not disappear so rapidly as in simple intermittent, for they were hidden in the spleen, in the bone marrow, and were more difficult to get at. The crescent form laughed at quinine, and would persist in the blood for weeks.

How far in paludal regions did typhoid fever take on malarial aspects? There was a rooted belief among physicians in various sections of the country that typhoid often presented malarial features. Failure to recognize the protean character of typhoid was the basis for this delusion. Dr. Osler had seen typhoid fever when he practised in Montreal, also in Philadelphia, and over five hundred cases had been treated in his wards at the Johns Hopkins, most of the latter coming from the same districts as those which furnished their cases of malaria; yet in these different cities typhoid had presented the same characteristics, and did not take on malarial features. Very seldom was there combined infection with the hæmatozoa and the Eberth bacilli. Combined with hæmaturia, Dr. W. Gilman Thomson's was the only case in this country. But the combination of malaria with pneumonia and with dysentery was not uncommon. Quinine would stop the malaria and the pneumonia would run its usual course. In some cases of typhoid fever a sort of septic fever developed after six or seven weeks, which might cause some suspicion of malaria, but certainly the majority of the cases was not malarial.

They had had two cases of pernicious malarial fever admitted to their wards which passed unrecognized, and Dr. Welch had made the diagnosis at autopsy. One was a case of suspected pneumonia.

What was spurious malaria? He did not know. One form of it was very fatal. He suspected the Eberth bacillus and not the plasmodium was responsible for most of the cases. He had no faith in the statistics attributing death so frequently to malaria in Brooklyn. North of the Chesapeake fatal forms were so rare that no health board should accept a death certificate signed malaria without investigation. The symptoms of malarial disease in temperate regions in this country were well defined and easily recognized, and the widespread belief in masked forms had no rational basis of support.

Little Malaria in New York City.— Dr. Walter B. James opened the discussion. He had been in the habit of looking for the malarial parasite for three years or more, and was able to confirm Laveran's investigations. He believed that malaria rarely originated in the city of New York. When he found the parasites it was usually in cases from outside the city, or above the thickly settled districts, or near the rivers

and large excavations. He had never found the parasite of estivo-autumnal fever, except in patients from the shipping districts. The form present about or in New York was that which produced tertian fever, the variety most easily diagnosticated clinically and microscopically. But he did not believe it was practical for most general practitioners to become so familiar with the microscope as to be able to diagnosticate thereby most doubtful cases of malaria. As a rule, in New York, when doctors sent him blood to be examined in cases of possible malaria, the parasites were not found. In other words, when the clinical history did not point rather plainly to malaria, the symptoms were not due to that disease.

Auto-Infection and Malaria.—Dr. A. Jacobi thought the chapter on malaria presented by Dr. Osler might better stand alone, yet he would make some remarks, in order that the printed programme might be carried out. While he agreed with Dr. James that the clinical diagnosis of malaria about New York was usually sufficiently clear, still the best diagnosticians the world over had welcomed this new aid in diagnosis. An important clinical means of recognizing malaria had already been mentioned. Few other diseases gave a temperature of 106° F. or more; at least, not so often. The swelling of the spleen was a valuable point. If in the first days the spleen could be felt below the ribs, the probability was the case was not one of typhoid. Ehrlich's test had been of some value to him in distinguishing between typhoid and malaria. The accumulation of putrefying material in the intestinal tract from overfeeding or improper feeding sometimes gave rise to a fever lasting several weeks if it were not attended to—an irregular rise of the temperature, which not infrequently was mistaken for typhoid. Rachitis was sometimes mistaken for malaria when it began more or less acutely. There were some cases of intense malarial poisoning without the usual paroxysms. They usually came from New Jersey or South Brooklyn, especially about Gowanus Bay, before that part of the city was as well sewered as it was to-day. Some of the subjects would have swelling of the spleen, anæmia, were scarcely able to drag themselves about. Although never having had an attack of fever and ague, an attack would develop after taking the first or second dose of quinine. When more quinine was given, the condition would disappear, confirming the diagnosis of malaria. The explanation had suggested itself to his mind that the quinine might have caused contraction of the spleen and entrance temporarily of a greater number of the plasmodia into the circulation, then an attack had occurred, but more quinine had effected a cure by driving the plasmodia from the blood.

New York Not Free from Malaria.—Dr. Egbert Le Fevre said that during the year 1896 they had made over five hundred examinations for the plasmodium malaria at Bellevue Hospital, and had found it in the large majority of the cases of malaria, about one hundred and two in number, in most instances the single or double group of the tertian variety. One patient, who had not lived out of the city, but on a fourth floor, showed nearly every fifth red blood corpuscle impregnated with the plasmodium, and his disease progressed to a fatal termination, in spite of quinine or other treatment. Eleven cases presented types of the plasmodium which they were unable to classify, but specimens had been kept for further study. In only a small proportion of all the cases had he been able to palpate the spleen, and he had been surprised at the number of cases which showed no increase in the size of that organ. A large percentage of the cases had developed within New York City; moreover, in the southern or old settled districts. Formerly he had been led to believe that most cases came from outside or from the outskirts of the city.

Dr. Simon Baruch referred to some experience he had had in the South, and expressed the opinion that the diagnosis of true malaria was more easily made than that of any other disease. He depended more upon the temperature than upon any other symptom. The chief feature was the great difference between the temperature at the beginning and acme of the paroxysm. It was very rare in any other disease to see the temperature rise in a few hours from normal or subnormal to 103° or 104° F. He thought that in the early stage of malaria enlargement of the spleen was so rare that he would pay no attention to it. Early in the '80's he had published a paper in the Medical Record, showing that out of one hundred and fifty deaths reported in Brooklyn as having occurred from malaria, in only thirty did the doctor who signed the certificate feel certain that death was due to malaria.

Dr. Osler, in closing, remarked further upon the rarity of death from malaria north of the Mason and Dixon line. He could not agree with the speakers who thought the spleen was not often enlarged. By the aid of position one could usually feel the spleen the first week. He was glad Dr. Jacobi had mentioned the occurrence of chill in morphine *habitués*. Dr. Osler had seen two cases of the kind, and in one the spleen could be distinctly palpated, but the parasite of malaria was absent, and they were puzzled as to the nature of the case until the patient admitted taking morphine. Ehrlich's reaction was not at all uncommon in malaria. Dr. Jacobi had expressed belief in intestinal infection, and had thus placed himself among the younger men of the profession. Dr. Osler was too old for that. Of course, it might occasionally occur. Malaria was rare in Baltimore and Philadelphia, and, it seemed, in New York, except in the outskirts.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Special Meeting, February 23, 1897.

Joseph E. Janvrin, M.D., President, in the Chair.

The Abuse of Medical Charity in Hospitals and Dispensaries.—The meeting was called at the written request of fifteen members for the special purpose of considering the abuse of medical charity in hospitals and dispensaries.

Dr. Stewart, member of the committee on hospitals and dispensaries, was called upon to make some introductory remarks. He said a number of men had been before the committee, leading it to believe that medical charity in hospitals and dispensaries was much abused, and probably every member of the association could give individual instances of such abuse, but it was desirable to have definite information and to hear suggestions for remedying the evil. The directors of two dispensaries had promised the committee to adopt any plan which the association might recommend for excluding from the dispensaries all who were not in need of charity. None wished to bar out the worthy. It was strange that in the neighborhood of some of the largest charities in the city he was asked to do more charity work than before these institutions had been started. He was unable to understand this, for there certainly were not more poor in that neighborhood than previously. The really poor man, the one who earned small wages, could not afford to go to such institutions, because it took too much time to wait his turn and he could not leave his work. Their chief patrons were the grocers and the butchers and a class of people who were well-to-do and could spend an hour or two waiting their turn among numerous other patients. A doctor in the

class for children said a woman had brought her child in a carriage, and it was learned that she was the wife of the largest wholesale liquor dealer in the city. One woman was advised to give her baby fresh air by riding on the ferryboat, and she replied that she intended to make a voyage to Europe, which she thought might be better. Certain of the dispensaries drew largely from the neighboring States, and physicians from the country had written him that it was only their best-to-do patients who could afford to go to the city, stay at hotels, and receive gratuitous medical treatment at dispensaries. He hoped to hear the experience of the members and suggestions looking toward a remedy.

Fifty per Cent. Able to Pay.—Dr. Freudenthal said there was no doubt that the evil of medical charity was growing daily. He had a class at the German Poliklinic, and, while the majority of patients going there was very poor, still there were some who were well able to pay. Indeed, on one day he had the Charity Organization Society investigate all of the patients attending his class for that day, and they found out of thirty-four patients that twenty were able to pay, while only fourteen were really poor. Something ought to be done to correct this, for no doubt it caused hardship for many physicians. It was necessary to have the aid of the whole profession in the city. The method adopted in London was the best one known to him. He believed that there everybody applying for attendance at a clinic had to bring a certificate from his landlord that he was poor. The certificate ought to be renewed every month or three months.

Dr. O'Meara stated several reasons why patients went to hospitals and dispensaries: 1. To consult a specialist. The physician who should send his patient for this purpose would lose him. He should go with him, and receive and carry out the suggestions of the specialist instead of leaving that to the patient. 2. The physician wishing to get rid of a disagreeable case sent it to the hospital or dispensary. 3. A patient being unable to pay the doctor's full fee, the latter sent him to a dispensary instead of to a young neighboring physician who would be glad to accept a smaller sum. 4. Subjects were sent to the hospital or dispensary by physicians because they could pay nothing whatever. In this instance as well as in the other, a young physician would treat the case as long as he was not very busy. 5. When the physician was unable to supply nurse, medicine, food, the patient had to go to a hospital, and this was proper. 6. When the patient pocketed his pride, his self-respect, and his money, and deliberately cheated the doctor by going to a dispensary or hospital. The speaker did not believe in doctors accepting pay for medical charity given patients in these institutions. He thought the method adopted in some foreign countries might stop the abuse of charity, the dispensary requiring the applicant to bring a certificate from the family doctor or from the clergyman, but the objection to this was that the clergyman was too ready to sign anything.

Dr. Louis Fischer had been connected with some dispensaries, and could say that while the abuse was great in some, in others it was present hardly at all. Teaching bodies must have material, but it need not be material which could pay. At his class for children the Charity Organization Society found some weeks that only about twelve per cent. were deserving of charity, other weeks fifty per cent. But the remedy rested with the physicians. If they would give their services gratuitously, the people would be fools not to accept. A fellow-practitioner had remonstrated with a wealthy man for going to a free medical institution. He replied by asking the doctor if he would not accept a box ticket to the opera. To do anything it must be through the combined efforts of all the medical societies of the city. It was not so much a question of dispensary abuse as of stealing fees from the physician. He would like to see a committee appointed to act with other societies. As to the suggestion that the landlord give a certificate, he would be foolish not to do so whether the patient were or were not poor, lest he lose his tenant.

Dr. Tarler thought it was the duty of this society to look after the interests of its members in this abuse, in that of lodges, in that of medical schools which had a way of getting their patients. There was a lying-in asylum in Broome Street which took confinement cases; the *World* newspaper sent out its list of free doctors; with it all there was little pay practice left for the starving physicians.

Dr. McGauran said a clergyman had told him recently that the doctor's occupation was gone in this city. Everybody went to the dispensary, where no pay was required. In his neighborhood, and he did not hesitate to say it was that of Roosevelt Hospital, patients who were able to pay him a fee of two dollars were visited by the dispensary physician free. Some people who acquired wealth in doubtful ways seemed to think they would gain heaven if only they founded a hospital. There was an institution on the east side which deserved mention, as well as the one on the west side. Recently a gentleman in the city had given a million dollars to take away all the confinement cases from the doctors in a large district, and the Academy of Medicine, or its chief officer in its name, had tendered him a vote of thanks. It was the physicians' fault, not that of the gentleman who was so generous as to make the gift. It was the heads of the profession who were to blame. They should be given to understand that they would receive none of our consultation practice. Seven years ago the speaker had written an article suggesting that a member of the association be appointed who should go around to all the dispensaries and keep watch of this charity abuse. Or the committee should be given power and they would go to Albany and seek such legislative action as might be suggested.

Educate the People.—Dr. L. F. Bishop said the large number of plans which had been suggested for controlling this abuse showed its wide extent and that no one of the plans was pre-eminently satisfactory. He suggested as one step the creating of a healthy public sentiment. A few months ago he had had occasion to speak to an audience of workingmen, and pointed out the injustice to the medical profession of accepting medical charity when one was able to pay for it, and no fewer than six of their number arose and made remarks endorsing this view, and a resolution was adopted pledging those present to do all they could to check this great wrong to the profession and to keep the people from abusing medical charity. It was more difficult to get those in the higher social and intellectual circles to take the correct view of the subject. Yet it could be done. A charitably disposed woman founded a small hospital and then all who had contributed proceeded to send their servants for free treatment. He was able to convince her of the wrong. A prominent officer of philanthropic societies, a student for years of social and political problems, was in the habit of sending people indiscriminately to medical charities. After having the wrong of so doing pointed out to him, he admitted that he had never before had any appreciation of the true ethics of medical charity. Among doctors there were those who sought to build up hospitals which would destroy the practice of the profession at large to the extent of thousands of dollars for the sake of the prestige which would increase their own income by tens. They were like the men who discovered the rubber trees and cut them down in order to obtain a portion of the sap. Each of us should with every opportunity point out

the fact that charity, except when required, was morally wrong.

Directors Willing.—Dr. Beaman Douglas believed that the directors of the medical institutions would be perfectly willing to act on any method generally recommended by the medical societies for the correction of the abuse of medical charity. It was not necessary to make this a subject of legislation, nor of public or newspaper discussion, but if practitioners came to an agreement among themselves the directors would cooperate with them. Dr. Douglas would suggest a sort of clearing-house arrangement, a central office, with a superintendent and such assistance as might be required, to which all of the dispensaries should report all of their cases for the day. Then, if a patient had been rejected at one dispensary because not worthy of charity, he could not go to another without the fact being known. One investigation would be sufficient for all districts. Out-of-town patients ought not to be treated. Let them go to their home charities.

Organize.—Dr. A. W. Warden thought the trouble with the doctors was that they were not organized. The keynote of to-day was organization. The commercial world, the business world in general, the laboring people, all classes were organized except the doctors. One thing which could be done was to put only such men into office in medical societies, etc., as were true to their fellow-practitioners. They had frequently elected men to office who were the greatest offenders in matters of medical charity.

The Managers to Blame.—Dr. Tull had had much to do with dispensaries the past ten years and believed that the managers were entirely to blame for the abuse of medical charity. If the doctor did not treat all the cases sent to his class, he was dismissed. In some dispensaries the Charity Organization Society investigated cases supposed to be unworthy of charity and made its report in ten days. The hospital abuse was even greater. He had treated a patient in one of these institutions who was worth $100,000 and he had received nothing. As to educating workingmen, pointing out to them the wrong of abusing medical charity, Dr. Bishop had more faith in human nature than he had.

Would Make the Abuse of Charity a Misdemeanor.—Dr. O'Donohue thought there had been too much beating about the bush; too much striking at the branches instead of at the trunk of the tree. Unless steps were taken to secure legislative action they might as well go home. Let it be declared a misdemeanor for any man receiving wages above a certain amount to apply for charity. Then select two or three offenders and make "a holy show of them," and there would be no trouble from the rest.

Seeking Fame.—Dr. J. S. Peterson thought the trouble lay not with the young physicians, but with certain older ones who hoped through hospital connections to become famous, to be looked up to as the "Great I Am." Again, patients were never asked whether they could afford to pay a doctor. If the dispensary physician should refuse to treat them, he would be requested to resign. The wife of a member of the fire department, who received a salary of perhaps $1,600, was receiving free treatment at a certain hospital dispensary. There was but one hospital in the city where the physician was allowed to operate on his own patients. The doctors of these institutions did not want it known that anybody else could operate except themselves. Indeed, the outside doctor was not allowed to see his patient except on public visiting-days.

Dr. Austin thought the committee on hospitals and dispensaries should go before the commission on the charter of Greater New York and have some provision made in the charter looking toward the prevention of the abuse of medical charity. The suggestion made by one speaker that the applicant at the dispensary be required to present a certificate from the landlord would not do here, for he knew of instances where landlords themselves and their families went to dispensaries for treatment. A remedy would never come through persuasion of hospital managers. Further to establish the abuse school doctors had been appointed. He had vaccinated a child which lived on Madison Avenue; the health-board physician thought the scar was too big and would exclude the child from school unless it was submitted to revaccination by him. If one had a boil he went to a hospital; if he coughed, an ambulance was sent for.

That Million-Dollar Gift.—Dr. Henry W. Berg thought that if there was any abuse of hospitals and dispensaries the doctors were to blame. He wished to call especial attention to the recent munificent gift of a philanthropist to a certain institution in the city, the donor having been led to think that it was necessary, probably by some medical man. But was it necessary? Dr. Berg believed that million dollars had been entirely misplaced, would be wasted, would do harm by serving to pauperize a large part of the community. How many cases of obstetrics in this city required free medical treatment? He thought not twenty-six thousand, which this immense sum would probably provide for. One-fifth that number was probably more nearly correct. If so, the rendering of gratuitous attendance to the other twenty thousand would simply tend to pauperize them. Let the matter be investigated by this society; let the number of confinements among the really needy in the city be ascertained, and if it were found to be not more than eight thousand, and he certainly thought it was not, then let some one go to this philanthropist, state the facts to him, and no doubt as a shrewd business man he would reduce the amount of his gift to correspond with the necessities of the case.

Not a Public Matter.—Dr. Thomas H. Manley thought the subject would have been simplified if the committee had come forward with a plan. There was no doubt that this abuse of public and private charity was very great and widespread, and, if allowed to grow as it had been doing, the masses of the medical profession would be reduced to poverty. It was not a matter for the public; it was not a matter for the legislature; it was not a matter for the public press. The first step to be taken was organization among the doctors themselves. Assuming that they had an organization, they must be disciplined. If the profession understood that the abuse was entirely because of, and was perpetuated by its own rank, the members could remedy it. He hoped that whatever was done would include the highest as well as the lowest hospitals, dispensaries, and schools. Let it be understood that the profession had the power to enforce its demands, and that he who offended would be ostracized. Reference had been made to the committee of the New York County Medical Society. He believed that committee was earnestly at work, but it would find the question a large one, and itself powerless unless supported by the united profession. He hoped the members of the association would be prepared for and meet an extra assessment which was necessary to carry on this work. A plan having been decided upon, let it be put into immediate force.

The Adelaide Hospital Troubles.—It is reported in an Adelaide newspaper that the council of the British Medical Association has notified Drs. Leith Napier and Ramsay Smith, who were hired to go from London to take the places of the medical staff of the Adelaide Hospital, that they would be dropped from the roll of membership of the British Medical Association at the next meeting of the council.

Correspondence.

LONDON LETTER.

(From our Special Correspondent.)

THE PRINCE OF WALES STARTS A HOSPITAL FUND TO COMMEMORATE THE QUEEN'S SIXTY YEARS' REIGN—MEDICAL SOCIETY—CLINICAL EVENING—LETTSOMIAN LECTURES—OBSTETRICAL SOCIETY'S ANNUAL MEETING—PATHOLOGICAL SOCIETY—THE PLAGUE—CONCURRENT EPIDEMICS AT DUBLIN—LORDS PLAYFAIR AND LISTER.

London, February 12, 1897.

I APPRISED you of the proposal to establish a hospital fund in commemoration of the Queen's record reign and the hope that the Prince of Wales would take the lead in such a scheme.

Well, the hope has been realized. The prince has circulated through the press a letter in which he describes the plan as "a project lying very near my heart." He tells us that in considering the figures furnished him he has been struck by the fact that the contributors to hospitals number less than one in one hundred of the population, and so he urges that it is "necessary to enlarge the area from which annual subscriptions are gathered." The prince does not believe this indicates indifference, but rather difficulty of choosing or of definite opportunity of giving, or a feeling that small amounts are not worth contributing. He proposes, therefore, to remedy this state of things, to afford every one the opportunity that may have been lacking, to save them the difficulty of choosing, and to collect subscriptions of one shilling and upward to "the Prince of Wales' Hospital Fund for London, to commemorate the sixtieth anniversary of the Queen's reign." In pursuance of the scheme the prince has associated with himself a representative committee the members of which are not managers of particular hospitals. Lord Rothschild has consented to be treasurer and the Bank of England has placed office accommodation at his disposal. The scheme is accordingly fairly launched, and has met with the cordial and often enthusiastic approval of the press and the people. In all directions we hear of plans for enabling people to pay in their shillings. Some plans are of course impracticable; many suggestions are obviously silly; but others are valuable though not, perhaps, well thought out. Among the most practicable, perhaps, is the issue of a shilling stamp, to be sold for this purpose at every post office. But there is some demur to this at headquarters. It would entail a little trouble and a trifling expense, but it would secure an army of willing collectors. What post-office clerk would not be willing to receive a sheet of shilling stamps for the Prince of Wales' fund and account for them separately from post-office accounts? This is but one of the schemes afloat, but it looks one of the best, and as the enthusiasm rises it may well carry the postmaster-general on its flood. Thus much as to the collection: then as to the distribution. It is proposed for the first year to rely on the distribution committee of the Hospital Sunday Fund. Here, if anywhere, is the weak spot in the scheme. The prince's committee might be trusted to distribute the funds, and of course, might at first advantageously avail themselves of the experience of the Sunday Fund committee. But the latter has not given universal satisfaction. I have more than once adverted to the manifest unfairness caused by its prejudices, and I shall be sorry if these prejudices are suffered to influence the new fund. There are certainly institutions as well as individuals that will refuse to help any fund which is to be distributed by the present Sunday Fund committee. The prince hopes to secure from £100,000 to £150,000 a year from persons who have hitherto been non-contributors. Should his hopes be realized, it will prove a splendid endowment for the hospitals, which, thus supported by the people, will become more national institutions than ever.

At the Medical Society's clinical evening on Monday there was an abundant supply of cases. Among them were two treated by Dr. George Stoker by his plan of applying oxygen. One of them was a specific ulcer of the leg, the other lupus of the nose, which had healed under the application of oxygen after curettage. One of the ulcers of the leg had been inoculated with staphylococci, a procedure to which much objection was made. It was also remarked that most ulcers of the leg would heal under cleanliness and rest, but Dr. Stoker did not admit this, and, considering the large number of people who have these ulcers for long periods, as any surgical out-patient room will show, I hardly venture to differ from him. He said the cases had been thus treated for years.

A curious case was shown by Mr. Morgan, that of a young man who had sustained a fracture of the anterior fossa of the skull from a fall, and though he had survived he had lost the sight over the temporal half of both eyes. It was conjectured that this curious result might be due to injury in the chiasma affecting the fibres coming from the nasal halves of both retinæ. The prognosis was regarded as unfavorable. There was a skiagraph of a sutured patella on view, showing the position of the suture. A case of fracture of the humerus was shown, in which an attempt to peg a fragment to the shaft had been made and the wound showed signs of infection with bacillus coli communis. Later the fragment was removed and good movement of the limb obtained.

A case of excision of the head of the radius for an old unreduced dislocation forward may be named, as the patient has perhaps as useful a joint as could have been expected if it had been possible to reduce the dislocation.

A man of fifty-two, whom Dr. Maguire supposed to have malignant disease of the lung, presented the following symptoms: swelling over the upper part of the left chest, over which the percussion note was very dull, the area of dulness being sharply defined; tubular breathing over this area, with equally sharply defined margins. There was dyspnœa, and it was said that at an earlier stage dysphagia had been present.

The society's Lettsomian lectures are this year being delivered by Dr. Haviland Hall, who has taken for his subject, "Diseases of the Throat and Nose in Relation to General Medicine." He describes in considerable detail the appearances which have been recorded as occurring in these parts in the course of various diseases.

At the annual meeting of the Obstetrical Society there was also an exhibition of specimens, including fibroma of ovary leading to ascites, lipoma removed from left lumbar region, fibroma of abdominal wall, fœtal monstrosity, etc., etc. A valedictory address was delivered by the president.

At the Pathological Society were shown specimens from cases of hemorrhagic diphtheria and ulcerative endocarditis affecting a malformed aortic valve, and a paper was read on Graves' disease with persistent thymus. This is rather a frequent condition, but what relation it bears to exophthalmic goitre is uncertain. We do not, in fact, know in what proportion the thymus is persistent, still less if it is generally present.

The plague bulks largely in the newspapers, and the views of various nations on quarantine are a frequent topic of conversation. An international conference is to be held shortly for considering precautionary measures, and the one subject to excite difference is quarantine. England will not depart from the system she has found efficient, and is reaping a fine

crop of abuse and even threats, in some continental journals. But these organs seem incapable of perceiving the shortcomings of their own people in sanitary matters.

The mortality of Dublin has risen to a point to excite keen anxiety—51 per 1,000 in the last week of January and 44.2 in the first of February—above double the average. Measles, scarlet fever, and whooping-cough, as I have already reported, are epidemic. Typhoid is also more prevalent than usual, and typhus appears in the returns. It is not common for several diseases to run a concurrent expidemic course, and the pressure on the hospital accommodation is most severe. Indeed, my advices speak of a complete break down. No doubt respiratory diseases are contributing largely to the mortality, for the weather has been most trying, but it is obvious that Dublin must prepare more isolation accommodation for infective diseases.

I may correct a mistake you have quoted from some of your contemporaries. Lord Playfair was never a medical man. He was professor of chemistry at Edinburgh. His doctorship was a German Ph.D. When first a candidate for Parliament, some of his political supporters tried to pass him off as a medical man, or at least one who had attended medical classes. His opponents of course made the most of this, and chaffed the "doctor" unmercifully on his supporters' pretensions, and suggested that if there were any foundation for the pretension he must be an "ornament of the great army of the plucked." All is said to be fair in elections.

Lord Lister is, then, the first medical man to receive a peerage. He is gazetted as "Baron Lister of Lyme Regis in the County of Dorset," but will be spoken of and addressed simply as Lord Lister.

NOTIFICATION OF TUBERCULOSIS.

To the Editor of the Medical Record

Sir: I have not seen the text of the recent order of the New York board of health regarding tuberculosis. It is possible that, as a result of its enforcement, some hardships might be temporarily imposed upon those so afflicted. This is, however, a matter of detail which is easily remedied. By your editorial I see that a number of letters have been received by you, indorsing your opposition to the measure. At the risk of being alone among your correspondents, I write to register my approval of the principle involved.

I seems to me a scarecrow statement of the Chicago physician you quote, that the liberties of the profession are being in any wise curtailed by a decree requiring the registry of tuberculous cases. That a quarantine should be enforced as in diphtheria and scarlet fever is, of course, out of the question; but that houses in which tuberculous cases are present should be recorded, so that the inmates may receive proper literature on the subject, and that the houses may at proper times be disinfected, is eminently proper. With a more general knowledge on the part of the public of the true nature of tuberculosis, such as this would bring about, we could hope for a sentiment soon which would insist on means for the proper care of railway cars and Pullmans and hotels; and, further, for the suppression of the habit of spitting on sidewalks and in public places. These reforms can only obtain in any general sense by special education, and the means inaugurated by the New York board of health is a movement in the right direction for the public good. Francis W. Gallagher, M.D.

El Paso, Tex., February 11 1897.

[Our correspondent is in the right, save in the suggestion that the board of health should do all the missionary work. The profession understands its duty in the premises, and can be trusted to perform it. No one would interfere with the board in its legitimate work of abating nuisances.—Ed.]

THE LEGAL RIGHTS OF THE CONSUMPTIVE.

To the Editor of the Medical Record

Sir: In your to-day's editorial on "The Health Board and Compulsory Reports," which is so thoroughly just in many respects, you seem to have overlooked several other aspects of the question which call for attention and consideration—namely, the legal and social rights of the patient, and the social and legal rights of the patient's friends. What if the patient does not wish to be reported? Has the physician a right—a legal right—to report the case against the wishes of the patient? As you and many others have already pointed out, the mere concurrence of a cough and tubercle bacilli are far from constituting tuberculosis. And even if it did, has not an otherwise capable, in body and mind useful man or woman a legal as well as social right to demand secrecy from the doctor concerning his or her ailment, in order that his or her social interests and the social interests of friends be not compromised? Has a consumptive fewer rights than a syphilitic, or even a criminal? The doctor is called on for advice, for help; and being called on for help, for advice, is it not going far beyond the limits of decency, to say nothing of privilege, to ask him to allow himself to be impressed into doing service as a detective, to the prejudice of his, in many instances, unsuspecting patient's interests? It is a hopeful sign, which speaks well for the medical profession, that so many of its members have protested against being manipulated as though they were mere reagents to be used for detecting bacilli, against the interests of their patients and that of their profession, in order to satiate the mistaken ambitions of bacilli hunters, who have apparently become oblivious to the macrocosm by too much special eye straining through the microscope and colored slides. Adolph Rupp, M.D.

406 West Thirty-Fourth Street,
February 27, 1897.

An Easy Method of Taking Plaster Casts.—The foot, for example, having been lightly smeared with vaseline, is quickly bandaged with an ordinary muslin and plaster-of-Paris bandage about two inches in width, which has been soaked in a hot solution of alum and water, in order to make it set quickly. The bandage must be squeezed as dry as possible before it is applied. The toes and heel are of course taken in, and the bandage is continued as far up the calf as is thought necessary. Not more than three thicknesses of bandage need cover any part. By a little careful squeezing, the bandage is pressed into the crevices between the toes, and, to strengthen the mould without making it more difficult to slit down, a little dry plaster of Paris is rubbed over the surface, avoiding the part where it is intended to cut down the mould. While the plaster is still moist, it is cut with a pair of scissors along the outer side of the leg and foot as far as the little toe, so that the mould can be easily drawn off the foot. The cut edges of the mould are at once approximated and fixed with strips of Mead's sticking-plaster. The mould is then set aside until it is thoroughly hardened; then it is oiled inside and filled with plaster of Paris and water mixed to such a consistency that it will run into all the crevices of the mould. When it has quite set, the strips of Mead's sticking-plaster are removed and the mould is peeled away from the cast.—Alan Mackay, *Intercolonial Medical Journal of Australasia*, September.

New Instruments.

A NEW EAR FORCEPS, EAR-SYRINGE TIP, AND OBTURATOR EAR SPECULUM.

By EMIL AMBERG, M.D.,

BOSTON, MASS.

Fig. 1 shows an angular ear forceps, with concavo-convex shanks and blades. The shanks are arranged

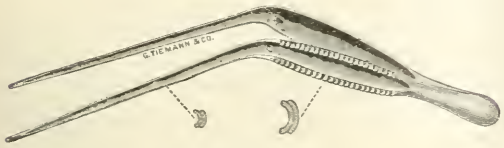


Fig. 1

so that the convex side of one of the shanks closes into the concave side of the other. The instrument is strong and light; furthermore, the shanks cannot slip one from another.

Fig. 2 illustrates a tip for an ear syringe, with a crescent-shaped opening at the end.. When introduced,

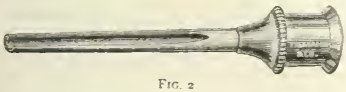


Fig. 2

the tip touches slightly the wall of the meatus. It proves to be better than the common tip for syringing out cerumen, because the stream of fluid is stronger than the stream produced with the old tip, and the fluid finds its way more readily behind the masses and returns more easily on the concave side of the tip.

Fig. 3 represents an ear speculum, armed with an obturator, resembling somewhat a vaginal speculum.

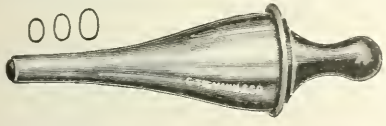


Fig. 3.

The tip of the instrument is to be oiled before being introduced. In cases in which the meatus is swollen, the introduction is less painful for the patient and easier for the physician than the introduction of an unarmed instrument. The instrument is made in different sizes.

These instruments are made by G. Tiemann & Co., New York City.

176 Charles Street.

Treatment of Hemorrhoids.—The technique of the operation may be summarized as follows: (1) Apply the clamp in the long axis of the hemorrhoid, so that the scar may be a radiating one, and thus avoid any chance of cicatricial stenosis. (2) Dip the distal end of the clamp well down, so as to include the mucous membrane of the hemorrhoid in its entire length, though only clamping off about one-third of its substance. Be sure that no skin is included, otherwise the subsequent œdema will be very great and time of recovery lengthened. (3) Sear the hemorrhoid slowly from above downward, layer by layer, the cautery being only at a dull red heat. By observing these precautions any subsequent hemorrhage is avoided. (4) Insert a tampon cannula, which must not be removed till expelled by the first stool.—Dr. Vaux, *The Canadian Practitioner*, December, 1896.

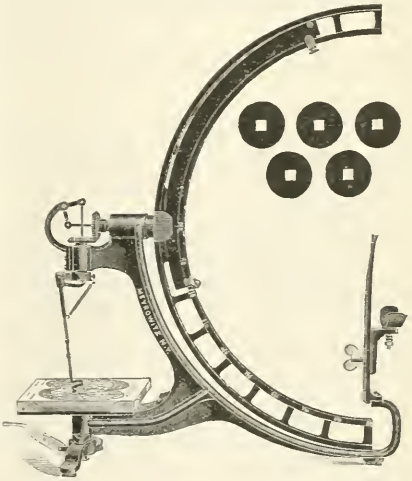
A NEW PERIMETER.

By FRANK D. SKEEL, M.D.,

NEW YORK.

The instrument here shown is the result of experiments extending over some years, in the endeavor to construct a perimeter which would be self-recording and at the same time simple in its construction. In the use of the ordinary instrument the examiner's attention is divided between watching the eye of the patient, the position of his own hand carrying the test object, in reading the graduations on two arcs, and in marking down the same on the chart.

In the instrument here described the reading of the graduations is entirely dispensed with, and the recording of the position of the test object simplified to the pressing of a lever. The general appearance of the instrument is plainly shown in the cut. The recording mechanism may need some explanation. The test object is carried on the thin extremity of a circular sliding wedge, which is fitted to the large arc and rotates with it. The posterior side of this wedge bears against a rod, which extends through the axis of the arc and transmits its motion to a vertical arm, carrying at its lower end a pencil. This vertical arm is connected to the axis of the large arc by means of a bevel gear, the rotation of the arc causing it to rotate on its own axis. It is also capable of motion toward



and from that axis. This latter motion is transmitted to it by the sliding of the circular wedge along the arc. When the test object is at zero or the centre of the visual field, the pencil occupies a position directly over the centre of the chart. When the test object is moved away from the centre of the field, it transmits to the pencil a similar motion over the chart, where the latter occupies at all times a position corresponding with that of the test object. When the test object has reached a position which the examiner wishes to record, he depresses a lever (shown at the back of the instrument below the chart), and a small dash is marked upon the chart. A line drawn through these dashes outlines the field. It is not necessary for the examiner to look at the chart until the operation of taking the field is finished. The chin rest is reversible for right and left, and adjustable for height.

I take great pleasure in acknowledging the intelligent co-operation of Mr. E. B. Meyrowitz in the construction of this instrument.

41 East Twenty-Third Street.

January 20, 1897.

A SIMPLE METHOD OF TRANSFUSION.

By HUNTER P. COOPER, M.D.,

PROFESSOR OF ANATOMY AND CLINICAL SURGERY, ATLANTA MEDICAL COLLEGE, ATLANTA, GA.

Probably all who have made intravenous injections of a saline solution have been confronted by this difficulty: When there has been severe hemorrhage or profound shock, the median basilic vein is found empty and collapsed. In many cases of severe hemorrhage it is difficult to find the vein after making the incision over it, and much greater is the difficulty of inserting the needle into the vein in order to make the injection. Recently I attempted to inject a saline solution into the median basilic vein of a patient who was suffering profoundly from shock and loss of blood following resection of the rectum. As usual, I tied a bandage around the upper part of the arm, in order to obstruct the venous current and cause the median basilic vein to come into view; it was impossible to see it at all. I then made an incision over the situation of the vein, and finally exposed it thoroughly. It was apparently completely empty and collapsed. I attempted to puncture it with my needle, in order to make the injection; but the point of the needle passed into the posterior wall of the vein, and I had to withdraw it and try at a little higher point. At this effort the needle penetrated entirely through the vein. I then gave up any further attempt and resorted to subcutaneous injections over different parts of the body. I have had this

same difficulty a number of times, on account of the collapsed condition of the vein. It is to meet this condition that I have devised the needle, of which the accompanying cut is a fair representation, and the following technique:

The needle is simply a probe-pointed needle, with an opening in the middle of the end and a constriction above the end; in every other respect it is like an ordinary aspirating needle. Having exposed the vein and dissected it up from the tissues underneath it for a full inch, apply pressure forceps to it an inch apart; then cut through the vein at a point near the distal compression forceps, insert the probe-pointed needle into the proximal cut end of the vein, and secure it in the vein by a silk ligature; tie tightly around the needle at the constricted portion of the same; then remove the compression forceps and make the injection. After the injection, ligate both of the cut ends with catgut and close up the wound.

This method possesses advantages over the old method, for the reason that it is always a perfectly simple matter to get into the vein, whether it is full or empty. It has advantages over the use of saline fluid subcutaneously, as, in the first place, it is painless; and, in the second place, the fluid goes directly to the heart, without any absorption having to take place, as in the subcutaneous method.

Retrospect.—In our discussions upon antitoxins and other disputed questions of the day, it is well to look back seventy-five years, as Moritz Schmidt said in his opening address at the late congress of medical and natural sciences, held at Frankfort-on-the-Main, and contemplate physicians of that day discussing the correctness of the theory of the circulation. In seventy-five years from now men may smile at us, but no disgrace can ever attach itself to honest convictions based upon experience and honestly and fearlessly expressed.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 27, 1897:

	Cases.	Deaths.
Tuberculosis	226	127
Typhoid fever	9	7
Scarlet fever	126	17
Cerebro-spinal meningitis	5	6
Measles	133	8
Diphtheria	211	21
Laryngeal diphtheria (croup)	5	2
Chicken-pox	18	0

The Country Practitioner and the City Hospitals.—In a paper by Dr. M. W. Knight (*The Atlantic Medical Weekly*, January 23d, the country practitioner is urged to operate more frequently, especially in the commoner forms of surgical cases, instead of referring his clients to the city hospitals or to specialists. "Personally," he says, "my relations for the most part with city consultants have been exceedingly pleasant: and I prize their friendship, their courtesy, and their counsel. I have, however, met one or two whom I trust it will be my good fortune never to meet again. More than one man of no extraordinary mental endowment, through wealth, influence, and combination and culmination of favorable circumstances, has been heard from in our cities and in our hospitals who, had he been obliged to locate in some rural district, without these necessary adjuncts to success, would probably have never earned his daily bread. More than one country practitioner, could he compete on merit and ability alone, would prove a formidable rival to his city contemporary."

The All-Round Specialist.—When a man claims to know everything and be equally competent in all branches of work, not hesitating to operate on the eye and internal organs, he should be engaged as the general agent for some of the products which are being advertised as sure cures for consumption, catarrh, cancer, and the like.—*National Medical Review.*

"Doctor of Refraction" is what travelling opticians now call themselves out West, and by the use of the title of doctor are in a position to mislead those to whom they sell their wares. A bill is before the legislature of this State whose enaction would place the refracting "doctor" on about the same legal level with the physician.

The Dispensary Abuse is in its infancy in Denver, and the *Colorado Medical Journal* makes a plea that it be kept down, as it now can be, by an agreement among the physicians to maintain but a single general institution. We trust the Denver doctors may be wise enough to act upon this advice and not wait until the dispensary grows greater than its creator and destroys it.

Early Diabetes.—Dr. Wilson (*The Lancet*, November 14, 1896) relates an instance of diabetes at the age of four years. The urine contained six grains of sugar to the ounce, and the child died in coma.

Headache of nasal origin commonly is present on awaking, whereas headache due to eyestrain comes no later in the day after using the eyes.—*Denver Medical Times.*

Medical Record

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Original Articles.

ADVANCES IN THE TREATMENT OF CHRONIC CARDIAC DISEASE.[1]

By BEVERLEY ROBINSON, M.D.,

NEW YORK.

HITHERTO rest has been considered by the best clinicians as our most reliable resource in many cases in which cardiac failure was evident. Now we are led to believe by the reports and observations of many physicians that passive or active exercises are essential frequently to the best results attainable in similar cases.

For many years already, massage treatment, according to the method of Linn and his followers, has unquestionably proved beneficial. Later it was found, in certain cases which had notably improved with massage and passive movements, that walking up gradually inclined roads, according to Oertel's system, would still further increase cardiac power. For some years past, however, there has been a growing enthusiasm on the part of an increasing number of people in favor of Schott's system of treatment of chronic cardiac disease with resisted movements and stimulating baths.

Despite these facts, which I shall elaborate later, we should not lose sight of the truth, that rest in bed is imperative at times and for a certain period in the treatment of cardiac failure, if we wish to promote recovery or even amelioration.

Take, for example, those cases of cardiac dilatation already marked by the gallop rhythm, intense dyspnœa, cyanosis, a weak, rapid, irregular pulse, œdema of the lower extremities, and note what remarkable results may occasionally be obtained with rest. These symptoms, most if not all, I have seen thus disappear. That is true in a degree, we are sometimes disposed to say, but was not the good result effected far more by drugs than by rest? To test it, drugs have been sparingly given—if at all—and the beneficial effects of rest were soon most marked; whereas, when the patient was going about he was either not benefited, or was gradually growing worse. What is true in ordinary chronic cases is still more evident in those instances in which there is suspicion of an acute process being grafted on the old lesion. If acute endocardial inflammation should perceptibly be present at all, then absolute rest and quiet must be insisted on.

Avoidance of cold is also of great service. No one perhaps more than Sibson has brought the importance of this matter to our minds. I am satisfied that drugs are of secondary importance at such times, yet we should not altogether underrate their value: and if there be even a slight increase of precordial pain, with some change in the cardiac murmurs and cardiac action, it is wisdom to order moderate doses of the salicylates. Of course, there are those who reject their influence. The statement is made that they do not prevent the liability to any localized inflammatory development: others say that their influence is negative even when the inflammatory condition is present. Still, as the salicylates are strongly advised by some writers, it is not doing one's whole duty to the patient to withhold them or some suitable substitute. For my part, I prefer in many such cases of heart trouble, in which the underlying rheumatic dyscrasia is clear, a combination of chloride of ammonium and acetate of potassium. Indeed, I am confident from frequent experience that in the treatment of rheumatic manifestations this is a more valuable combination than the salicylates. Perhaps the pain may not be always so quickly allayed as with the salicylates, but the future course of the disease is preferable. The dose of these drugs given by me is ten grains of each, every two hours for one or several days, in a suitable menstruum. When the symptoms improve, as they usually do quite rapidly, I diminish the frequency of the dose. I consider this a matter of practical moment so to influence the rheumatic poison at times as to prevent any fresh intracardiac development.

Rest with the laboring man is one thing; rest with the man of refinement and easy mode of life is quite different. In the latter cases the physical strength has not been tried, as a rule, by daily bodily effort: their work—if work there has been—has been of the brain rather than of the body. Recuperation should come not necessarily from absolute repose for a time in the direction of outlay of their bodily energies, but rather by giving up close and arduous mental occupation for a time, or indeed by proper, judicious physical exercises and limitations of their diet.

In these cases particularly, I have seen good results proceed from close attention to dietary rules and from exercises already referred to, of the Linn, Schott, or Oertel systems.

Many such cases never indeed come under medical treatment of a strict, severe kind until serious or fatal symptoms develop. The signs of marked cardiac insufficiency show themselves without any evident valvular disease, by weak, rapid, or slow pulse, cyanosis, and œdema of the legs.

In many instances there is no dropsy, and even the physical signs of dilatation, as manifested by palpation and percussion, are difficult or impossible to determine conclusively. In some cases there is considerable corpulence or obesity, and there is doubtless already fatty overgrowth around the heart. In others, the patients are spare of body, of delicate or weak frames. In these we often have slow pulse with occasional syncopal attacks without apparent sufficient cause, or pain over the precordial region with extension down the left arm in the nature of pseudo-angina.

Whenever fatty degeneration is suspected, as in the first division particularly, exercises are doubtless at times of great value, if properly governed with learned and judicious care. In the others, however, I am still of the belief that neither exercises nor cardiac tonics —with the exception of strychnine—are of much avail. Here again we must insist upon complete rest in bed, and frequent stimulation with ammonia, chloric ether, and alcohol in small doses. Some authors speak of the utility of increasing doses of nitroglycerin, particularly if the pulse be hard and tense; but, judging

[1] Read before the Practitioners' Society of New York, February 5, 1897.

by my own experience, the very slow pulse with tendency to syncope does not often accompany hypertension unless it be of the spurious kind, to which Ewart has directed attention.

The kneading of muscles in the corpulent cases, when performed carefully and for short periods of time each day by a well-trained masseur, combined with moderate passive movements of the limbs, according to the patient's strength, gives good results.

After a while, a few days or as many weeks, the system of Schott may be attempted. In this system, as I have said, regular exercises are given daily, and at the time of the transmitted movements there should be moderate resistance on the part of the patient to the efforts made by the manipulator. All the limbs are exercised in rotation, and the amount of exercise given should be limited, according to the feelings of the patient or by the watchful interpretation of the attendant. Upon the slightest evidence of cardiac palpitation, distress, or dyspnœa, the exercises should be stopped. The results thus obtained are often surprisingly beneficial.

We all admit the advantage accruing to patients affected with chronic heart disorder, even when compensation is impaired, of keeping the skin in good condition. Hence baths are serviceable, provided the temperature is not too elevated and they are of short duration and not given too often. The stimulating baths, therefore, of Nauheim, with their large percentage of carbonic acid and of the chlorides of sodium and calcium, are of undoubted efficacy. Given alternately at the same time with "resistance gymnastics," they show wonderful results.

But are these baths really more useful than other baths of a different composition? This subject is still *sub judice*, and already it has been claimed that equally good effects may be obtained with the rational employment of natural sulphur waters. Be that as it may, it seems quite certain that in many cases, after a single or a few stimulating baths or resistant exercises, the heart will show great changes.

In hypertrophous dilatation, when the heart had been accurately determined as to its size by methods of physical exploration, and notably auscultatory percussion, previous to the Schott treatment, subsequent measurement showed positive and considerable diminution in size. This decrease was not always lasting —at least in the beginning—to its full extent; still the permanent decrease in size after a more or less prolonged treatment was often unmistakable. With it came a stronger, more regular heart action, and a fuller, vigorous pulse, as well as a disappearance of many threatening symptoms.

The Oertel system seems to be especially adapted to those who previously have eaten or drunk to excess, and who also have fatty overgrowth thus brought about. As a rule, it should only be employed with those who have had sufficient strength to go through with the Schott treatment advantageously, not to speak of the still milder one of Linn, with kneading and passive movements.

In Oertel's system the graduated exercises consist in walking up hills of slight or more considerable elevations, and for a shorter or longer distance, depending upon the patient's strength and ability to compass them without undue fatigue.

According to Oertel's statements and those of others, the heart thus rapidly acquires an increased degree of strength. In both systems—those of Schott and Oertel —the result is to bring more blood to the heart muscle, and thus promote its healthy nutrition.

In either of these treatments it is obvious that the most intelligent supervision of the patient should be constantly brought to bear, and only thoroughly trained competent manipulators employed. Again, it is also essential that an accurate diagnosis of the case should be previously made. I am perfectly confident myself that whenever there is any inflammatory action going on, no matter how insidious it may be, such exercises can only be productive of harm to the patient.

In those cases in which degenerative processes of the heart muscle are present, as when there is reason to believe that thrombosis of the coronary arteries exists, the greatest care and circumspection should be had in order to avoid positive injury. It is desirable, however, that close study and observation of Schott's treatment particularly (as it seems one better adapted to a large number of cases of heart failure) be instituted among us, that we may be able to give the benefit of it in its most important features to very many sufferers who are wholly unable for major reasons to go to Bad Nauheim. Be it here said that Schott himself—all to his honor—has wisely insisted that there was nothing so special in his treatment that it could not be carried out wisely elsewhere. While we should be prepared, in view of excellent clinical reports from prominent physicians, to accept the benefits of the Schott treatment for certain well-defined cases, we should not yet be willing to adopt it, as apparently some are inclined to do, as the ordinary treatment of chronic cardiac disease. Whenever there is marked degeneration of the vascular supply of the heart or of the myocardium, we should interdict this treatment as possibly leading to disastrous results, in extreme conditions even to heart rupture itself.

Chronic interstitial nephritis, however, does not apparently contraindicate its careful employment. The presence of an aneurism, on the other hand, undoubtedly would. We have learned obviously from the favorable reports of this treatment that have come to us that there are numerous cases in which there may be much benefit derived from properly resisted movements and the diversion of a large amount of blood into the capillaries of the skin at a time when ordinary active exercise should still be interdicted. An overloaded, hyperdistended, unduly engorged right ventricle may thus be perhaps relieved of intraventricular pressure when blood letting would be the only other alternative. This treatment, as has been said (Lauder Brunton), seems to occupy a somewhat intermediate position between massage treatment and that of Oertel in climbing mountains. To sum up, I should be disposed to accept as a proper guide for medical men at present the hope expressed by G. Herschell, of London, that they will "pause before they introduce into their routine practice a method of treatment the effects of which are so little known, and the indications for which are so little understood."

The question of proper diet for cases of cardiac disease is an important and difficult one to solve at times. Whenever cardiac insufficiency begins to show itself, the veins of the stomach are more or less engorged and the gastric fluids act less efficiently, no doubt from changes produced in their quantity and composition. The result is that nausea frequently and occasionally vomiting result from the use of different alimentary substances. As a consequence we have to contend against an extreme distaste for food. Under these circumstances it is indicated to allow those things which are nutritious and yet most readily assimilated. Among these we would especially recommend predigested beef, or beef and bread; peptonized milk, milk with Vichy or lime water; kumyss, matzoon, egg albumen with water, whey, light broths of different kinds, meat jellies, curds, beef juice. The quantities of any one of these liquid or semisolid foods given at a single meal should be small, but frequently repeated. Gradually, as the quantity of food is increased with each meal, the intervals between repasts may judiciously be lengthened. Later on as the patient im-

proves, a different dietary should be provided, and here we must use our knowledge of the patient's position, habits, and surroundings somewhat to control us. For the hospital patients, it is often wisdom not to limit them to light diet too closely, or to give them much either of farinaceous food or drink, such as tea or coffee.

Already the day laborer—whether we have to do with a man or woman—has lived much on bread and tea and small quantities of poor meat indifferently cooked. Provide them with food well prepared, underdone roasted or broiled beef, or mutton in suitable amounts, and limit the starches, while allowing them to drink freely of milk and less freely of water, and it will often change their condition for the better. On the other hand, the cutting off of proteid substances in excess and the strict limitation of fluids among a class of well-to-do patients are often strongly indicated.

In these instances it is that Oertel's system in part achieves excellent results at times. This is to limit the amount of fluids and lessen the amount and kind of food previously taken. In general terms, for the large class of cases in which the diet previously had been unobjectionable for a person in good health, and yet for a condition of chronic heart disease with lack of compensation should be controlled, we would say: give, after the acute stage or serious symptoms have passed, moderately of fish, eggs, fowl, and broiled and roasted meat. The latter—beef or mutton, partly cooked on a broiler and then scraped with a not too sharp knife—will be found digestible and invigorating: salt and pepper may be added in small quantities.

According to Oertel, corroborated in great degree by Andrew Clarke, the quantity of liquid allowed in twenty-four hours, including what is taken with the solid food, should not exceed thirty-six ounces. If habit be enforced in this direction, not only will obesity diminish, but the blood will become smaller in quantity and denser. With the diminution of the volume of blood and its change in density, the heart is relieved from internal pressure which had interfered with the action, and hence the pulse becomes soon more regular and fuller. What is true in regard to the change in quantity and quality of blood as proving beneficial to the patient is also true about the diminution of corpulence. Manifestly, if this general condition is present, it will be found as a rule that there is fatty overgrowth of the heart, and likewise, with the progress of the case, partial degeneration of the cardiac muscular fibres, owing to the deposit of fat in their structure in larger or smaller degree. Now, then, this condition manifestly interferes greatly with cardiac power. Diminish the fluids allowed and fat will decrease, and hence the patient's circulation will little by little acquire vigor and tone. Again, fluid given in large quantity, either at mealtime or else very soon after it, is bad, because it dilutes the gastric fluid and hence interferes notably with stomachal digestion.

Flatulence and dyspepsia are both occasioned by indulgence in some kinds of starchy food; therefore, potatoes, fresh bread, and many cereals should be prohibited. Dry toast, some form of very light cracker, occasionally rice in different forms, prepared foods, ordinarily called baby's food, of well-recognized utility, are not objectionable at times, but, on the contrary, should be allowed. In regard to alcoholic stimulants we would say, in the first place, that in treating urgent acute disturbances they are most valuable. At times cardiac distress, palpitations, dyspnœa—and even precordial pain—are more quickly relieved with a hot toddy than in almost any other way. But when it comes to their habitual use, then opinions differ. I am quite convinced that in the majority of cases wines at meals are undesirable; and yet there are some persons so accustomed to their glass of sherry or claret at lunch and dinner that in not allowing them I believe I am doing positive injury. As a rule, however, small quantities of whiskey or old brandy, preferably the former at meals, and at bedtime added to milk or egg beaten up, or following broth or beef tea in a little water, promote digestion or quiet repose at night. Among people of middle life, and especially among those of advanced years, I cannot insist too strongly on the importance of my statement.

Whenever the alcoholic stimulants produce temporary or more durable flushing of the face, headache, or stomachal distress, the quantity should be diminished notably, but their use should not be wholly abandoned. It is remarkable to notice the small amounts of whiskey, brandy, or even wine which will at times distinctly ameliorate a condition of cardiac failure. While insisting upon the intelligent moderate use of alcohol in the treatment of certain cases of chronic cardiac disease, I should throw out a warning note against any excessive use of it, or any form of it which interferes with stomachal digestion. As an article of diet, alcohol in small quantity, three or four times daily, and in a more or less continuous manner, acts favorably many times: taken in excess, as a routine matter, it becomes a notable depressant of the general system, and promotes those inflammatory or degenerative changes in vessels and cardiac muscle which we have greatest reason to fear.

Combined with the catarrh of the stomach, in many of our old cardiac cases there are often deficient absorption from the intestinal canal and pronounced costiveness. With these symptoms we readily discover passive congestion of the liver, with or without slight tenderness on pressure, and a decided subicteric hue of the conjunctivæ. Aperients of different nature, counter-irritation over the liver, more or less severe in form, moderate doses of mineral acids internally, are all useful in helping to relieve the engorged portal circulation and bile ducts. But what, to my mind, is a great improvement to-day in our manner of treating these symptoms is the return to a judicious use of mercurials. Calomel in fractional doses (one-tenth or one-twentieth of a grain every hour) with a little bicarbonate of sodium until the bowels have moved, and repeated after a few days, is frequently most valuable in increasing the bulk of the urine and promoting the regularity and force of the pulse. Of course the gums should be watched to prevent possible salivation, and I cannot insist too strongly on the great care that should be exercised in stopping the use of calomel in these cases whenever the gums become at all tender on pressure or the incisor teeth unduly sensitive.

I have had a most distressing and painful stomatitis occur when I had not been sufficiently careful to consider the probability of its development. What is true of calomel in respect of its utility is also but in a less degree true of bichloride of mercury. In small repeated doses the bichloride has been advised, either alone or combined with the tincture of the chloride of iron. I have not used this combination sufficiently to form a perfect judgment in regard to it; still, from what I do know, I consider it inferior to calomel as a diuretic and cardiac restorative in acute distress. Personal experience now of a prolonged period and in very many cases of all kinds makes me very emphatic when it is a question of blue mass in the treatment of these cases of slight or advanced cardiac failure. In corpulent men or women, of advanced or middle life, it acts like a charm at times. You may have tried all the cardiac tonics in suitable doses for many days with very moderate or practically no result. You may have given the ordinary saline aperients until you are of the opinion that the bowels are thoroughly and efficiently evacuated, without good results, and yet

afterward I have known a few doses of blue mass, either at bedtime or several times during the day, make the patient feel like a new person. The color improved; the strength braced up; the urine increased in volume; the pulse was stronger; the heart action more regular; the breathing was less oppressed —every symptom, in short, rapidly grew better. It is certain that one has not so much to dread salivation from blue mass as from calomel, which is a great advantage; and, on the other hand, I have found it quite as satisfactory, indeed more so, than calomel in the relief of all cardiac symptoms of a distressing kind for which I first prescribed. After a few doses of mass hydrarg., either two or there grains morning and evening, or five grains at bedtime for three or four successive nights, followed or not by Rochelle salts and Vichy in the morning, I have been able time and again to make effective use of my cardiac tonics when previously, as I have said, they had been relatively of little use. Not only is the mercurial of service in instances of corpulent people with cardiac insufficiency, allied or not with a very appreciable degree of cardiac dilatation, but it is also very useful at times in men of spare habit and nervous constitution, between forty-five and sixty years of age, when general arterial fibrosis is more or less clearly defined. These cases are often affected with symptoms of a gouty kidney (interstitial nephritis), with a certain degree of hypertrophous dilatation of the heart, and slightly corded temporal or radial arteries. Sometimes high tension is clearly made out; again, the tension seems to be of the spurious sort, and not infrequently, when the heart action is decidedly weakened and when there are dizzy turns with pains in the head, feelings of numbness and formication in the upper and lower limbs, itchy sensations, slight evidence of cutaneous eczema, and a general nervousness, restlessness, and irritability, the pulse is weak, depressible, and slightly irregular, or even intermittent. Even in these cases I give mercurials repeatedly, with the happiest result, and cannot emphasize too forcibly my firm belief in their utility. Sometimes the acid taste in the mouth, the concentrated urine with a considerable amount of urates or uric acid contained in it, appear to call primarily for the alkalies in moderate doses; and yet I have found as a matter of experience that frequent small doses of nux vomica during the day, blue mass at night, and rest and a regulated diet do much better, and bring about a change which alkaline treatment was quite unable to accomplish.

I cannot but mention here also with much emphasis that the condition of the urine in these cases often varies greatly and is often deceptive as regards the condition of the patient. I have seen such cases when the urine passed had a low specific gravity, contained a very small amount of albumin and a moderate number of granular and hyaline casts; I have known these patients to have urine of wholly different character, viz., high specific gravity, no casts, no albumin, increased amount of uric acid, bulk about normal. In either instance the mercurial has been of service in relieving distressing symptoms. In the first class of cases I am of the opinion that the arterial spasm was indirectly broken up by its use. In the second class, I believe the hepatic engorgement was especially relieved by its action. Not infrequently in cases in which the pulse has been unduly hard and tense, and called apparently for the use of nitroglycerin, I have found that after giving nitroglycerin for a while in increasing doses, and without getting all the good effects I desired, the employment of blue mass in the way indicated by me was distinctly advantageous. Perhaps its use was not immediately apparent, but if persisted in for a few days its beneficial results were obvious, and once shown they were more lasting than those caused by the use of nitroglycerin. With the latter drug we must confess frequently that while we obtain the most brilliant and satisfactory effects by its use, and while we continne to employ it, just so soon as we give it up the heart relapses speedly into its old weakness, hypertension in the arteries recurs, albumin is again found in notable quantity in the urine, and precordial anxiety or distress *sine dolore* comes back. This is not true with the use of the mercurials as a rule. When decided benefit is derived from their use, this gratifying result is more lasting, and the patient is able, perhaps, to get about and do for himself for quite a little while without experiencing a number of annoying or painful symptoms, which also occasion more or less incapacity. Sometimes in these cases, especially when there has been notable œdema of the lower extremities, or indeed effused fluid in the thorax or abdomen, just in proportion as these dropsical signs disappear under the use of the mercurial, the blood pressure in the arteries increases. This increased tension must be regarded, of course, under these circumstances, as a proof of the good results produced and certainly does not in my judgment indicate the use of nitroglycerin, but rather that of strychnine or small doses of digitalis, employed with great care and constant watchfulness.

The fact of arterial hypotension or hypertension has been at times a somewhat troublesome thing to determine accurately. Of course, in many instances, by tactile appreciation and with expert use of the sphygmograph we can unquestionably determine its presence. Moreover, in almost all cases we can obtain corroborative evidence of hypertension in the arteries by listening carefully to the aortic sound of the heart. Whenever there is hyperarterial tension there is accentuated or augmented aortic sound as heard by the ear in auscultation. Of course we must avoid misinterpretation at times and considering the spurious kind as being evidence of true arterial tension. Ewart, as already stated, has directed attention to this source of error, and at the same time has given us certain rules for our guidance in order to detect and avoid it. After all, however, there are some cases in which these different means of exploration leave us in much doubt as to the presence or absence of hypertension in the arteries, and certainly we cannot thus have any exact measure of slight amounts in excess or differences of tension.

Now, in physiological experiments for a long while past, different more or less complicated instruments have been used in order to measure arterial tension in animals. In man, for purposes of clinical research, several of these instruments have been tried, but by reason either of the difficulty of making use of them or because their report, so to speak, was not thoroughly satisfactory, their use has usually been abandoned. There is one, however, viz., the sphygmomanometer of Potain, of Paris, which seems to me to have considerable practical value, and which I would recommend for clinical use in hospital wards. While Potain's instrument is open to objections, somewhat in the same manner by analogy that certain hæmoglobinometers are, yet on the whole it has its value and is a quite satisfactory addition to our medical armamentarium.

Having recognized hypertension in the arteries, how should we combat it? Should arterial hypertension invariably be treated? Under what circumstances may we properly ignore it, in the sense of not treating it actively, but rather of considering its presence of good augury? It seems to me that the somewhat prevalent idea among practitioners of medicine, that we should invariably endeavor to diminish by medication exaggerated arterial tension whenever present in chronic cardiac disease, is a regrettable mistake of judgment. With more careful consideration

of the pathological conditions involved, I am confident this erroneous belief will diminish or disappear. In many cases the hypertension of the visible arteries like the radials or temporals is merely indicative of a permanent change which is present in them and also in the peripheral arteries elsewhere—and particularly the kidneys. Now, then, to try by means of drugs to change notably this condition in a permanent manner is quite futile, and may be positively injurious to the patient. If the heart be doing its duty fairly well, if there be no threatening or unpleasant symptoms apparent, why interfere or attempt to control its action merely because the pulse is hypertense as compared with the normal? A certain degree of hypertension is desirable in general arterial fibrosis, and why? Simply because it indicates that the heart is still able to do its necessary work efficiently. Diminish this tension somewhat and you lessen, doubtless, the peripheral resistance to the heart's action by arterial dilatation. And yet so far as the wellbeing of the patient is concerned, it remains apparently the same. There were no unpleasant symptoms, it may be, prior to the moderate use of nitroglycerin; there are no unpleasant symptoms after its moderate use. On the other hand, if there be notable dyspnœa, or palpitations, or headache, or nausea, or repeated vomiting, accompanying even slight hypertension of the radial pulse, nitroglycerin is frequently most useful, given in small or moderate or large doses more or less frequently repeated. In many such cases we have truly wonderful results from this remarkable drug. These results may be but temporary, and as soon as the sufficient dose is diminished or interrupted the distressing or dangerous symptoms of cardiac insufficiency rapidly return. Judiciously managed, the drug is capable, as we all know, of yielding lasting benefit.

It may be by allowing the heart for a while to cope successfully with the obstacle in front of it, through dilatation of the peripheral arteries and until with other means we restore in a measure its strength and dynamic power. It may be also that of itself it acts as a real cardiac stimulant or tonic.[1] With regard to this, opinions are divided. For my part, I believe nitroglycerin acts at times in both directions: first, as a cardiac stimulant; second, as a vascular dilator.

The Pathology and Treatment of Chilblains.—Wright (*Lancet*, January 30, 1897, p. 303) has undertaken to show that chilblains are dependent upon a condition of defective blood coagulability and that relief can be afforded by improving the state of the blood. A study of the blood in ten cases of chilblains showed that coagulation resulted in from four and one-half to thirteen minutes, while in healthy persons such a result took place in three or four minutes. This fact is related to the following other facts: the superior liability of children to chilblains; the proneness of chilblains to occur in persons who give a history of either nose bleed or urticaria; the occurrence of chilbains in persons characterized by a lymphatic habit of body; and the not infrequent occurrence of chilblains in persons who are subjects of the malarial cachexia and in hæmophilic families. On the basis of these facts the obvious indication is to augment the coagulability of the blood. This may be effectually accomplished by the administration two or three times a day of from ten to twenty grains of crystalline calcium chloride, or half that amount of the desiccated chloride, twice or thrice daily, together with the avoidance of sour fruits, alcohol, and excessive quantities of fluid. Complete cure was brought about as soon as sufficient augmentation of coagulability had been achieved.

[1] Thompson: MEDICAL RECORD, March 13, 1897, p. 360.

OPERATIVE SURGERY AT THE CITY HOSPITAL, WITH A COMPLETED REPORT ON THE STUDY OF WOUND INFECTION.

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ONE year ago the writer of the clinical portion of this report presented a paper entitled "Operative Surgery at the City Hospital, with a Preliminary Report on the Study of Wound Infection," to the Harvard Medical Society of this city. This communication consisted, first, in an analysis of the 152 operated cases, occurring during his service of six months in the year 1895; and second, in a more or less complete report of a systematic series of experiments, undertaken with a view to improving the surgical techniques of the hospital. It is the object of this paper to make a very brief report of the operative work done in a service of five months in 1896, and to give the results of further study upon the subject of wound infection, including a complete bacteriological investigation.

The number of cases operated upon during the period covered by this report was 109. Of the operations, 9 were upon the head, 11 upon the neck, 7 upon the thorax, 8 upon the abdomen, 20 in the ischio-rectal region, 8 in the inguinal region, 10 upon the upper and 34 upon the lower extremity. The 9 operations upon the head were: 1 excision of the superior maxilla for sarcoma; 2 osteo-plastic resections of the skull, 1 for abscess of the brain and 1 for epilepsy; 2 cysts of the scalp; 3 cases of necrosis of the lower jaw; and 1 epithelioma of the nose. Of the 11 operations upon the neck, 7 were for cellulitis or abscess, 3 for tuberculous glands, and 1 for ligation of the external carotid artery. Upon the thorax there were 2 cases of resection of the rib for empyema, 1 partial resection of the clavicle for deformity following fracture, 3 operations for cellulitis or abscess, and 1 for caries of the spine. Of the 8 operations upon the abdomen, 7 were laparotomies, 4 for appendicitis, 1 exploratory operation for carcinoma of the colon, 1 inguinal colostomy for carcinoma of the rectum, 1 for large ventral hernia, and 1 for extensive left retroperitoneal abscess. In the ischio-rectal region there were 8 cases of fistula, 4 of abscess, 8 of hemorrhoids. In the inguinal region there were 1 case of varicocele, 1 of strangulated femoral hernia, 1 Halsted and 7 Bassini operations for the radical cure of inguinal rupture. Of the operations upon the upper extremity, 2 were for cellulitis and abscess, 3 for necrosis, 1 excision of a tuberculous wrist, 1 for compound fracture of the humerus, 1 for carbuncle of the hand, 1 for extraction of a foreign body in the hand, and 1 for exploration of the elbow. Upon the lower extremity there were 6 operations for cellulitis and abscess, 9 for varicose veins, 2 excisions for tuberculous arthritis of the knee, 1 amputation of the thigh, 1 amputation of the knee, 2 cases of hallux valgus, 1 glandular tumor of the groin, 2 cases of necrosis of the metatarsus, 1 necrosis of the femur, 1 necrosis of the tibia, 2 Thiersch grafts for ulcer of the leg, 1 extensive exploratory operation for gunshot wound in the pelvis, 1 for non-union of the leg, 1 for talipes equinus, 1 exploratory operation on the knee, and 1 for a tuberculous hip.

Of the 109 patients operated upon, 87 were discharged cured, 5 improved, 6 not improved, 9 died, and 2 are convalescent, but still in the hospital. Of the 9 deaths which occurred in the cases operated upon, only 1 can be fairly attributed to operation, and that was in a

case of osteoplastic resection of the skull for epilepsy, which will be more fully considered in the second portion of this paper. In 1 other case death was possibly hastened by operation. The case was a tuberculous one, and the operation consisted simply in opening and draining a small pocket of pus in the neck. Of the remaining 7, 2 died of acute lobar pneumonia, 1 of septic leptomeningitis, 1 of tetanus and septicæmia, 1 of acute miliary tuberculosis, and 1 of gangrene of the lung, all of these conditions existing before operative measures were undertaken, although in one instance the existence of a pneumonia had undoubtedly been overlooked.

Study of Wound Infection.—In the first report, published one year ago, to which reference has already been made, it was stated that during the month of May, 1895, when the writer first went on duty at the hospital, forty-three patients were subjected to operative treatment. Of these, six were presumably in an aseptic condition at the time of operation, and the wounds should have healed by primary union. The records, however, show that in every instance suppuration occurred, and although in a few cases, which were infected at the time of operation, asepsis was established and the resulting wounds were absolutely free from pus, the showing, as regards our techniques, was extremely bad. The following is the plan adopted during this period. The patient was brought to the operating-table, and the region to be operated upon was scrubbed for three or four minutes with green soap and hot water, a sterilized brush being used. The skin was then douched with ether, and finally with a solution of bichloride of mercury (1 to 2,000). The patient was covered with dry sterilized towels. The dressings, gowns, sheets, etc., were sterilized for one hour in the Arnold sterilizer. The instruments were boiled in a one-per-cent. solution of sodium carbonate, and then placed in a 1 to 40 carbolic solution. The ligature and suture material was treated by immersion for half an hour in a 1 to 20 carbolic solution, and then boiled for one hour in a 1 to 80 carbolic solution. The operator and all assistants were clothed in sterilized gowns, and their hands prepared by scrubbing with soap and water for three or four minutes and then immersing them in a 1 to 2,000 bichloride solution for about two minutes. Irrigation was with a sterilized normal salt solution. As soon as it became evident that our results were imperfect, a systematic attempt was made to improve our techniques. The problem was a difficult one, for many reasons. In the first place, it was found upon investigation that over eighty per cent. of the patients admitted to our wards were in a wretched condition of malnutrition from syphilis, tuberculosis, chronic alcoholism, or insufficient food. In the second place, by the system of rotation in the hospital, our entire house staff was changed every six weeks. Our operating-room was small, badly ventilated, and wholly unprovided with running water or any of the ordinary modern appliances. The sterilizing apparatus was of the crudest form, and the methods of preparing the ligature and suture material were conspicuously faulty. The first improvement introduced was in the method of preparing the hands; and then followed experiments with a view to perfecting the sterilization of the patient's skin; after this, numerous changes in the methods of sterilizing the dressings, sponges, silk, catgut, etc. Accidental contamination of the hands, instruments, and dressings received careful attention. Accompanying these changes, a progressive improvement in our results was noted, but we were never able to reduce the number of infections occurring in clean cases below thirty-three per cent., until, as a last resort, the plan of operating without assistants was introduced. The results were strikingly satisfactory, only two small stitch infections occurring in the ten clean cases operated upon during the last month. The infection of clean cases was, therefore, in six months, reduced from one hundred per cent. to twenty per cent. The report closed with the statement that it was the writer's intention to continue these experiments, and, if necessary, to inaugurate a series of bacteriological investigations, with a view to locating and removing any sources of infection which had, up to this time, escaped observation; after which it might be possible to gather some data which would help to solve the question of how much (if any) unavoidable suppuration might be expected in this class of cases.

As the result of the work which was done during the year 1895 at the hospital and our improved results, a very general interest was manifested on the part of the house staff and nurses toward further improvement. At the same time, an effort was being made by the visiting staff to get new and modern operating-rooms. This effort was ably seconded by our superintendent, and, as a result, the Commissioners of Charities provided us with two new operating-rooms, fully equipped with the best and most modern appliances. A well-trained operating-room nurse was appointed, and she, with her assistants, assumed full charge of the preparation of all dressings, ligature and suture material, the care of all instruments and operating-room furniture.

During the writer's spring service of two months at the hospital, no case of infection occurred in a patient whose wound area was aseptic at the time of operation. This period of immunity from infection also extended well into the autumn service until toward the close of the third month, when one small stitch abscess occurred. A rigid investigation was instituted to account for this unexpected break in our hitherto perfectly clean record. All of those present at the operation were rigidly questioned, and it was learned that the senior assistant, who handled the instruments and suture material, developed, twenty-four hours after the operation, a well-marked paronychia, which disabled him for several weeks; and it was thought that the suture was contaminated by his finger, which was undoubtedly infected at the time of operation. Our methods at this time may be best determined by reading the following rules, which were printed and conspicuously posted in the operating-room and all the surgical wards of the hospital, and followed to the letter during the writer's service:

"Preparation of patient: When possible, a hot bath shall be given the day before the operation, followed by shaving and scrubbing the part for two minutes; soap poultice over night. The following morning, rescrubbing for ten minutes, after which a wet bichloride gauze dressing shall be applied (1 to 1,000); this to be done only by the head nurse in the ward, after thorough sterilization of the hands.

"On the operating-table, the dressings shall be removed and the part washed by the house surgeon for one minute with soap and sterilized water, a pledget of sterilized cotton being used instead of a brush; then douched with ether, alcohol, and a sterilized salt solution.

"Sterilized dry towels to be used around wound area.

"The operator, his assistants, and the operating-room nurse shall wear freshly sterilized gowns. Gauze caps shall be worn in every aseptic case by those in immediate contact with the wound area.

"The hands of the operator, his assistants, and the operating-room nurse shall be prepared in the following manner:

"After cleaning the nails with soap, water, and a sterilized nail cleaner, the hands must be scrubbed for

five minutes, with frequent changes of hot water, a sterilized brush being used; then scrubbed for one minute in absolute alcohol, then immersed for three minutes in a 1 to 1,000 solution of bichloride of mercury.

"Or, after scrubbing with soap and hot water for five minutes, immersion in a saturated solution of permanganate of potassium for at least one minute, in a saturated solution of oxalic acid until the stain of the permanganate is removed, and finally in a 1 to 1,000 bichloride solution for three minutes.

"The ligature and suture material shall be removed from the bottles and handled only by the senior assistant surgeon; dressings and sponges only by the operating-room nurse.

"The head nurse of the ward shall superintend the moving of the patient, the adjustment of the blankets and other unsterilized coverings, assist the etherizer, and be prepared when necessary to assist or take the place of the operating room nurse.

"No departure from these rules will be allowed without the permission of the house surgeon."

One week after this first mishap, the second and only serious case of infection occurred. The patient was referred to the writer by Dr. E. L. Fisher, of the neurological department of the hospital, for an exploratory operation for epilepsy. The skull was opened by means of a large omega-shaped bone flap, and a small area of chronic leptomeningitis found, which had resulted in a firm adhesion between the dura and pia over the motor area. This adhesion was separated, and a small piece of gold foil introduced. The temperature remained at or near the normal line for five days, when a sudden rise occurred, following a fall out of bed. Pressure symptoms soon developed, and upon opening the wound, which had apparently united perfectly, a teaspoonful of thin pus escaped. The patient subsequently died, evidently from a septic meningitis, although no autopsy could be obtained. This unfortunate result, following so closely upon the other, led to a more than ordinarily careful inquiry. The house staff and operating-room nurse were called together, and each one questioned in regard to every step of the operation and the sterilization of the material used, without eliciting any fact which would account for the infection. The writer then determined to have a thorough bacteriological examination made of our material and methods, and through the courtesy of Dr. Cheesman, of the bacteriological laboratory of the College of Physicians and Surgeons, was enabled to obtain the services of the associate author of this report, who was asked to come to the hospital as frequently as necessary, to make a thorough study of our methods, and to suggest any changes in our technique which would insure more ample protection against wound infection.

Bacteriological Report.—The writer of the clinical portion of this report has detailed the various methods of hand disinfection and general technique employed during his service, before the institution of the bacteriological investigations, and it alone remains for the writer of this portion of the paper to give, in some detail, the results of these investigations and the modification in technique resulting therefrom.

The section of the hospital allotted to operative surgery is divided into two operating-rooms, by wooden partitions which extend only half way to the ceiling. Between these partitions runs a public passageway, opening at either end into a hall. The doors of this passage are seldom closed, which allows draughts of air, which may carry in dust and infected lint from the wards opening on to the general halls, and thus contaminate the air of the operating-rooms. The walls and ceiling of the operating-rooms are smoothly painted, the floor is new and of hard wood, the operating furniture is all of metal and glass, the plumbing and fittings are new, all admitting of thorough disinfection. The walls and ceilings are washed down with 1 to 1,000 bichloride regularly, thrice a week; the floors, table, and other furniture, after each operation. To test in some wise the purity of the air, gelatin plates were exposed in several parts of the room during an operation. The plate exposed on a table near the hall partition showed, from a fifteen-minute exposure, 24 colonies of bacteria and 8 moulds. A plate placed on the instrument table gave, for the same exposure, 20 colonies of bacteria and 6 moulds. Another plate, exposed for fifteen minutes near a slightly open window, gave 16 colonies and 5 moulds. To compare these, plates were exposed for five minutes in male ward 7 and female ward 10. These showed, for ward 7, an average of 57 colonies of bacteria and 14 moulds; and for ward 10, an average of 12 colonies of bacteria and 2 moulds.

The air of the operating-room, although comparatively free from germs, is thus shown to be a very possible source of infection and contamination, not so much probably to the comparatively small wound area, as to the large surfaces exposed to it by the instrument and suture trays and dishes, in which the previously sterilized water may be left unprotected or unchanged for varying lengths of time, or even during a long operation. To protect these in some degree, at first the use of a sterilized towel was suggested, to cover them when not in use; and later, a raised covered frame with flaps was devised for the purpose, thus obviating as much as possible any air contamination.

Attention was also called to the possible source of infection from the use of wide-neck agate-ware pitchers, for carrying the normal salt solution and sterilized water to the operating-table. The lips of the pitcher often came into contact with the clothing of the extra nurses and orderlies, who were not in sterilized gowns. The only change at present adopted in this technique is that a sterilized towel is kept over the pitcher when being carried to and from the operating-table.

The method of hand disinfection in use at the time of the first investigation has already been described. To test its efficacy, numerous scrapings were taken from around and under the nails and from between the fingers of those participating in the operation, and transferred to bouillon tubes. Within twenty-four hours after being placed in the incubator, at 37° C., two of the tubes showed growth—one from the nail scrapings of the operating surgeon and one from those of the house surgeon. Within forty-eight hours another tube inoculated with the nail scrapings developed a growth, the delay in development being probably due to the inhibitory action of the bichloride. This disinfectant, as is now believed, forms an albuminate with the organisms or becomes attached to them in sufficient quantity to delay or inhibit their development when transferred to a nutrient medium; hence, it is customary to treat them with a solution of ammonium sulphide, to neutralize this action, before disinfection can be positively said to be complete, growth often occurring after such treatment when none is shown in the control tubes. In these experiments this was not done, the growths occurring without this treatment.

The second series of cultures was taken in the same manner as the first, after the preparation of the hands with potassium permanganate and oxalic acid and subsequent immersion in a bichloride solution. This time the hands were treated with a solution of ammonium sulphide. Cultures were taken both before and after this treatment, and with the following results: The scrapings from between the fingers of the hand of the attending surgeon, which had been treated with ammonium sulphide, showed a growth. The nail scrapings from the fingers of the house surgeon, who

operated, showed growth within twenty-four hours, both with and without the ammonium-sulphide treatment. The scrapings from the nails of the operating-room nurse gave a growth after ammonium-sulphide treatment in twenty-four hours; and from a scraping taken before this treatment, in seventy-two hours.

As these disinfection methods gave rather unsatisfactory results, it was decided to try the simple method recommended by Fürbringer. In this, all dirt is removed from around and beneath the nails with an orange-wood stick, and the nails and hands are then thoroughly brushed with soap and hot water for five minutes, then thoroughly washed and brushed in eighty-per-cent. alcohol for two minutes, and then soaked in a three-per-cent. carbolic solution for one minute. The results obtained were more satisfactory than those given by the two previous methods. Growth was obtained from the hand of but one person. Since this experiment this method has been regularly used, and the results seem fully to justify its continuance.

At the time of the experiments in hand disinfection, clippings from the dressings, gauze, sponges, towels, sheets, gowns, caps, catgut, silk, silkworm gut, etc., were taken and transferred to bouillon tubes; also scrapings from the wound area of the patient. The various catguts, silkworm guts, in use, the towels, sponges, gowns, caps, etc., gave uniformly no growth in the several experiments. The tubes inoculated with the scrapings of the wound area of the patient remained sterile. A needle from one of the open trays, in use during the operation, gave a growth in bouillon. Growth was also obtained from one piece of gauze dressing taken from the central layer in the sterilizing box; pieces from the outside layer gave no growth.

The method of sterilizing the gauze dressings, gowns, towels, sponges, etc., in use at this time, was to expose them to ten pounds' pressure in the Sprague steam sterilizer, manufactured by Richard Kny & Co., for one-half hour on three consecutive days. This procedure seemed faulty, as it implied a fractional sterilization, which could be of little or no value, as no nutrient medium and little moisture are present in which resistant spores may develop into vulnerable vegetation forms, and thus be killed at the subsequent exposure to high temperature. Sterilization for one hour on one day only was recommended, and in subsequent experiments no growth was obtained.

To test the autoclaves, it was deemed advisable to carry on a series of experiments, using well-known organisms, to determine more accurately the time of exposure to ten pounds' pressure necessary for purposes of ordinary sterilization. Staphylococcus pyogenes aureus was chosen to represent the pyogenic organisms, and bacillus subtilis the resistant spore formers. The staphylococcus is usually destroyed by ten minutes' exposure to a temperature of from 56° to 58° C., while the subtilis spores are very resistant to high temperatures. It has been the custom, in using the autoclaves, to run the pressure up to ten pounds immediately, not allowing the contained air to be heated and driven off through the petcock and the steam to stream through until the temperature reached 100° C. When this is not done, the temperature and pressure do not run up together; the requisite ten pounds' pressure may be indicated, while the thermometer may not register the corresponding 115.6° C. for some time; while, on the other hand, if the steam is allowed to stream through for a few minutes and the petcock then closed, the pressure and temperature run up together.

The following experiments illustrate this. In these experiments tubes containing subtilis spore threads and tubes containing pieces of gauze soaked in a bouillon culture of staphylococcus pyogenes aureus were placed in the sterilizing-boxes—a tube of each in the centre of the box with gauze dressings surrounding, and a tube of each near the top of the box outside the dressings. Two sets of spore threads were used from different cultures of bacillus subtilis. One is indicated as *A* and the other as *B*. The threads were, immediately after the sterilization, transferred to gelatine plates, and the staphylococcus gauze to tubes of bouillon. In the first experiment the sterilizing-box containing the tubes was placed in the autoclave, the petcock closed immediately, and the pressure run up to ten pounds, the steam not being allowed to stream through. At the end of twenty minutes the pressure was reduced and the box removed. The plates gave the following results: Spore thread *A*, inside, growth in twenty-four hours; outside, growth in forty-eight hours. Spore thread *B*, inside, growth in thirty-six hours; outside, growth in forty-eight hours.

Culture *B* throughout seemed more susceptible to heat than *A*, and its growth was always delayed. In the next experiment, after turning on the steam the petcock was allowed to remain open for five minutes and the steam to stream through. The cock was then closed, and the pressure run up to ten pounds for fifteen minutes, with the following result: Spore thread *A*, inside, growth in forty-eight hours; outside, growth in sixty hours. Spore thread *B*, inside, growth in sixty hours; outside, no growth.

The delay shown in the appearance of all the growths around these threads when subjected to ten pounds' pressure for only fifteen instead of twenty minutes demonstrates the advisability of allowing the steam to stream through before running up the pressure. The next experiment allowed the steam to stream through for five minutes and the pressure to remain at ten pounds for twenty-five minutes. Growth was shown by only one thread, after ninety-six hours. In the last experiment the box was in the autoclave one hour. For five minutes of this time the steam was allowed to stream through, and for the remainder the pressure was at ten pounds. None of these threads showed growth. All of the tubes containing the infected staphylococcus gauze were placed in the incubator at 37° C., but none of them developed a growth.

As the result, therefore, of our bacteriological investigation, three sources of infection were found to be possible in the technique hitherto employed. These were: first, from the dressings; second, from the hands of the operator and his assistants; and third, from the air. To remedy the first, one hour of continuous sterilization with live steam, under ten pounds' pressure, was adopted. To remedy the second, the Fürbringer method of preparing the hands was employed (which gave us the nearest approach to perfect sterilization), and, in addition, all assistants wore rubber gloves, which had been rendered sterile by boiling for five minutes in a one-per-cent. solution of sodium carbonate, and subsequently kept sealed in jars of bichloride. To remedy the third, no adequate means could be devised, although we adopted the plan of keeping our instrument trays and solutions under tents of sterilized muslin supported on wire frames.

During these experiments and for the remaining six weeks of the service, only two other cases occurred which gave the slightest evidence of suppuration, and these were two small areas of infection which surrounded a single cutaneous stitch which had been left for fourteen days in the tissues under the first dressing. In both instances the temperature had been normal, and neither patient had complained of discomfort.

In conclusion, it may be said that, although the results of our operative work during the year 1896 were by no means perfect, yet they show a marked improvement over those of 1895, as will be seen from the summary of general results given below:

Of the 109 patients operated upon, 64 were infected at the time of operation, 43 were clean, in 2 no inci-

sion was made. Of the infected cases, in 17 an attempt was made to establish asepsis and bring about healing by first intention or granulation without suppuration, and in 13 instances, or seventy-six per cent., we were successful. In the 43 aseptic cases a serious infection occurred in but 1 instance. If, however, we include the 3 cases of single stitch infection, the whole number showing evidences of infection was 4, leaving 39, or ninety-one per cent., in which perfect asepsis was maintained.

I am aware that many surgeons may regard our methods as extreme and our techniques as unnecessarily exaggerated. But when one considers the wretched physical condition of the majority of the patients we are called upon to treat at the City Hospital, and the fact that such cases react, both locally and generally, to an amount of infection which would cause little or no disturbance in a vigorous or healthy individual, it is evident that, to obtain results which will compare favorably with those obtained in private practice or in hospitals where the more fortunate classes are treated, we must seek by every possible means to guard against the known sources of infection. In the writer's opinion, in a well-equipped hospital, with a well-trained staff, it is possible to exclude all sources of wound infection but three. These are the hands of the operator, the skin of the patient, and contamination through the air. As in our own experiments with sixteen cultures growth was obtained from the hand of but one individual when the Fürbringer method was employed, and as the chances of such a growth being due to a pyogenic organism are exremely remote, by employing this method and by the use of sterilized rubber gloves by all of the assistants the percentage of infection from this source must be extremely small. The frequent presence in the skin of the staphylococcus epidermidis albus, demonstrated by Welch, furnishes an occasional source of infection which it is wholly impossible to remove. Wound infection from this source is favored by rough handling of the parts, by undue tension of sutures, and by allowing them to remain too long in the tissues. To avoid contamination from the air in an operating-room situated as ours is at present, it is the opinion of the writers that the instrument trays and solutions should be as thoroughly protected as possible, and that the number of onlookers, in unsterilized apparel, should be reduced to the minimum.

Muscular Wryneck.—Dr. Kader (*Beiträge z. klin. Chir.*, vol. xvii., p. 207), having had an opportunity of studying thirty-four cases of wryneck, makes the following interesting report of his investigations. In twenty-one of these cases the sterno-mastoid muscle was removed and microscopically examined. 1. In muscular wryneck there exists an interstitial fibrous myositis of the sterno-mastoid muscle. 2. This myositis consists in excessive growth of the connective tissue of the muscle and degeneration of the muscular parenchyma, its place being taken by newly formed connective tissue, so that not only is the stroma thickened, but large patches are found which are partially or wholly connective tissue. 3. The myositis may affect the whole muscle or only a part of it. 4. The myositis has a chronic, progressive course, although its onset is marked by a more acute character. 5. The transformation of the newly formed granulation tissue into old cicatricial tissue produces the contraction atrophy and rigidity of the sterno-mastoid. 6. Other muscles besides the sterno-mastoid may be affected. If so, the same process takes place in them. 7. The alterations sometimes observed in the nerves are secondary to those of the muscles, and are to be looked upon as caused by the extension to the nerves of the inflammation going on in the muscle.

THE TECHNIQUE OF BLOOD STUDY AND EXPERIMENTS IN THE PHYSIOLOGICAL CHEMISTRY OF LEUCOCYTES—A STUDY IN CELL TISSUES AND THEIR SIGNIFICANCE IN TUBERCULOSIS.[1]

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Disease, like a living organism, develops from an invisible beginning. In other words, it develops from an invisible entity into a visible entity. It is generally believed that there is a latent stage in the development of all diseases. In many diseases this is known as the prodrome, which sooner or later develops into the active stage. Tuberculosis, in its development, is no exception to the general rule. In the so-called active stage of tuberculosis there are disintegration and wasting of tissues. Hence it is customary to date the beginning of the active stage from the first apparent evidence of disintegration. If we trace tuberculosis backward from the stage of visible disintegration, we shall sooner or later reach a period in its development in which the evidence of disintegration disappears from the patient. We thus pass from the visible into the invisible realm. It is our purpose now to investigate this invisible realm. The microscope reveals the fact that the disease in this so-called latent stage is in progress, though not apparent to the senses. That which is understood as the predisposition is now seen in the blood elements as a condition. In the active stage of the disease we were studying the patient; now we are studying his leucocytes. And I find that the law that brings about disintegration in the larger organism has already brought about the same process in the leucocytes at an earlier date. Hence I believe that I have shown that there is no latent stage of the disease. It is all active. Therefore I believe that which is termed the predisposition to disease is not latency. It is an invisible activity, which is either advancing, unconsciously to the patient, toward visible activity, or convalescing toward the normal state.

With this preliminary statement of the subject, I will proceed to give it more in detail. The material out of which I have formulated my deductions has been obtained from a study of more than one hundred cases. Hence, with nature's proof, I feel justified in claiming that in tuberculosis the condition of the individual can be ascertained from the appearance of the leucocytes of his blood.

The clinical study of disease in the larger animal organism has been reduced to a scientific technique. An important principle in the study of pathological conditions is based upon the fact that a change in the appearance of an organism is preceded by a change in its functions. Hence, to be able to distinguish disease from the appearance of tissues, it is necessary to become familiar with these tissues when their functions are normal. In other words, we must be familiar with normal histological conditions before we can distinguish pathological conditions. Therefore the technique of the clinical study of disease in the larger animal organism or in its gross tissues is followed out according to uniform methods. The temperature, pulse, and respiration reveal the degree of functional activity. Auscultation, percussion, and inspection reveal definite conditions of the organs. Chemistry determines the condition of the secretions and excretions. The family and personal histories help to reveal tendencies which may have been transmitted by

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the laws of heredity or acquired through the medium of uncongenial environment.

In a previous article,[1] I made the statement that the larger animal organism has a true prototype in the leucocytes of its own blood. Hence, since the condition of the larger organism can be ascertained through a careful and systematic technique, I therefore claim that the condition of the leucocytes can also be ascertained, if a proper technique is adopted.

A study of the blood requires an intimate acquaintance with cell tissues. And these are so delicate that the microscope and staining fluids must be brought into use before they can be distinguished. Hence, if disease can be recognized from the appearance of gross tissues, it should be equally true of cell tissues. Therefore, if an examination of the blood is made in any particular disease and repeated observations demonstrate that definite blood conditions are uniformly present, the condition of the cell tissues should be accepted as evidence of diagnostic value, equal with the physical signs observed when studying the larger organism.

Furthermore, the tissues of the larger organism are constructed of and replenished by leucocytes that undergo differentiation. Hence, if it is possible to ascertain the condition of the leucocytes before they become differentiated into tissue cells, it will reveal the predisposition of the larger animal organism before the actual condition exists, or at least before it can be recognized by the natural eye. On the other hand, before we can scientifically utilize the appearance of leucocytes in the diagnosis of disease, it must be demonstrated that these conditions and appearances uniformly exist in the cells, and that they bear a definite relation to the larger organism. This, therefore, necessitates a study of cell tissues, and before studying them it will be necessary to review

The Technique.—In the ordinary study of blood an exact technique is unimportant. But, if it is our purpose to detect the physiological or pathological conditions of leucocytes from the delicate and peculiar reaction of their tissues to stains, it is of the greatest importance to adopt a technique that is accurate and uniform. This technique, then, should be adhered to in every detail, if we expect to secure results that will admit of comparison. The technique which I have adopted is divided into the following steps: (*A*) Preparing the blood films: (*B*) fixing; (*C*) staining; (*D*) mounting; and (*E*) studying the mounted specimen.

(*A*) Preparation of films: This is by no means an unimportant factor. Unless it is properly performed, all subsequent work will be useless, and the specimen will lead to erroneous conclusions. In fact, a failure in any part of the work will render the specimen useless. The following points should be carefully observed: The cover glasses should be absolutely clean, dry, and polished. They should be handled with forceps to prevent moisture from collecting on the surface, which prevents the blood from properly spreading. Fine lint fibres often act in the same manner. The finger of the patient is then cleaned antiseptically and pricked with a sterilized needle. For this purpose Emmet's cervical needle, with triangular point, is quite satisfactory. The drop of blood should then be used immediately, and a fresh drop for each film. A cover glass held in forceps is touched to the apex of the drop of blood, the drop coming in contact with the centre of the glass. This is immediately placed upon another cover glass. If the cover glasses are clean, dry, and polished, the blood immediately begins to spread and continues uniformly in every direction. If the drop does not spread satisfactorily, it is evident that there were moisture, lint fibres, or foreign substance on one or both of the cover glasses. As soon as the spreading ceases, the cover glasses should be immediately separated by pulling them in parallel planes, in opposite directions. The blood spreads by capillary attraction, and in no case should pressure be used. Too much blood or not enough will give poor films. And when films are poorly prepared they should be destroyed immediately, and another trial should be made. An ideal film consists of a single layer of cells.

Artificial Injury to Cells. — Crushed corpuscles are often observed in the study of prepared specimens, and may result from two causes: (*a*) from a faulty technique; and (*b*) from a disintegration resulting from a feeble organization of the cell tissues. The first is the result of a post-mortem injury to the cell. The second is due to an ante-mortem disintegration, and always signifies a weak or diseased cell, endowed with feeble vitality. If the corpuscles are injured in the process of preparation, fragments and débris will always be seen uniformly extending from the injured cell, in the opposite direction from which the cover glass was separated from its companion. A practised eye readily distinguishes these varieties; and unless they can be so distinguished, erroneous opinions may be formed.

(*B*) Fixing: As a fixing solution, I use the following: Absolute alcohol and Squibb's ether, equal parts, to which I add five per cent. of distilled water. The uniform time for fixation is two minutes. I have observed that a freshly prepared fixing solution never gives results equally as good as an older solution. Fresh solutions have a tendency to crenate red corpuscles and to produce vacuolation in the hæmoglobin. I have also observed that the longer the solution is used, the better are the results. I can account for this improvement only on the ground that the solution is rendered less injurious to the red cells by evaporation, the ether evaporating more quickly than the alcohol or water. Hence, when a new fixing solution is prepared, I allow it to stand for a few hours exposed to the air before using it. It is also important to note that in films fixed immediately after being taken, the red cells are less liable to crenate and the structure of the cells is more perfectly preserved.

(*C*) Staining: Almost all animal tissues possess great affinity for stains. This is true of cell tissues as well as of the gross tissues of the animal organism.

Classification of Dyes.—There are two important classes into which dyes are divided: 1, according to their chemical reaction; 2, according to their behavior to tissues. The first is subdivided into (*a*) acid, (*b*) basic, and (*c*) neutral dyes. The second is subdivided into (*a*) substantive and (*b*) adjective dyes. Of the first class, the majority belong to the acid and basic groups. Neutral dyes are rare. Substantive dyes are absorbed by the tissue directly from the staining solution. Adjective dyes require the intervention of a mordant, which aids in staining the tissues by forming insoluble compounds with the coloring matter, or by serving as a medium on which the staining solution acts.

Classification of Tissues.—All tissues, animal and vegetable, may be classified according to their staining properties under four heads: (*a*) Oxyphile tissues react to acid stains; (*b*) basophile tissues react to basic stains; (*c*) amphophile tissues react neither to acid or to basic stains, or to both; (*d*) neutrophile tissues remain indifferent both to acid and to basic stains. A successful technique should enable us to recognize and to classify tissues according to these varieties. Hence, the staining characteristics of cell tissues are best revealed when we employ an acid and basic stain, or what is known as double staining. This may be accomplished by two distinct methods: By using the stains (*a*) in conjunction, or (*b*) in suc

[1] MEDICAL RECORD, September 5, 1896.

cession. By the first method both stains are combined in the same solution. The second method requires two distinct solutions, the one following the other. In many regards I find the latter more desirable as well as more expedient.

In making a choice of dyes, two points should be considered: (*a*) There should be a wide contrast in color; and (*b*) the stains should act quickly. In these respects eosin is the ideal acid dye. And methylene blue, making a beautiful contrast, is one of our most reliable and durable basic dyes. I have observed that staining first in a slightly acidulated eosin solution, and counterstaining in a methylene-blue solution rendered alkaline, not only bring out the granules of the cell body more distinctly, by giving them a brighter tint, but increase the contrast between the oxyphile and basophile tissues of the cell. My rule, therefore, is to use an acid stain in an acid bath, and a basic stain in an alkaline bath. Hence I use the two stains prepared according to the following formulæ:

No. 1.

Spirituous eosin (Grübler's)	0.25 gm.
Alcohol absolute (Squibb's)	35 cc.
Distilled water	15 cc.
Aqueous solution of acetic acid (glacial) one per cent	10 minims.

Mix and allow to stand in an open vessel until, by evaporation, the quantity is reduced to 35 cc.

No. 2.

Methylene blue (Grübler's)	0.30 gm.
Alcohol absolute (Squibb's)	15 cc.
Distilled water	50 cc.
Caustic potash, C. P.	10 mgm.

Mix and allow to stand in a closed bottle for one month before using.

Precaution should be taken not to overstain in either of these solutions. The length of time which gives best results will depend upon the quality of the ingredients, the age of the solution, the amount of evaporation, and the quantity of acid and alkali added to these solutions. When the proportions are properly adjusted for each solution, excellent results can be secured by staining in the eosin fifteen seconds and counterstaining in the methylene blue ten seconds.

It is important to note that there are two varieties of eosin used in laboratory work: (*a*) aqueous and (*b*) spirituous.

(*a*) Aqueous eosin in aqueous solution is more or less removed from the tissues in the process of washing. I have observed that by adding alcohol to this solution, the eosin is more permanently fixed in the tissues, and also that it is not so readily removed by washing. In this form aqueous eosin stains granules very distinctly. But hæmoglobin is stained less rapidly and less deeply, while it is quickly decolorized and counterstained by the basic stain. On the other hand, the granules are not so readily decolorized, but remain beautiful and clearly defined.

(*b*) Spirituous eosin stains hæmoglobin quickly and deeply, and is not readily decolorized by the basic counterstain. It also stains the granules. But if overstaining is permitted, granules are so deeply and extensively stained that they seem to blend together, and their clearly defined contour is lost.

Hence I have found that aqueous eosin in a diluted alcoholic solution, very slighty acidulated, followed by the basic counterstain, is quite satisfactory in bringing out the granules and in showing the structures of nuclei. But overstaining in the basic counterstain should be avoided.

Spirituous eosin will show the red cells to a far better advantage, but it must be more strongly acidulated. Freshly prepared staining solutions are often unsatisfactory. Hence it is never safe to compare a recently prepared staining solution with one that has been in use for some time, unless they have first been tested on films of the same blood. Hence to secure comparative results I always (*a*) use the same strength of staining solution; (*b*) stain a uniform length of time; and (*c*) stain the shortest period that will give satisfactory results. When these points are observed and uniform results are not obtained, we may be quite certain that the failure depends upon a variation in the condition of the blood, and not upon a variation in the technique.

(*D*) Washing and mounting: After staining the films, they are washed in a normal salt solution (0.6-per-cent. aqueous solution of sodium chloride), by slowly passing the cover glass through the solution two or three times. Excessive washing should be avoided. The films are then dried between sheets of fresh blotting paper. After staining in the eosin and drying the film, the cover glass is quickly passed through an alcohol flame two or three times, the film surface uppermost. This is done to fix the eosin. Overheating should be avoided. After the staining is completed, the specimen is permanently mounted in Canada balsam. The mounted specimen is then ready for study.

(*E*) System of study: If a systematic method of classifying and recording the phenomena is not adopted, one becomes bewildered with the material before him. I find it a great help to observe the following points: (*a*) A mechanical stage should always be used; (*b*) also the same ocular and lens to secure uniform magnification: (*c*) a high power is very necessary; (*d*) good fields for observation should be selected; (*e*) we should avoid excessive or insufficient illumination, and should not study by artificial light; (*f*) and finally, a large number of observations should be made, and, if in doubt, a second film should be stained and studied before making deductions. If the delicate changes which take place in the process of cell disintegration are to be utilized for diagnostic purposes, too much precaution in these points cannot be taken.

Interpretation of Phenomena. — Before studying the appearance of cell tissues in disease, it is first necessary to fix in one's mind the shade or tint that a staining solution communicates to cell tissues in the normal state. This can be done only by long and persistent study. It then becomes comparatively easy to recognize abnormal conditions by a variation in the staining reaction of these tissues.

The Physiological Chemistry of Cells.—Believing that something more definite could be ascertained concerning the physiological chemistry of cell tissues and their nature and conditions, I recently undertook a series of staining experiments. I will briefly report the result. For each experiment six blood films were uniformly prepared and fixed. They were then stained, according to the methods to be described, mounted, numbered, and the technique recorded for each film. The following are the principles embraced in the experiments made:

First experiment: Films stained for varying periods of time in an acid stain (five seconds to five minutes).

Second experiment: Films stained for varying periods of time in a basic stain (five seconds to five minutes).

Third experiment: Films stained in an acid stain for a uniform period of time (fifteen seconds), followed by counterstaining in a basic stain for varying periods of time (five seconds to five minutes).

Fourth experiment: Films stained in a basic stain for varying periods of time (five seconds to five minutes), followed by counterstaining in an acid stain for a uniform period of time (fifteen seconds).

The films thus prepared revealed a great variety of

phenomena. At first these seemed perplexing, but subsequent study revealed laws by which the phenomena could be classified and interpreted.

Experiment I.—Effects of an acid stain on cell tissues:

(*a*) Red cells stained quickly and deeply. Hence hæmoglobin is distinctly oxyphile.

(*b*) All nuclei remain transparent. Hence they are not oxyphile.

(*c*) All cell bodies react more or less to the acid stain. Hence they are more or less oxyphile. The oxyphile tissue of the cell body appears as granules. This is probably hyaloplasm. The granules are observed over the entire cell body. Those appearing over the nucleus are not within the nucleus, but within that part of the cell body which intervenes between the nucleus and the observer.

That part of the cell body of young cells immediately external to the nucleus appears as a distinct ring or zone, which is strongly oxyphile. This zone fades or becomes less oxyphile toward the periphery of the cell. Hence, the contour of these cells is not clearly defined when stained by an acid stain alone. Therefore the oxyphile quality of the cell body of young cells is greatest near the nucleus, and decreases toward the periphery of the cell. If hyaloplasm is the oxyphile tissue of the cell body, it would then appear that hyaloplasm predominates in that portion of the cell body of young cells nearest the nucleus and decreases toward the periphery of the cell.

The cell body of phagocytes or mature leucocytes is not only more distinctly oxyphile, but is uniformly oxyphile throughout.

The cell body of eosinophiles is strongly oxyphile and uniform throughout.

Therefore it appears that as the cell develops and approaches maturity the oxyphile quality of the cell body increases. Hence the minimum proportion of hyaloplasm is found in young cells, and the maximum proportion is found in the older or mature cells. I have also observed that, as cell disintegration advances, the oxyphile quality of the cell body decreases.

Experiment II.—Effects of a basic stain on cell tissues:

(*a*) Red cells stain a light green, which becomes darker the longer the film remains in the staining fluid. Hence hæmoglobin is also basophile. From our first experiment it was found to be oxyphile. It is, therefore, both oxyphile and basophile, or an amphophile substance.

(*b*) Nuclei react to a basic stain. Hence they are distinctly basophile. They are never oxyphile. They may, however, remain almost indifferent to a basic stain. There is, then, a deficiency in chromatin, or the network of the nucleus, which bears the same relation to the nucleus as spongioplasm bears to the cell body.

Chromatin possesses the basophile quality of nuclei. In normal nuclei this is usually well marked in young cells, less marked in phagocytes, and still less marked in eosinophiles. Hence it seems that the basophile quality of nuclei decreases as they mature. The age of the cell is, therefore, an important consideration in estimating the staining quality of the nuclei. Achromatin is a neutrophile substance, and bears the same relation to the nucleus as hyaloplasm bears to the cell body.

(*c*) All cell bodies react more or less to the basic stain. Hence they are more or less basophile. The basophile tissue of the cell body appears as a network. This is probably spongioplasm. Transparent or opaque granules are observed over or within the basophile network of the cell body of all varieties of leucocytes. These granules, therefore, are not basophile. In young cells these granules are very indistinct, but become more distinct as the cell develops.

That part of the cell body of young cells immediately external to the nucleus often appears as a distinct transparent ring or zone, while the external portion of the cell body is well stained. Hence the contour of these cells is clearly defined when stained by a basic stain alone. Therefore the basophile quality of the cell body of young cells is least near the nucleus, and increases toward the periphery of the cell. If spongioplasm is the basophile tissue of the cell body, it would then appear that spongioplasm predominates in that portion of the cell body of young cells nearest the periphery of the cell and decreases toward the nucleus.

The cell body of phagocytes or mature cells is not only less distinctly basophile, but is uniformly so throughout.

The cell body of eosinophiles is very faintly basophile, and is uniformly so throughout.

Therefore, since the basophile quality of the cell body is well marked in young cells, less marked in phagocytes or mature cells, and still less marked in the eosinophiles, this experiment seems to justify the conclusion that the basophile quality of the cell body decreases as the cell develops and approaches maturity. Hence we conclude that the maximum proportion of spongioplasm is found in young cells and a minimum proportion is found in the older or more mature cells. According to this law, it appears that the eosinophile cell is a more highly differentiated cell, or a cell of higher development. On the other hand, I have observed when cell disintegration begins that the reverse of this law takes place, and the basophile quality of the disintegrating tissues increases. This is also observed in the disintegration of nuclei. As disintegration advances, the basophile quality of adult nuclei increases—as observed in nuclei of pus cells, which are very strongly basophile. Hence, if these observations have been correctly made, we may formulate two laws:

The law of development: As cell development progresses, the oxyphile tissues of the cell become more oxyphile, and the basophile tissues become less basophile.

The law of disintegration: As cell disintegration progresses, the oxyphile tissues of the cell become less oxyphile, and the basophile tissues become more basophile.

Experiment III.—Effects of staining with an acid stain and counterstaining with a basic stain:

(*a*) Red cells, after being stained in an acid stain, become a deeper oxyphile when exposed to a basic stain for a short time. When the counterstaining is prolonged, the oxyphile tint decreases and is finally lost, while the basophile tint increases until the cells present a deep purple tint. Hence hæmoglobin reacts to both an acid and a basic stain. It is, therefore, an amphophile substance, but shows a much stronger affinity for an acid than for a basic stain, and reacts to it more quickly.

(*b*) Nuclei present the same appearance as in our second experiment; that is, they appear distinctly basophile.

(*c*) The cell body of young cells appears distinctly basophile, with no evidence of an oxyphile tint. Hence, the faintly granular hyaloplasm of these cells, which took a distinctly oxyphile tint in our first experiment, is neutralized or decolorized from the action of the basic counterstain, and appears transparent, even when the counterstaining is for a short period of time. These transparent granules are set in a deep basophile background.

The cell body of phagocytes appears distinctly oxyphile. The oxyphile quality is confined to the gran-

ules, which seem to be set in a faintly basophile background. Hence both the spongioplasm and the hyaloplasm are stained, the one being faintly basophile and the other distinctly oxyphile. The effect of the basophile tint of the spongioplasm, with its contrast in color, tends to bring out the oxyphile tint of the granules even more distinctly.

Prolonged Counterstaining. — Prolonged counterstaining with the basic stain decreases the oxyphile tint of the granules of phagocytes until it is finally lost. But the granules at no time show a basophile tint. While, on the other hand, the basophile tint of spongioplasm gradually deepens up to a certain point, it then ceases to change, the ultimate tint varying according to the age or condition of the cell.

Hence it is evidence of disintegration if mature oxyphile tissues, stained in an acid stain, are quickly decolorized when counterstained in a basic stain, or when basophile tissues show an unusual susceptibility to the basic stain. Prolonged counterstaining has much less effect on the granules of the eosinophile cells, than upon the granules of phagocytes. Hence they retain their oxyphile tint much longer; at the same time the spongioplasm is less distinctly basophile.

Therefore it appears that the granules of eosinophile cells are strongly oxyphile, while the granules of phagocytes are oxyphile to a less degree, and the granules of young cells are faintly oxyphile. Hence it seems that all granules are distinctly oxyphile, but that their affinity for the acid stain increases as the cell develops and matures.

In a former paper I made the statement that granules are first basophile; that they become oxyphile; and, if the cell lives long enough, they again become basophile. The foregoing experiments are more recent, and demonstrate that my first interpretation was probably erroneous.

The granules of all leucocytes, even the youngest, according to our first experiment, are shown to be distinctly oxyphile. The second experiment shows that they are not basophile. And the third experiment demonstrates that in young cells granules are quickly decolorized by the basic counterstain, while in more mature cells they remain distinctly oxyphile, and by prolonging the basic counterstaining they finally lose their oxyphile tint. Hence, it seems that we may be justified in making the following deductions:

(*a*) Granules of the cell body of young cells are faintly oxyphile. (*b*) Their oxyphile quality increases as the cell develops. (*c*) When disintegration begins, the oxyphile quality decreases as the cell disintegrates. Further research is needed in this line before dogmatic statements should be made. It demonstrates one point, however; that uniform technique is absolutely essential if we wish accurate results.

A basic stain decolorizes oxyphile tissues very slowly. Hence it is an ideal counterstain.

Rule for basic counterstaining: The time allowed for a basic counterstain should be extended to the point that basophile tissues are well stained without decolorizing the mature oxyphile tissues.

Experiment IV.—Effects of staining with a basic stain and counterstaining with an acid stain:

(*a*) The basophile tint transmitted to the red cells by the basic stain (as shown in Experiment II.) is quickly decolorized by the acid counterstain, and the cells are quickly restained by the acid stain.

(*b*) The basophile tint of nuclei is also quickly decolorized, and they remain transparent. No amount of overstaining will give them an oxyphile tint.

(*c*) Spongioplasm of all cells is decolorized and remains transparent.

Deductions: An acid stain quickly decolorizes all basophile tissues. Hence it is not a satisfactory counterstain.

The Law of Analogy.—A study of the larger animal organism in health reveals the fact that some of the body fluids are acid, while others are alkaline. In disease these reactions are often altered or reversed. Hence, in the larger animal organism, when the functions are changed, the reactions of the secretions and excretions are altered. Or, inversely, when the reactions of the secretions and excretions are altered or reversed, it is evidence of perverted functions.

It will suffice to speak of only a few of the changes that occur in the chemical reaction of the body fluids in disease. The reaction of the saliva in health is distinctly alkaline. In certain diseases it may become acid. The normal reaction of the gastric juice is acid. This may increase until it becomes what is known as hyperacidity, or it may decrease until the acid reaction is absent. These extreme reactions are well-known points of the highest clinical significance. On the other hand, there can be but little doubt that equally as great changes take place in the chemical and staining reaction of cell tissues as are known to take place in the tissues and fluids of the larger organism.

The foregoing experiments have shown conclusively that the tissues and fluids of leucocytes have complex staining reactions, and that these reactions change with the growth and decay of the cells.

Histologically and chemically we find leucocytes to be extremely complex organisms. Between the nucleus and cell body there is a distinct dividing membrane. This membrane separates tissues of quite distinct staining reactions. On its inner surface it is in contact with two substances—the one neutrophile and the other basophile. On its outer surface it is in contact with two substances—the one distinctly oxyphile and the other basophile. The leucocyte itself is floating in the blood serum, which holds in solution the elements of nutrition, mingled with toxins and the complex products of cell and tissue disintegration. Through the membrane which separates the nucleus from the cell body, osmosis plays an important part in the vital process of the cell. Whatever nutrition the nucleus receives must pass through this membrane by the process of endosmosis. Whatever secretions or excretions are eliminated from the nucleus must pass through this membrane by the process of exosmosis. Hence there are delicate chemical processes taking place in the cell, equal to any going on in the larger body. Therefore it is evident that as we descend the scale of life, we find that the same laws are in force. The intricate chemical processes which are continually taking place in the larger organism are at work in its cells. Therefore, by analogy, if the staining reaction of any cell is observed to vary from that found in normal cells, we may conclude that there must be a fundamental cause within the cell. And since a change of appearance in tissues is preceded by a change in function, we may conclude that the cause of this unequal susceptibility to stain is a perverted function of the cell. This gives us another law of analogy between the larger animal organism and its leucocytes.

In conclusion, I wish to make a brief reference to the application of these observations to

The Diagnosis of Tuberculosis.—A careful study of one hundred tuberculous cases, including all stages of the disease, has shown conclusively that the law that brings about disintegration in a tuberculous patient brings about the same process at an earlier date in tuberculous leucocytes. In these cases I have found (*a*) marked disintegration going on in all varieties of leucocytes, and (*b*) a great decrease in the number of young cells. These conditions are evidence that the tissue-forming power of these cells is imperfect or defective. Hence, when these conditions exist

in cells, we may be absolutely certain that a similar condition already exists, or soon will exist in the larger organism. Therefore, from the condition of the various cell tissues observed in these cases, I feel justified in making the following

Deductions.—First, it is possible to estimate the degree of the tuberculous condition. Second, it is possible to estimate the degree of the recuperative power. Furthermore, the phenomena upon which the foregoing deductions are based are as follows: (1) The degree of the tuberculous condition may be estimated by (*a*) the amount of deviation from the normal percentage of each variety of cells; and by (*b*) the amount of cell disintegration in each variety. (2) The degree of the recuperative power may be estimated by (*a*) the staining power of the nuclei; (*b*) the percentage of leucocytes with no evidence of disintegration; (*c*) a relatively high percentage of young cells; (*d*) the abundance of well-stained granules of the phagocytes; and (*e*) the abundance of eosinophile cells rich in granules. I do not wish to give the impression that it is an easy task to interpret the phenomena presented in a specimen of tuberculous blood, and from them to reach a diagnosis. But it can be done. And when it is properly done, it furnishes a diagnosis based upon the fundamental principles of biology. Hence, from a study of the foregoing cases, I feel justified in claiming that the blood, aided by the microscope, together with a uniform and accurate technique, furnishes a means of making a positive diagnosis of the tuberculous condition early enough to allow of effective treatment.

205-206 Jackson Block.

INTUSSUSCEPTION: A REPORT OF TWO CASES WITH A PLEA FOR EARLY OPERATION.

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The following two cases of intussusception are reported for two reasons: first, because it is the writer's belief that all cases of this kind, whether the termination be successful or fatal, should be reported in order that the profession may get correct statistics regarding this terribly fatal accident; second, because they illustrate the difference in results between early and late operation.

Case I.—April 21, 1896, I was asked by one of my confrères, Dr. Moore, to go with him about fifteen miles from London to assist in operating on a little patient suffering from intestinal obstruction, seen by him in consultation with Dr. Hughs, of Thorndale, The following history of the case was given me by the attending physician: Boy, aged eight years, only child, and always rather delicate; family history fairly good. While at school, April 17th, the little fellow was suddenly seized with colicky pains in the abdomen and vomiting. He came home from school, and the vomiting and pains continued during the night. Next morning, April 18th, there being no improvement, Dr. Hughs was called and on his arrival found the little patient in bed, still suffering from considerable abdominal pain and vomiting everything taken into the stomach. The temperature was normal and pulse 120. Abdominal examination revealed very little distention, but a tumor in the right iliac region tender on pressure and dull on percussion. The little fellow had been constipated and there had been no movement of the bowels since the onset of the symptoms. Dr. Hughs thought the condition might possibly be due to fæcal impaction and prescribed castor oil every two hours. The oil had no effect in moving the bowels or bringing away any gas. Next morning, April 19th, vomiting with regurgitation still continued, but the tumor was found to be smaller and less tender, although there had been no bowel movement and no gas had passed. The temperature still continued normal, or very little above normal; pulse, 130 and weak. An enema of soapsuds was tried without effect. Next day, April 20th, there being no improvement and symptoms of obstruction persisting, Dr. Moore of London was called and saw the patient in consultation with Dr. Hughs, at 7 P.M. the same evening. From the location of the tumor in the right iliac region, Dr. Moore thought the obstruction was probably due to disease of the vermiform appendix. It was decided to operate on the following morning, if the obstruction was not relieved in the mean time.

We arrived at the patient's home about 9 A.M., April 21st, between ninety and ninety-six hours following the onset of the symptoms, and found the condition of the little sufferer much the same as on the previous evening, except that there was more prostration from the continued vomiting and regurgitation. There had been no relief in the symptoms of obstruction, and, although vomiting had continued every day from the commencement of the trouble, there had been as yet no stercoraceous vomiting. The temperature was 99° F., and pulse between 130 and 140 and weak. Abdominal examination revealed less distention than one would have expected. A sausage-shaped tumor could be felt on the right side about midway between the iliac spine and the umbilicus, somewhat curved in its outline, dull on percussion, and slightly movable.

The diagnosis lay between intussusception and mechanical obstruction from bands in the region of the appendix. The points in favor of intussusception were: first, the sudden appearance and shape of the tumor shortly after the onset of the symptoms; second, the absence of marked distention of the abdomen; third, the absence of temperature rise, which is usual in cases of appendicitis.

Opposed to the diagnosis of intussusception was the fact that the characteristic bloody and mucous discharge from the rectum, upon which so much stress is laid in books, was absent in this case.

The patient was prepared for operation, and Dr. Moore made an oblique incision through the abdominal wall in the line of the tumor. On opening the peritoneum considerable yellowish serous fluid escaped and a tumor presented in the wound. On examination the tumor was found to be an intussusception of the ileum into itself, about six inches above the ileo-cæcal valve. The tumor was about three inches long; about three inches of unaffected ileum intervened between the ileo-cæcal valve and the apex of the tumor. The appendix vermifomis and cæcum were not involved. That portion of the ileum just above the intussusception ring was contracted, while above this portion the bowel was distended. The intestine below the tumor was somewhat contracted. An attempt was made to reduce the inverted bowel, but this could be only partially accomplished. The constricted portion had become softened and was torn through in one place. The affected portion was then exsected, about seven inches of the ileum being removed, and end-to-end anastomosis made with a Murphy button. A strip of iodoform gauze surrounding the part of the bowel operated on was brought out through the abdominal incision and the remaining part of the wound was closed by interrupted silkworm-gut sutures.

The little patient died of shock about one hour after the completion of the operation.

Case II.—Male infant, aged seven months, nursing, well developed, fat and plump. Previous to the

present illness he had not suffered from a single day's illness since birth.

About 8 A.M., September 29, 1896, he had a rather large stool, followed soon after by vomiting, restlessness, and crying, as if in pain, and later by bloody and mucous discharges from the anus, with straining and refusal to nurse. About noon of the same day the little patient was seen by Dr. A. T. Hobbs, resident gynæcologist of the London Insane Asylum, the baby being the only child of the chief male attendant in that institution.

The principal symptoms seen by Dr. Hobbs were bloody and mucous discharges from the anus, with straining and refusal to nurse; restlessness and crying, as if in pain; rapid pulse, normal temperature. The vomiting had ceased. A sedative was prescribed, and instructions were given to watch the effect and report the condition in three or four hours.

About 4 P.M. the father reported the condition of the baby not improved and was instructed to bring the patient to the operating-room of the asylum for examination. About 5 P.M., the infant was brought into the operating-room and was seen by Dr. Moore and myself in consultation with Superintendent Dr. Bucke and Dr. Hobbs.

When stripped and laid on the table the child presented an apathetic appearance, and regurgitated a considerable quantity of fluid from the stomach, and at the same time a considerable quantity of dark blood and mucus was discharged from the anus. Examination per rectum caused straining and more bloody discharge; otherwise the rectal examination was negative. The abdomen was soft and not distended. No tumor could be seen.

On palpation, however, a sausage-shaped mass with a slightly curved outline could be indistinctly felt above and to the left of the umbilicus. The mass was movable and slightly tender on pressure. A diagnosis of intussusception was made, and immediate operation was advised and was consented to by the parents. I was asked by Dr. Bucke to operate. The usual careful aseptic preparations were made. Chloroform was administered by Dr. H. A. Stevenson, assisted by Dr. Moore, Dr Hobbs, and Dr. Bucke. I made a median incision through the abdominal wall just below the umbilicus. The peritoneal cavity was opened and the incision was extended downward to the upper limit of the bladder, which came up on the abdominal wall half way to the umbilicus. The incision was also extended upward, to the left of and less than one inch above the umbilicus. The whole length of the abdominal wound was a little more than three inches. The abdominal wall was rather thick and fat. There was very little subperitoneal fat. The peritoneum was exceedingly thin. There was very little blood lost from the abdominal wound. The omentum presented in the wound was a thin curtain containing very little fat. The small intestines, not at all distended, were drawn out through the wound and wrapped in warm moist towels. The sausage-shaped mass, about six inches long and dark brown in color, was found to be caused by an intussusception of the ileo-colic variety (Treves), about ten or twelve inches of the ileum with its mesentery having slipped through the ileo-cæcal valve into the ascending and tranverse colon. The cæcum was also partially inverted. The appendix vermiformis was about three and one-half inches long, directed downward and inward, its tip dark red in color from hemorrhage due to intense congestion. Some adhesions had already formed at the point where the ileum had passed through the ileo-cæcal valve. The vessels in the mesentery of the portion of ileum involved were very much distended and dark in color.

On account of the adhesions and the swollen condition of the parts, reduction was less easily effected than one would have expected, considering that the operation was performed less than ten hours after the onset of the symptoms. After separating the adhesions I made steady pressure on the apex of the tumor, Dr. Moore at the same time making gentle traction on the ileum, and reduction was gradually accomplished. After reduction the discolored portion of bowel was carefully wrapped in hot gauze pads till the normal color was pretty well restored. The abdominal wound was then closed by interrupted silkworm-gut sutures, and the usual dressings were applied.

Before operation the little patient was suffering from considerable shock, evidenced by rapid and weak pulse and subnormal temperature. The pulse immediately after operation was 180 and weak, but fell gradually to about 140 next evening. The temperature rose to 103° F. during the night, but gradually dropped till it reached normal the next evening. There was considerable restlessness at times during the night and the day following the operation, but small doses of paregoric and choral had a quieting effect. There was a slight discharge of blood and mucus once after the operation, and a free movement of the bowels without any blood early next morning. The baby took the breast a few hours after the operation and regularly after this.

After the first twenty-four hours convalescence was practically uneventful. The sutures were removed from the abdominal wound on the eighth day. There was primary union. Up to the present time, February, 1897, now about five months since the operation, with the exception of slight constipation the infant has remained perfectly well.

The only other case of intussusception that I have seen was one operated on by Dr. Sands in Roosevelt Hospital, in the spring of 1886. An infant, male, at eight months, suffering from intussusception between forty-eight and seventy-two hours, was brought into the hospital, after inflation had been tried. Dr. Sands opened the abdomen and found an intussusception of the ileo-cæcal variety. He succeeded in reducing the bowel, but the infant died of shock eight hours after the operation.

Remarks.—Of the two cases reported occurring in my personal experience, Case I. belonged to the enteric variety, according to the classification in Treves' "System of Surgery," and was interesting from the fact that nothing whatever passed through the bowels, the characteristic bloody and mucous discharge from the anus being absent. If no purgative had been given in this case, and operation had been resorted to within the first forty-eight hours, or even seventy-two hours, I think there can be little doubt that the operation would have been successful. Case II. belonged to the ileo-colic variety, the most acute and rapidly fatal of all the varieties of intussusception (Treves' "System of Surgery"). This patient was operated on less than ten hours following the onset of the symptoms, and, as ascertained during the operation, none too soon. If the case had gone another ten hours, I do not think the operation could have saved the little patient's life.

The lesson learned by me from these cases has been, in intussusception operate early or not at all. Do not waste time in attempting to reduce by inflation with air or water, but follow the teachings of common sense, viz., under strict asepsis open the abdomen before adhesions have formed and reduce the inverted bowel.

331 QUEEN'S AVENUE.

Cancer of the Pharynx commences in sixty per cent. of the cases on the surface of the tonsils, and, as it causes little trouble in its early stages, is very apt to be overlooked.—WATSON CHEYNE.

Progress of Medical Science.

Perforating Ulcer of the Duodenum.—At a recent meeting of the Clinical Society of London, as reported in the *Medical Press*, Mr. Dunn related a case of this kind which terminated in recovery. The patient, while at work, felt a sudden pain in the epigastrium, attended with nausea and faintness. He was taken home, and subsequently brought to Guy's Hospital. The abdomen was distended and remarkably tympanitic. The normal hepatic dulness was absent. He was suffering great pain, and had an anxious expression of countenance. The abdomen was opened by a median incision above the umbilicus, which allowed of the escape of a quantity of gas and yellowish fluid. A small perforation was found in the anterior wall of the first part of the duodenum. This was closed with fine silk Lembert sutures, and the abdominal cavity flushed out with boiled water. The flushing process interfered with respiration, and so could not be thoroughly carried out; hence a Keith tube was put into the upper parts of the wound for the first twenty-four hours. The patient progressed well for ten days, when his pain returned and his temperature was raised. He became worse and the abdomen was opened a second time, on this occasion along the right costal margin, as it was thought that a collection of pus had formed between the liver and the diaphragm. Nothing was discovered except a few adhesions in this region, chiefly beyond the reach of the finger. An exploring needle passed through the eighth intercostal space was felt to traverse the abdomen and perforate these adhesions. A drop of pus was evacuated by this method. The wound was closed, the intention being to open and drain the abscess through the thorax at a later date. This was not, however, required, as the temperature fell immediately after the operation, and remained low till the sixth day, when the wound was found to be distended with pus. The removal of two sutures sufficed to evacuate this, after which the recovery was rapid. In discussing this case, Mr. Bland Sutton said that years ago he had come to the conclusion that duodenal ulcer was pathologically quite different from the gastric ulcer met with in chlorotic girls. Though the fact is not mentioned in text-books, these patients seemed always to have been persons addicted to spirit drinking, and were consequently bad subjects for surgical treatment. It occurred to him that the interference with respiration noted in the author's case when the abdomen was flushed with water might have been due to the temperature having been too low. In his opinion the temperature should not exceed 115° F., nor fall below 110° F., otherwise shock might be caused.

The Use of the Ice Bag in Cases of Heart Disease Due to Infection.—Dr. Gendre recommends the application of an ice bag to the præcordium in the cardiac complications of the several acute infectious diseases (*Therapeutic Gazette*). He states that an ice bag or small bladder containing cracked ice in small quantity should be applied, care being exercised that too much pressure is not produced. The ice bag should be separated from the skin by one or two layers of flannel; without this precaution cutaneous erythema will soon develop, and if the cold application is continued for a number of hours a superficial slough of the skin will occur. The patient should lie quietly upon his back, so as to avoid the necessity of fixing the bag against his chest; should he be restless, it must be applied by means of a bandage. Ordinarily the application should not be kept up for longer than three days. The effects which the author finds produced by the application of the ice bag in functional troubles of the heart—as, for example, those which are symptomatic of pericarditis, acute endocarditis, or the hyperpyrexia associated with any acute infection—are exceedingly interesting. In the first place, there is marked amelioration or disappearance of all painful symptoms. As a general rule, the patient finds at once that the application is comfortable and desires its further employment, and palpitation of the heart, which may have been exceedingly marked, is greatly improved. Thus it is frequent to find that the pulse on the first day will be 140 to 150: on the second, 120; on the third, 100; and on the fourth day of the application it may be only 80; the pulse is more forcible and no longer filiform and undulating, and any excess in cardiac action is quieted. The heart's action is more regular and its contractions are more energetic. The *bruit de galop*, or the reduplication of the heart-sounds with intermittence, usually disappears. Indeed, the effect of applying ice to the præcordium is, in the experience of Gendre, precisely analogous to the results of administering digitalis when this drug acts as a cardiac tonic. Not only does it produce a favorable influence upon these functional disturbances, but it also tends to relieve the inflammation of the pericardium or even of the heart muscle itself. After quoting several cases, the author gives as an example a case of endocarditis complicating acute rheumatism and associated with congestion of the left lung, the patient being a young girl.

Bacteriological Findings in Angina Lacunaris.—Dr. Edmund Meyer says that the secretion of the tonsil in a state of acute inflammation has been subjected to minute bacteriological research, and with the result that the streptococci pyogenes aureus and albus, the staphylococcus, and the pneumococcus are found to be associated with this disease, but without establishing with certainty the fact of any one of these micro-organisms being the actual cause. Animal experiments have given negative results. It is, indeed, possible, by rubbing streptococci into injured mucous membranes, to produce a fibrinous deposit; but an angina transmitted from man and running the course with which we are familiar has as yet never been produced experimentally in animals. The author found in fourteen cases staphylococci, usually staphylococcus aureus, not albus. He later explains that in these, which were his early cases, there was a defect in his technique by which streptococci were not found. In twenty-four cases staphylococci and streptococci were both present; in fifteen cases streptococcus pyogenes, in pure culture. Leaving out the first group of cases in which the technique was defective, he found streptococci present in overwhelming numbers in all, and he is in consequence convinced that it is the streptococcus which is the specific exciting cause of this disease, and that the staphylococcus in general is a rather innocent accompaniment of the streptococcus. Like his predecessor, Sendziac, in this line of research, and unlike Norris Wolfenden, he was unable to distinguish any difference in the clinical course of the disease in consequence of the presence of varying species of micro-organisms; that is to say, he could not distinguish clinically a streptococcus angina, or a staphylococcus angina, or a pneumococcus angina. In a few of his cases he found the diphtheria pseudo-bacillus of Hoffman present. This he finds impossible to distinguish, without guinea-pig injections, from a genuine Loeffler bacillcus. The Loeffler bacillus was present in only two cases, but in these the clinical course was identical with the others.—*Medicine.*

Dr. Holloway favors using nitrous-oxide gas, alone or mixed with a small quantity of ether vapor, as an anæsthetic in operations on the throat and nose.

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PURULENT OPHTHALMIA OF THE NEWBORN.

OF the many dangers attending the newly born infant, ophthalmia neonatorum is the most to be dreaded. It is stated that one-third of all the blind in Europe become so from this cause. Its early recognition and unremitting treatment are of the utmost importance. In every obstetric case the physician should gently separate the lids of the infant, to assure himself definitely of the presence or absence of any eye discharge. Infection from the maternal passages manifests itself almost invariably by discharge on the third day, both eyes being affected, as a rule. Discharges appearing at a later period usually arise from soiled hands, towels, sponges: and only one eye may be primarily attacked. This conjunctivitis is never due to strong light or cold, as is popularly supposed, but has a definite specific origin.

Following a discussion of the Medical Society of Breslau concerning Credé's method of treating such cases with the aqueous solution of nitrate of silver (one grain to a drachm of distilled water), twelve thousand question blanks were sent out to physicians, with results that form an important contribution to the subject. These blanks were distributed throughout Germany, Austria, Switzerland, Belgium, and Holland. Reports were returned, giving statistics of eye disease in 302,971 new-born infants. Of these, 1,938 suffered from ophthalmia neonatorum. In Germany, sixty per cent. of eye disease was of this nature: in Austria, eighty per cent.; and in Switzerland, Belgium, and Holland together, ninety per cent. In all these cases the characteristic condition appeared within five days in seventy-six per cent. of the infants under observation. The discharge began after the fifth day in twenty-four per cent. In one-fourth of the entire number of cases, one eye was attacked primarily: in three-fourths, both were affected simultaneously. Seventy-one per cent. were completely cured. Nine per cent. discontinued treatment. Twenty per cent., or one-fifth of the 1,938 cases, retained permanent lesions of more or less severity.

This twenty per cent. with permanent ocular defects presented corneal scars, monocular or binocular: and one-half of these permanently damaged infants became totally blind. It was considered they were brought too late for cure—fifty per cent. of the blind babies were not seen until the ninth day of their disease, and twenty-five per cent. not until the fourteenth day.

Out of one hundred representative ophthalmologists consulted, seventy-nine were in favor of making Credé's method obligatory in routine obstetric practice. It is not difficult, does no harm, and may avert dreadful catastrophe. The eyes are first carefully washed with tepid water, and the lids thoroughly cleansed by means of absorbent cotton. A few drops of the two-per-cent. solution of nitrate of silver are then instilled into each eye. Materials used to wipe away the discharge must be burnt or otherwise destroyed. Twice daily some simple ointment should be applied to the margin of the lids, to prevent them from sticking together. In severe forms, when there is much swelling and a thick discharge gushing from between the lids, the foregoing nitrate-of-silver solution may be used every six hours. When the inflammatory action subsides, Muskett recommends that weak solutions of alum, sulphate of zinc, and perchloride of mercury be substituted. The astringent lotion may consist of from four to ten grains of alum or from one to two grains of sulphate of zinc to the ounce of water. Either of these may be used with freedom and safety. The mercury solution gives excellent results—one-half grain of the perchloride to six ounces of distilled water. Cold-water compresses give great relief after active treatment.

Should ulceration of the cornea ensue, in spite of active and earnest measures, the eserine treatment introduced by De Wecker may prevent perforation in even the worst cases. Four grains of eserine in one ounce of distilled water is the strength usually employed, though sometimes one grain to the ounce is better borne. A few drops are instilled into the eyes six times a day. This treatment is also of value in a form of corneal affection peculiar to infantile purulent ophthalmia, mentioned by Nettleship, in which the cornea becomes rapidly and almost entirely opaque. Whatever the degree of ulceration, marginal ulcers are not so serious as those centrally situated, and sight may be preserved. More than in any other disease, Dr. J. Lewis Smith urges the necessity of employing faithful and attentive nurses, who will carry out punctually the directions given. Two nurses are required, one for day and the other for night duty, since it is essential that the eye be frequently cleansed and the secretion washed away.

THE INTERESTS OF TRADE AND THE LIVES OF THE PEOPLE.

NO mention has been made in the news reports from the East of the occurrence of the plague in Calcutta. There has, however, been a widespread prevalence in that city of the disease called pestis minor, which some authorities regard as a mild form of true plague: others as a related affection, the relationship of the two being analogous to that of cow-pox and small-pox: while others again deny that there is any similarity in nature or symptoms between the two diseases, beyond

the fact that there is a swelling of certain glands in both. The Calcutta health authorities appear to incline to the latter view, and have published a statement that no cases of plague have occurred in that city. To this statement, however, the *Indian Medical Gazette* takes exception, not contradicting it specifically, but believing that there is more room for discussion than the medical board is willing to admit. The history of one fatal case is given, in which all the classical symptoms of plague were present—the high fever, the enlarged and painful glands, the petechiæ, and rapid death with the characteristic microorganism in the blood. The health authorities rejected the diagnosis of plague, contenting themselves with the statement "that it was clear that other reasons existed for the enlargement of the glands in the groin, which was reported to be one of the prominent features of the case."

The attitude of the medical board is easily understood from the commercial point of view; but, as our contemporary justly says, it is a shortsighted policy, and not likely to be in the best interests either of the public or of the mercantile community. A similar policy of concealment, in the supposed interests of trade, has had disastrous results in Bombay, as it almost always has everywhere. Bombay, says the *Gazette*, concealed its first cases, then minimized them, and now it is face to face with a severe epidemic, its trade is ruined, and by its flying population it is likely to spread the disease far and wide.

ILLEGAL PRACTITIONERS PROTECTED BY THE COURT.

The police-court magistrates of New York appear to possess unusual opportunities for defeating the attempts of those whose endeavor it is to secure the enforcement of the law. The immunity enjoyed by many who are practically breakers of the excise law is due in large measure to the action of the magistrates in releasing those who have been arrested on such a charge.

Quite recently Magistrate Cornell has espoused the cause of offenders against the medical-practice law as well. The particular case was that of a pharmacist, who has been doing business in Seventh Avenue for a number of years. One night a detective in the employ of an agent of the County Medical Society pretended that she was ill and that the child she had with her was also ill. She begged him to prescribe for both, and he sold her some medicine, which he recommended as likely to benefit her. A warrant was obtained on the detective's affidavit, and the prescribing druggist was arrested. He told the magistrate that he had prescribed at the earnest solicitation of the detective, who claimed to be a poor woman suffering from various ailments and whose child was also ill, and he added, with some show of reason: "If I had been a rich man and could put my prescriptions up in fine bottles and call them patent medicines, I could sell hundreds of bottles a day and no one would interfere with me; but I am poor and cannot make any great display, cannot fight a case like this as it should be fought, and I am singled out for an attack."

The magistrate promptly discharged the accused, asserting that he had broken no law and that he had done only what thousands of other druggists are doing every day. He advised the County Society, if it wanted to make a test case, to get evidence against some of the leading apothecaries, who have money and can make a fight that will settle the question of the druggist's right to do the work of the physician.

On the same day another man, not a druggist, was arraigned before the same magistrate for practising medicine without being duly registered. He pleaded not guilty, but, with the inconsistency of a great mind, the magistrate held him for trial.

We think there may have been an apparent hardship in proceeding against the accused druggist, and one's sympathies are naturally aroused in favor of one who is entrapped into wrong doing by a detective. And we believe there are other and better ways for catching law breakers than by tempting them to break the law. But we do not see that it justifies a judge, whose duty it is to uphold the laws and punish wrong doers, in discharging a man accused of a crime when there was no doubt that the illegal act was committed.

A FATAL OMISSION IN THE CODE OF ETHICS.

Dr. Atkinson, the secretary of the American Medical Association, replying to an anxious inquirer, who asks whether it is right for specialists to divide fees with those who send them patients, says that "the offering or giving any portion of a fee to one who procures cases for another is the worst possible means of obtaining practice. Both parties are equally guilty of a breach of honorable dealing. Such conduct is on a par with the acceptance by a physician of a percentage from an apothecary to whom he directs his prescriptions to be taken. So patent did this appear to those who framed the code of ethics that they did not deem it necessary to insert any clause in regard to it."

By all means let this omission be repaired at the Philadelphia meeting. A bill is before the Kansas legislature to enact the ten commandments into law, with severe penalties for any breach of them; and certainly the morals of the members of the American Medical Association ought to be safeguarded as carefully as those of the citizens of Kansas. For the sake of brevity, perhaps the golden rule would answer.

An Active Old Man.—The Dublin correspondent of *The Lancet* writes that at an athletic contest held recently at Freemont, County Cork, a man named James Loder, aged eighty-two years, covered thirty-three feet in three standing jumps. Several young men failed to come within three feet of this distance. Old Loder weighs only one hundred and twelve pounds, and is remarkably vigorous. It is asserted his father lived to the age of one hundred and ten years.

News of the Week.

Death by Hanging without Strangulation.—The Berlin correspondent of the *Medical Press* relates a case, reported by Dr. Reineboth, of Halle, of a man who hanged himself after a tracheotomy had been performed. In doing so he passed the cord round his neck above the tracheal cannula, so that respiration could still go on unimpeded. Death appeared to have taken place rapidly. The case shows that death by hanging is not brought about by preventing respiration, but by pressure on the large vessels. The position of the body also was such that with continued consciousness the man would have been able to get on his feet again. It appears from this that loss of consciousness was as rapid as in ordinary hanging. The autopsy showed anæmia of the cerebrum, extreme fulness of the vessels of the base, slighter fulness of those of the pia mater, hyperæmia of the pons and medulla. Death by hanging without strangulation is not unknown in literature, but this case is probably unique.

The Tri-State Medical Society.—The fifth annual meeting of the Tri-State Medical Society of Iowa, Illinois, and Missouri, will meet in St. Louis, April 6, 7, and 8, 1897. Dr. Joseph Price, of Philadelphia, will hold the surgical clinic; Dr. James T. Whittaker, of Cincinnati, the medical clinic; and Dr. Dudley Reynolds the ophthalmic clinic.

A Proposal to Move the Morgue.—The health board has asked the dock commissioners to allow the Morgue to be moved from its present location, in the grounds of Bellevue Hospital, to the end of the pier at the foot of East Twenty-sixth Street.

Dr. J. Mount Bleyer, of New York, has been appointed co-referee in the discussion on *x*-rays at the Moscow congress.

The London Water Supply.—A commission appointed by *The Lancet* has been making an investigation of the water supply of London, and from its report we learn that the town is supplied with water partly by deep wells, but chiefly by eight water companies. A comparatively small amount of water only is derived from the wells, and the quantity of water which can be obtained from them has lessened year by year, for the level of the underground water has sunk. It is possible that a few surface wells remain. Some movable pumps are still used by builders in the Chelsea district, but it is unlikely that much of the water is used for drinking. Of public pumps in London, one of the last to go was the historic one of Aldgate, but for years before its removal it had been supplied by water laid on from the mains of the New River Company, in accordance with the directions of the medical officer of health for the city of London, who, finding that the local water was extremely impure, and knowing that the inhabitants would not tamely submit (if they knew it) to any alteration in their cherished water supply, by a pious fraud allowed them for years to pump water from the New River supply.

Obituary Notes.—Dr. Ernst Ilgen, of Brooklyn, died at his home in that city, on March 4th, in his eighty-third year. He was a graduate of the University of Munich, and came to this country in 1851. He practised for a long time in this city, but removed to Brooklyn some years ago.—Dr. Robert Todd Reynolds died in Chicago on February 28th, in the eighty-sixth year of his age. He was a graduate of McGill University in 1836, and at the time of his death was reputed to be the oldest living graduate of that school. He practised in Canada for over fifty years, retiring from active work five years ago.—Dr. Lewis Hallock died in this city on March 3d, in his ninety-third year. He was born in New York, and began the study of medicine at Southold with a relative, Dr. Elisha Hallock; after one year he entered the office of Dr. John W. Francis, professor of obstetrics in the College of Physicians and Surgeons in this city, and was graduated from that college in 1826. After practising for fifteen years he became interested in homœopathic methods, and finally joined that school, being the twelfth member of the Homœopathic Association. In 1844 he with others founded the American Institute of Homœopathy.—Mr. William Wallace Blake, the superintendent of the outdoor poor for many years, is dead. He was a man of rough exterior, but one who always dealt most kindly with those who applied to him for relief and whom he did not know to be impostors.—Dr. Henry M. Black died at Strasburg, Pa., on February 28th, at the age of forty-five years. He was graduated from Jefferson Medical College in 1875.—Dr. Joseph F. Gallagher died on March 3d at Freeland, Pa., at the age of twenty-five years. He was graduated from Jefferson Medical College in 1891.—Dr. George A. Sterling, for many years a leading physician of Sag Harbor and Southampton, Long Island, died in Oakland, Cal., March 8th. He was a native of Sharon, Conn., and a graduate of Bellevue Hospital Medical College. Last November he started for the Sandwich Islands, to regain his health. When he reached San Francisco he was too ill to proceed. He was about fifty-five years old. He leaves a widow, three sons, and six daughters.

Cigarette Laws in Chicago.—The city council of Chicago, by a unanimous vote, has passed an ordinance requiring every dealer in cigarettes to pay an annual license of $100 to the city treasury. The law passed says that cigarettes cannot be sold within two hundred feet of a school house. All sold by licensed dealers must have been inspected by the commissioner of health and received his approval as to their purity. No cigarette can be sold which contains opium, morphine, or other poisonous matter. Any violation of these provisions of an ordinance passed by the council subjects the dealer to a fine of from $50 to $200 for each offence, and $25 for each day of the violation of the law.

Smoking at Society Meetings.—The question whether smoking should be permitted members during the meeting has been discussed by several of the London medical societies. In the Harveian Society re

cently the proposition was unanimously voted down after discussion, in the course of which the president said that, while sympathizing with the wishes of the smokers, it was also necessary to look at the question from a much broader point of view. The society was one of the oldest medical societies in London, and the members ought to be very careful not to introduce any innovation which would be detrimental to it or other societies which might follow its example. Dr. Norman Kerr said that though he did not smoke now, he had been a smoker for a long series of years, and had derived much enjoyment therefrom: but he had always looked upon it as a matter of fairness and honor never to enjoy the weed in the presence of those who neither approved of nor relished the use of tobacco. There were medical men whom smoking by others in a room made uncomfortable, and he thought it unjust to deprive such members of the full enjoyment and profit of attendance at meetings, which was a right inherent in membership.

The Tennessee Centennial.—It is hoped by the managers of the exposition to be held in Nashville this spring that everything will be completed for its opening at the appointed time. Work has been begun on the building for hygiene, medicine and sanitary appliances, and education. This will be a large and handsome building, with twenty thousand feet of floor space, one-half of which will be devoted to medicine, and will occupy a position between the auditorium, the administration building, and the United States government building. Dr. J. D. Plunket, chief of the department of hygiene, medicine, and sanitary appliances, has the various sections of his department already well organized. These sections are as follows: Section A.—Hygiene and sanitary appliances: Dr. E. B. Sangree, chairman of the organization committee. Section B.—Medical history (Tennessee especially), literature, books, journals, pamphlets, statistics, etc.: Dr. Deering J. Roberts, chairman. Section C.—Surgical and medical instruments, appliances, dressings, etc.: Dr. Charles S. Briggs, chairman. Section D.—Drugs, pharmacy, pharmacology, and dietetics intended for the sick: J. Criddle Wharton, Ph.D., chairman. Section E.—Dental apparatus, instruments, and prosthesis: J. Y. Crawford, M.D., D.D.S., chairman. Section F.—Hospitals, vehicles, and appliances for transporting sick and wounded: Dr. John R. Buist, chairman. Section G.—Physical development and condition: Dr. Joseph T. Gwathmey, chairman.

Dr. J. Chalmers Da Costa has been appointed clinical professor of surgery in the Jefferson Medical College of Philadelphia. Dr. Da Costa has been connected with the college for many years, and has recently been demonstrator of surgery and chief of the out-patient department.

The Plague.—It is reported that the plague in Bombay is declining slowly, whether from lack of material, since most of those who are susceptible to its attack have left the city, or from other causes, we do not know. The official report, issued by the health authorities of the city, gives the total number of cases, from the time when the disease was declared epidemic up to March 4th, as 8,383, and the number of deaths as 6,979. But probably, as the *Times of India* argues, many cases have not been reported, and many deaths which were really of the plague have been ascribed to other causes. This assumption is based upon the enormously increased death rate from other diseases which the official statistics show.

Pneumonia is reported to be unusually prevalent in New York at the present time. The deaths from this disease have averaged lately about twenty a day.

Medical Service in the British Army has become very unpopular, as a result of the unjust discrimination against the medical officers by the military authorities. At a recent examination for thirty-five vacancies, only thirty-one candidates appeared, though the rule forbidding a man from trying after having failed twice was suspended.

The Competition for Accident Cases has become so active among the ambulance surgeons that it has been found necessary to establish rules of precedence at fires. These rules provide that whenever a general ambulance call is made for a disaster, explosion, collapse of building, or a fire of unusual proportion, the surgeon first reaching an injured person shall be considered in charge of the case; if surgeons from different hospitals reach the case at the same time, the one from the nearest hospital shall take it. Any differences between surgeons at a fire shall be settled by the highest officer of the fire department present, and should any surgeon fail to comply with the rule that officer shall report him to the charities department.

Lord Kinnear Nolens Volens.—The editor of the *Journal of the American Medical Association* apparently refuses to admit Lord Lister's right to be called by the name of his own choosing, for he persists in speaking of him as Lord Kinnear, despite the amused protests of the British medical press against this blunder of a London news agency.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending March 6, 1897: February 27th.—Assistant Surgeon M. S. Elliott detached from instruction at the naval laboratory, New York, and ordered to the United States steamship *Columbia*.

The Texas Legislature is honored by the presence of six medical members. We shall look for the enactment of some beneficent medical laws in that great State.

The First Fine for Spitting in the Cars was imposed on Tuesday last upon a man in this city who violated the health ordinance. The amount of fine was $5. The man pleaded ignorance of the law, but without avail. A few such lessons to passengers in the elevated and other cars, particularly of the east side, would prove to be wholesome reminders of ordinary decency.

"The Railway Surgeon" announces that it will publish a daily edition during the sessions of the National Association of Railway Surgeons, to be held in Chicago, May 4, 5, and 6, 1897.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending February 27, 1897: February 20th.—Passed Assistant Surgeon G. T. Smith detached from the *Adams*, on reporting of his relief about March 2d, ordered home, and granted two months' leave; Passed Assistant Surgeon L. H. Stone detached from the naval hospital, New York, March 15th, and ordered to the *Adams*. February 23d.—Surgeon G. P. Bradley detached from the *Indiana*, March 3d, ordered home, and placed on waiting orders; Surgeon N. McP. Ferebee ordered to the *Indiana*, March 3d; Passed Assistant Surgeon W. F. Arnold ordered as a member of the medical examining board, League Island navy yard; Passed Assistant Surgeon L. W. Atlee detached as member of the medical examining board, League Island navy yard.

A Water Famine and Disease in Oaxaca.—A dispatch to the daily papers from Puebla, Mexico, says that the city of Oaxaca has a water famine, which is causing great suffering among the people of that place. All the fountains have gone dry and the water supply of the city is exhausted. As a result of these conditions, it is said, a peculiar disease has broken out among the poorer classes, which is alarming in its fatality. The patient is first stricken with vomiting of blood, which soon results in death.

Restrictions on the Sale of Alcohol.—A bill has been introduced into the Missouri legislature imposing a tax of from $300 to $400 a year upon all pharmacists selling any alcohol or intoxicating liquors in quantity less than four gallons. And, in addition to taking out a license and paying this heavy tax, the bill forbids the druggist to sell or give away any alcoholic liquor, other than wine for sacramental purposes and alcohol for art, mechanical, or scientific uses, "except on a written prescription, dated and signed, first had and obtained from some regularly registered and practising physician, and then only when such physician shall state in such prescription the name of the person for whom the same is prescribed, and that such intoxicating liquor is prescribed as a necessary remedy." We do not know whether the courts would decide that tinctures are "alcohol or intoxicating liquors of any kind," but, even were they excluded, the law would interfere most unjustly with the legitimate business of the druggist in the compounding of prescriptions.

Dr. William Osler, of Baltimore, delivered a lecture upon "The Influence of Louis upon American Medicine," in the auditorium of Houston Hall of the University of Pennsylvania, on February 17th, under the auspices of the State Medical Society.

Deaths from Illuminating Gas.—According to the annual report of the Massachusetts gas and electric light commissioners, recently submitted to the legislature, fifty-one persons were killed by escaping gas during the year, and one hundred and eighteen were injured. The board recommends greater care on the part of the companies, by thorough inspection of pipes and fixtures. In Philadelphia, during the same period, thirty-three persons died from the effects of illuminating gas, inhaled accidentally or with suicidal intent.

Scientific Congresses at Brussels.—Several hygienic and other congresses to discuss subjects of medical interest will be held in connection with the International Exposition of Brussels. Among these will be the following: A medico-legal congress, an anti-alcoholic congress, a congress for the furtherance of public morality, one on the dwellings of the poor, one on public hygiene, one on the hygiene of transportation, and possibly others.

Special Hospital for the Treatment of Digestive Disorders.—A new hospital for the treatment of diseases of the digestive tract has been organized in Philadelphia, and promises to be soon in active operation. Already $60,000 have been collected for the purpose, a site has been selected, and a board of managers and a medical staff agreed upon. The new institution is to be known as the American Hospital for Diseases of the Stomach.

Vienna Sanitary Congress.—It is announced that England has put a stop to the pilgrimages to Mecca on account of the bubonic plague. Dr. Cleghorn, who has arrived from Bombay, reports that the disease in his opinion is neither contagious nor infectious. The danger of introducing the plague into Europe will be greatly decreased by the action of England, coupled with that already taken by Russia and Austria.

"The Laryngoscope," published in St. Louis, has, we learn from the *Medical Review*, been selected as the official organ, for the year 1897, of the laryngological section of the New York Academy of Medicine.

British Medical Men.—According to the Medical Register for 1897, the number of registered practitioners with British qualifications is 34,478. The number in the Register of last year is 33,601, or an increase of 877. The particulars of this huge total are as follows: New registrations—England, 780; Scotland, 477; Ireland, 128; restorations to the Register, 52; total, 1,437. From this must be deducted for removals by death, 532; under section 14, 25; under penal section, 3; total, 560. The actual number on the Register is affected by the removals chiefly under section 14, which is a mere postal matter, and subject to variation according to circumstances or the action of the council. Though the number on the Register grows from the excess of new registrations over the number of deaths, it does not appear that the number of new registrations is increasing. For the last three years the numbers are, respectively, 1,579, 1,426, and 1,385.

The Weather Bureau in Its Relation to Medical Climatology.—The following resolutions were adopted by the Medical Society of Bernalillo County, New Mexico, at a meeting held January 15, 1897: *Whereas*, This society is impressed with a sense of

the supreme value of the methods and work of the Weather Bureau of the United States, in their relation to the science of Medical Climatology, as illustrated in the series of statistical tables published in Volume I., Annual Report for 1885, of the Signal Service (now Weather Bureau); said tables embracing all the data bearing upon nearly every meteorological feature necessary to a complete determination of the climate of many points scattered over the whole of the United States, so far as these data had accumulated up to the date of that Report, and *Whereas*, The value of these tables would be greatly enhanced by working into them the data accumulated in the course of the eleven years which have elapsed since 1885, and a volume of immense value to the medical profession might be produced by appending to these tables, brought up to date, some account of the topography, geological formation, natural drainage, nature and source of water supply, vicinity of mineral springs, etc., etc., at each station where observations are taken; therefore *Be it Resolved*, By the Medical Society of Bernalillo County, New Mexico, that the Chief of the Weather Bureau of the United States be respectfully requested to take this matter into consideration; that the American Climatological Association be requested to co-operate with the Weather Bureau through a committee appointed for that purpose, if mutually agreeable; that copies of these resolutions be transmitted to the Chief of the Weather Bureau, to the Surgeons-General of the Army, Navy, and Marine Hospital Service, to at least three of the principal medical journals of the United States, to the American Public Health Association and the American Medical Association, and to every State Medical Association in the United States, and their co-operation invited.

Regulating the Medical-Charity Evil.—The Medical Asssociation of the District of Columbia, at a meeting held February 16, 1897, adopted some resolutions looking to the correction of some of the dispensary and hospital abuses there, as elsewhere, existent or potential. The recommendations of the society were in substance as follows: That every institution for medical charity shall require from every applicant for relief in a hospital or dispensary a written certificate to be obtained from physicians to the poor, the board of associated charities, or any registered physician. Emergency cases are to be excepted from the operation of this rule. That any sick and injured person found upon the streets or elsewhere, who requires immediate treatment, shall be carried to the Emergency Hospital, or to the nearest hospital having an emergency service, or to his home, if so directed by the patient or his friends. That if carried to a hospital such patients shall not be detained longer than the necessity of the case imperatively demands, but shall be discharged from the service and sent to his home or to some public hospital as he may elect. That members of the association shall be entitled to the privilege of attending private patients occupying private rooms in any of the public hospitals of this city. That the members of the medical staffs of hospitals when attending medical or surgical cases in private pay rooms shall insist upon proper payment for their services except in the case of such patients who are clearly unable to pay for same. That whenever the medical staff or a majority thereof of a hospital or dispensary resigns, or whenever one or more members of the medical staff of a hospital or dispensary are dismissed, and when after due investigation, the association finds that such resignation was for just and sufficient cause, or that such dismissal was without just and sufficient cause, it shall be forbidden for any member of this association to fill the vacancy or vacancies created thereby.

Dr. A. Von Grimm has been appointed attending physician to St. Mark's Hospital in this city.

Section of Dentistry of the Twelfth International Medical Congress in Moscow.—The following is a preliminary programme of the work of this section: 1. What kind of general and special learning is desirable for the persons who are to occupy themselves with dentistry? by Dr. Julius Scheff, of Vienna; 2. The hygiene of the cavity of the mouth and of the teeth; 3. General and local anæsthetics for tooth extraction, by Dr. V. Richardson, of London; 4. Kataphoresis in dentistry; 5. The essence and treatment of pyorrhœa alveolaris, by Dr. József Arkövy, of Budapest; 6. The treatment and filling of pulpless teeth; and 7. Crown and bridgework from the hygienic and technical point of view, by Dr. Morgenstern, of Baden-Baden. In accordance with the rules of the congress, these papers, the titles having been first received, will have precedence over others. This does not, of course, exclude communications upon other subjects, but such communications can be read only if time permits. It is very important that an abstract of any paper that is to be read be forwarded before May 1, 1897. The chairman of the section is Dr. F. Rein, Little Dmitrowka Street, h. Scheschkow, Moscow.

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on February 11th. Dr. Joseph Sailer exhibited an endothelioma of the left superior pulmonary vein, and also a brain presenting symmetrical multilocular subarachnoid cysts in the temporal region. Dr. H. L. Williams exhibited a ruptured tubal gestation sac, together with the fœtus. Dr. H. A. Hare exhibited a specimen of senile gangrene involving the foot. Dr. A. E. Taylor read a paper entitled "A Contribution to the Pathology of Albumosuria." Dr. A. H. Stewart detailed the report of a case of cystinuria, and exhibited specimens of cystin crystals. Dr. D. J. McCarthy exhibited a heart presenting stenosis of both auriculo-ventricular orifices, and also a urethral bougie extemporized from a kitchen poker. Dr. Judson Daland showed from one case a brain presenting the remains of an old hemorrhage into the basal ganglia, an old and a recent cardiac thrombus, granular kidneys, and aneurismal dilatation of the right vertebral artery. Dr. Joseph Sailer exhibited a liver presenting unusual fissuration. Dr. William S. Carter exhibited for Dr. M. H. Fussell lungs, heart, kidney, and uterus from a case of hemorrhagic purpura.

The Fortunes of Medical Men.—Among the wills of members of the medical profession proved during 1896, that of Dr. Patrick Fraser, with his £420,000 of personalty, lifts its head, "like some tall Alp," dwarfing the others into insignificance. Next, but *longo intervallo*, come Sir John Erichsen, with a little less than £90,000, and Sir George Humphry, with a trifle under £80,000. Dr. Samuel Holdsworth, of Wakefield, who died at the age of eighty-three, left some £53,000, and Mr. William Statter, of the same town, some £40,000. Dr. George Harley and Sir William Moore come close together with about £25,000 each, an amount which Sir George Johnson and Sir Russell Reynolds scarcely make up between them. —*The Practitioner*.

Heroic and Hygienic Young Ladies.—A London contemporary notes, with approving comment, that "a number of unmarried women of New York have formed a society for the prevention of hereditary diseases. They have registered a solemn vow not to marry any man whose family is tainted with consumption, insanity, alcoholism, or other heritable disease." This is probably, or ought to be, united in sororal bonds with that noble band of maidens which another of our envious British contemporaries says has been formed somewhere out in Cook County, with the equally laudable, though somewhat more selfish, object of discouraging kissing in the dark.

Punished for Defending a Clerical Quack.—The Paris correspondent of *The Lancet* says that Dr. Guermonprez, surgeon to the hospital at Lille and professor at the Catholic University at that town and a well-known gynecologist, has been boycotted by the profession for having accepted the medical certificates of a priest who practises medicine illegally at Sens and who has been many times convicted for his misdemeanor. Dr. Guermonprez, whose religious convictions are responsible for his attitude, attempted to lighten the rigors of the law for the priest, with the result that he has been expelled from the Surgical Society of Lille.

Serum Diagnosis by the Philadelphia Board of Health.—Upon the suggestion of Dr. A. C. Abbott, director of the bacteriological laboratory of the Philadelphia board of health, examinations of specimens of dried blood from suspected cases of typhoid fever will be made and reports furnished to the physician in charge.

Bellevue College.—The officers of Bellevue Medical College have decided to replace the college building, which stood in Bellevue Hospital grounds and which was recently destroyed by fire, by a more modern and substantial structure, which will be erected on the south side of East Twenty-sixth Street, next to the Carnegie Laboratory, opposite the main entrance to the hospital. The old college building was erected by the city, and the upper part of it was given over to class and lecture rooms, while the free dispensary for the out-door poor was maintained on the Twenty-sixth Street side of the lower floor. Even before the fire there was some talk of a removal of the college, as the commissioners of charities wished for hospital purposes the ground on which the building stood. The new structure will have a frontage of one hundred feet on First Avenue and one hundred and fifty feet on Twenty-sixth Street. It will connect directly with the laboratory building. It is thought that the new building will be ready for occupancy on September 1st.

Deaths from Famine.—Dispatches from Delhi, India, say that in Sirsa, where there is more suffering from the famine than in any other part of the Southern Punjab, the death rate has reached twenty-three per cent. of the population, forty thousand persons having died.

Shakespeare on Appendicitis.—An esteemed correspondent, who says that, as the good Hebrew believes everything can be found in the Talmud, so a good Anglo-Saxon thinks that everything is in Shakespeare, calls our attention to a reference to the appendix in the "Taming of the Shrew." He thinks it is particularly appropriate, although he would cast no reflection on any particular hospital. The quotation reads: "My master hath appointed me to go to Saint Luke's, to bid the priest be ready to come against you come with your appendix." Later this same appendix is ranked among the "froward and unable worms." But here Shakespeare's prescience fails him for once, for he makes *Lucentio* return from Saint Luke's with his "appendix" attached to him more securely than before. Perhaps this remarkable escape may be due to the fact that, although "Curtis" had been about, he had made his exit before the "appendix" was brought in.

The "Wisconsin Eclectic Medical College," which claims to hold a charter from the State of Wisconsin but which does business in Chicago, has reduced the price of its diplomas from $35 to $20, or we know not how much lower. The sole requisite for graduation is to "send us your name in full exactly as desired in diploma, and we will on receipt of the same send on the diploma per express C.O.D., you having the right of examination before making payment of the fees." The diploma is printed on artificial parchment, but upon payment of $2 in advance the candidate can have a "real sheepskin." It is strange that the physicians of Chicago can or will do nothing to remove this stigma from themselves and their city. One of our esteemed contemporaries published there punctuates its editorial page with "Let Us Have a Department of Public Health!" We would suggest, as a substitute for this, "Let Us Have No Diploma Mills in the Capital City of the American Medical Association!"

Dr. Alonzo Blauvelt, chief inspector of the bureau of contagious diseases, has been appointed chief medical school inspector of New York, under the system recently adopted by the health board for the examination of children attending the schools. The one hundred and fifty medical examiners provided for under the new system will be appointed by the health board as soon as the civil-service commission furnishes the required list of applicants.

Reviews and Notices.

A Guide to the Clinical Examination of the Blood for Diagnostic Purposes. By Richard C. Cabot, M.D. With colored plates and engravings. New York: William Wood and Company. 1897.

The great importance of the study of the blood has always been sufficiently recognized, but only of recent years has the practical value of these researches come to light. Behring's (serum) antitoxin treatment of diphtheria, Vidal's blood test in the diagnosis of typhoid fever are well-known to every practitioner and prove the above statement. A work on the condition of the blood in health and disease is, therefore, a very welcome addition to American medical literature. Cabot is an expert on blood, and he has treated this subject from the practical standpoint and from his own great experience.

As indicating the great clearness with which this masterful book is written a few sentences which treat on the blood in pernicious anæmia are quoted:

"The drop as it emerges from the puncture is often excessively pale and watery, but not more so than may occasionally be seen in secondary anæmia or chlorosis. Sometimes it is not nearly so pale as in other cases with equally low counts, a fact which may be due to the increased color index sometimes present. In one case I have seen the blood as red as normal.

"Another appearance which I have frequently observed in this and other anæmias is an uneven, streaked color in the drop, as if the cells were unequally divided in the plasma.

"As striking as the color of the drop is its great fluidity; the rapidity with which it slips off the ear or finger often makes it difficult to suck it up in time. It is usually very slow in coagulating.

"The fresh specimen in most cases shows no rouleaux formation, a diminution in blood plates and fibrin, and usually great variations in the size and shape of the corpuscles. Not infrequently the deformed corpuscle shows active pseudo-amœboid motions of its projecting points or of the cell as a whole. The great lack both of red and white cells is noticeable even in the slide and cover-glass specimens."

Traité de Thérapeutique et de Matière Médicale. Par Victor Aud'houi, Médecin de l'Hôtel Dieu de Paris. Pp. 1,200. Paris: G. Steinheil. 1897.

This work contains a scientific classification of the properties of medicinal agents which have actually been determined. It presents a valuable book for the medical student as well as for the practitioner.

Traité de Médecine et de Thérapeutique. Par Brouardel, Gilbert, et Girode. T. I. Maladies microbiennes. Paris: Baillière et fils. 1895.

The true name for this most excellent work should be "Modern Medicine," for it treats on all subjects from the latest point of view. The etiological factors are here given more consideration than in any previous works. This is already shown in the new terms some of the diseases have received; thus, "pneumococcie" instead of "pneumonia," "streptococcie" instead of "pyæmia," etc. The new work will be read with interest and profit by every practitioner of medicine.

Diseases of the Stomach. A Text-Book for Practitioners and Students. By Max Einhorn, M.D., Instructor in Clinical Medicine at the New York Post-Graduate Medical School and Hospital; Visiting Physician to the German Dispensary. New York: William Wood and Company. 1896.

"Diseases of the Stomach" as a specialty by itself is a result of the modern-day division of the field of investigation and therapeutic effort.

It is only some twenty years ago that Leube first made use of the stomach pump for diagnostic purposes, and we may regard strictly scientific investigation and treatment of stomach diseases as dating almost from that period. The writings of Dr. Einhorn have made his name one of those most closely identified with stomach disorders. His present work, which presents the acquisitions of late years in matters of diet and local, general, and surgical treatment of the stomach, will therefore be read with interest.

Much of the ground has been covered in a series of articles contributed by the writer to the "Twentieth Century Practice of Medicine," but in the present monograph the whole subject has been approached from the more practical side, and many details essential to an exhaustive scientific presentation of the subject have been replaced by matters of diet, and management of cases more in keeping with the requirements of the man who consults the work to find out how to make his patients well.

As a whole, the work is an excellent *exposé* of what is known about the stomach and the scientific methods of treatment of the day. It has a table of contents and index, and is well printed in uniformity with the "Medical Practitioner's Library" series.

The Practice of Medicine. By Horatio C. Wood, A.M., M.D., LL.D., Professor of Therapeutics and Clinical Professor of Nervous Diseases in the University of Pennsylvania, Member of the National Academy of Science; and Reginald H. Fitz, A.M., M.D., Hersey Professor of the Theory and Practice of Physic in Harvard University, Visiting Physician to the Massachusetts General Hospital, etc. Philadelphia: J. B. Lippincott Company. London: 10 Henrietta Street, Covent Garden. 1897.

Here we have an attempt to view medicine simultaneously from the pathologic and therapeutic sides. Harvard and the University of Pennsylvania are the points of view from which the horizon has been scanned, and the men with their eyes to the small end of the telescope are keen-eyed observers of long experience, who may be relied upon to let no pathologic or therapeutic fact elude their search. While there is a joint responsibility for almost all views entertained by the writers, each has executed by himself certain defined portions of the work. Thus Professor Wood is individually responsible for articles on diseases of the nerves and muscles, acute and chronic poisoning, and all of the therapeutics. Professor Fitz, on the other hand, stands sponser for all that his colleague says excepting where the pronoun "I" indicates the view of one writer alone, and has individually prepared the chapters on most of the infectious diseases, diseases of the blood, circulatory, respiratory, and digestive systems. The first thing one notices on opening the book is that it readily remains open at any given page, indicating an excellence of binding that is only too rare in medical works. Then it is not too heavy to hold comfortably in the hands, a commendable feature in these days of heavy text-books. Many of the topics are but superficially treated, and many diseases are not so fully described as their importance would seem to call for, but this fault, if corrected, would make too heavy a volume. In point of fact internal medicine can no longer be adequately crowded in between the covers of any one volume; either the subject matter must suffer or the student. In the present work little space has been wasted upon forms of treatment and remedies which have not proven themselves of value.

Neurological Reports. Charles L. Dana, M.D.

This is a series of studies reproduced from the *Post-Graduate*, neatly bound but without title page, and hence probably intended for private distribution.

Some attention is given to hypnotism, especially the systematic use of the simpler and suggestive methods. The illustrations inserted toward the end of the book relate to interesting subjects, but a careful reading of the many instructive articles fails to disclose reference to them.

Illustrated Skin Diseases. An Atlas and Text-Book, with Special Reference to Modern Diagnosis and the Most Approved Methods of Treatment. By William S. Gottheil, M.D., Professor of Dermatology in the New York School of Clinical Medicine. New York: E. P. Treat. 1896.

The first three portfolios of this new work have just appeared.

Part 1 deals with the anatomy and physiology of the skin, giving every detail pertaining thereto, together with illustrations of the epidermis, muscles, Pacinian corpuscles, sebaceous glands, hair and hair follicles; typogravure of a case of morbilli and variola, and a photogravure of a case of eczema impetiginosum and of tricophytosis.

Part 2, commencing with general therapeutics of the skin,

deals with eczema and syphiloderma palmæ and continues with a photogravure of lupus vulgaris and psoriasis circinata. The author's classification is one which is a slight modification of that known as Jessner's. The most natural and certainly best illustration is the case of gumma subcutaneum, Plate XXX. This is so natural that one cannot help realizing what it would otherwise be impossible to grasp.

Part 3 commences with seborrhœa and continues with dermatitis venenata. Plate XXVIII., dealing with syphiloderma tuberculo-ulcerosum, is certainly proof of what can be accomplished by illustration. The photogravure of elephantiasis Arabum and the subject of urticaria factitia papulosa, urticaria pigmentosa, and also prurigo, with the case of nævus vasculosus, and the chapter on purpura dealing with subcutaneous hemorrhages, end the third portfolio. Every disease is profusely illustrated. In fact the stronghold of the work is its color photography, depicting as it does from life what heretofore it has been considered impossible to illustrate. The etiology, pathology, and diagnosis are given in as few words as practical, and great space is devoted to modern therapeutics. So we find thirty-eight different formulæ of the author's recipes of lotions, ointments, etc., based on years of extensive experience in both hospital and dispensary practice.

The Mineral Waters of Mt. Clemens, Mich. By Richard Leuschner, M.D.

This is a small brochure which may be had by application to the author, who describes the physiologic action, therapeutic value, and chemical constituents of the Mt. Clemens waters. An analysis of the five different waters is given, and the directions for their application to the various diseases are indicated.

The Profession of Medicine, Its Study and Practice, Its Duties and Rewards. By Charles West, M.D., Fellow and late Senior Censor of the Royal College of Physicians. London: Kegan, Paul, French, Trübner & Co., Limited. 1896.

A little volume of one hundred and fifteen pages, pointing out what material a doctor should be made of and how he should fulfil his calling. Many interesting topics are discussed, including consultations with homœopathists.

The Principles of Theoretical Chemistry, with Special Reference to the Constitutional Compounds. By Ira Remsen. Fifth edition. Philadelphia and New York: Lea Brothers & Co. 1897.

The reputation of the author for thorough scientific work, together with the fact that this work has passed through five editions in a comparatively short time, would be a sufficient guarantee of its worth. Furthermore, it has become a standard text-book, not only in this country, but it has been translated into German and Italian. This edition is cast on somewhat broader lines than the former ones, and all changes required by the advance of science have been made. The main object of the book is to point out, as clearly as possible, the reasons for accepting the prevailing views in regard to the constitution of the chemical compounds, to show that they are the legitimate results of a profound and comprehensive study of chemical phenomena, and that they are the simplest views possible if we accept the atomic theory as the basis of speculation. An interesting chapter on chemical affinity appears and though no theory is advanced the results of the latest investigations are outlined and many data secured, which, it is hoped, will assist in framing a correct theory. We feel safe in saying that it is clearer, more concise, and better adapted to the needs of the student than any other work with which we are familiar.

The A B C of the X-Rays. By William H. Meadowcroft. New York: The American Technical Book Company. 1897.

This is an attractive little volume, written in a style that makes it interesting to the seeker after general information as well as to any who wish to make special study of the subject, or practical use of Professor Roentgen's discovery. The volume contains many very good illustrations. It would enable one unacquainted with electricity to choose and manipulate the apparatus necessary for practical work. The book would prove useful to surgeons who may wish to avail themselves of the information that the *x*-rays can often furnish.

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 5, 1897.

Andrew H. Smith, M.D., President, in the Chair.

Operations for Facial Neuralgia.—Dr. Joseph D. Bryant presented a woman, forty years of age, upon whom he had operated twice for facial neuralgia. He had first seen her at St. Vincent's Hospital, 1895, when it was learned that eighteen years before she had had a sharp pain beneath her left eye, and since then had been troubled with pain and some ringing in the ears, etc. She had passed through all sorts of medical treatment for the neuralgia, had been given chloral, phenacetin, etc., but without special benefit. In August, 1895, Dr. Bryant made a circular incision beneath the eye, turned up the lower lid, exposed the infraorbital foramen, chiseled out the bone, raised the nerve out of the groove, freed it back to behind the orbital plate, stretched it, and cut it off. Undoubtedly, however, it was cut off in front of the branches going down to the ganglion. The parts were put back and the face healed promptly. She was relieved of her pain for ten months, but then returned with pain in the lower part of the face or region of distribution of the third branch of the fifth cranial nerve. Dr. Bryant then cut across the zygoma, turned down a flap, exposed the temporal fossa, brought into view the internal maxillary vessels and pterygoid plexus, proceeded down to the foramen ovale, waited for the arrest of hemorrhage, which was considerable for a time, then divided the nerve just as it left the foramen. This was in July, 1896. There had been no pain since that date. The patient had lost a little power in the orbicularis of the eye, but was steadily regaining it. This operation was one usually employed before resorting to Hartley's, or division of the nerve within the cranium but extra dural. Of course it was impossible to say how long the relief from pain would last.

Dr. Walker inquired whether the return of pain was progressive, there having been anæsthesia, then sensitiveness, then pain. Dr. Bryant believed the pain had returned gradually.

Dr. C. L. Dana said he had been very much interested in these cases of facial neuralgia since the publication of his article on their medical treatment last summer. He was constantly seeing cases which had been operated upon, and the last four or five months seven or eight had come under his observation. Some of them had been operated upon in every conceivable way, until all three branches of the trigeminal had been divided. In two instances Hartley's operation had been performed. But in all pain had come back. On the other hand, he had known of cases not operated upon in which the pain had disappeared after six or seven years, either spontaneously or after medicinal treatment. Some cases after long periods of suffering had been promptly relieved by medicinal treatment. It seemed to him possible that the attacking of the nerve surgically might prolong the disease, although it certainly did give relief from pain for a period of six to nine months, and sometimes for eighteen months or two years. According to his observation the pain returned sooner after the second operation than after the first. He thought medical treatment was not always thoroughly tried before surgery was undertaken.

Dr. Beverley Robinson mentioned a case which corroborated Dr. Dana's statement that some patients improved or were cured without an operation. The patient had received many medical and surgical opin-

ions, and he believed that eighteen months ago Dr. Bryant had seen her and advised against an operation at that time. She had since improved markedly, although some pain remained. There was a difference between hospital cases and those seen in private practice, where the patients could follow advice with regard to change of surroundings, etc. Many of the latter class could be made comfortable if not cured without operation. The drug which Dr. Robinson had found gave most relief was a good preparation of aconitine given in very small doses. He inquired of Dr. Bryant whether surgeons generally began with the less dangerous but less radical operations, or resorted to the latter only in the event of recurrence of the neuralgia.

Dr. Bryant believed it was the custom to begin with the less severe operations. He thought there had not been a sufficient number of Hartley operations to judge of the permanency of the relief which it afforded, but lately some cases of recurrence had been reported. In the case alluded to by Dr. Robinson, the pain was not nearly so severe as in the one presented.

Advances in the Treatment of Chronic Cardiac Disease.—Dr. Beverley Robinson read the paper (see page 361).

At the conclusion of his paper Dr. Robinson referred to the experiments of Dr. W. Gilman Thompson, published a number of years ago in the Medical Record and in Wood's "Handbook of the Medical Sciences," during which nitroglycerin was applied to the heart muscle itself and had the distinct effect of producing more active systole than could be produced by any other drug. It was thus proven that nitroglycerin was a direct cardiac stimulant.

Dr. W. Gilman Thompson opened the discussion. The author, he said, had covered a wide field in a very interesting way. Regarding rest and exercise in cardiac disease, one could judge of the amount required when the patient first came under observation only by carefully watching the effect. He recalled a case in which a marked degree of arrhythmia existed for years, and yet the patient was able to go about and take moderate exercise. In instances of that kind one might suppose on first seeing the patient that rest abed was required, whereas it would be a hardship and even do harm. But the amount of exercise to be taken should never be left to the discretion of the patient.

The author had alluded to the use of salicylates in certain cases of chronic cardiac disease, particularly those which had originated from rheumatism. Personally Dr. Thompson had found that they did more harm than good. They tended to promote anæmia. He had been accustomed to limit their use to cases in which there was pain, connected perhaps with pericarditis or endocarditis, and fever. As soon as these symptoms subsided, he thought the salicylates should be discontinued. They certainly did nothing in such cases to prevent cardiac complications, while they did promote or aggravate anæmia, which was very undesirable.

The reader had made some good suggestions with regard to diet. In his own opinion, one of the two cardinal principles in the regulation of the diet was to avoid overdistention of the stomach by flatulence. The mechanical crowding upward of the heart by a distended gastric organ was shown in irregularity of the heart, dyspnœa, etc. That condition could be prevented in large measure by regulation of the diet as suggested by Dr. Robinson, although he believed that special mention had not been made of the fact that it was out of starch and sugar that most of the gas which caused distention was produced. He thought the suggestion to feed the patient often and only a comparatively small quantity was a good one, and was applicable to fluids as well. The heart action being feeble, to throw a large amount of fluid into the circulation at once would necessitate the pumping organ to work harder in moving it around. The amount of fluid taken should be restricted within reasonable limits, but given frequently in small quantity if necessary. In such cases there was also frequently chronic kidney disease demanding diuretics, and one had to choose between overloading the stomach and the vascular system to a degree which might impede the action of the heart and giving too little fluid for the best interests of the kidneys.

Regarding small doses of calomel, the speaker had had such bad results from salivating patients that he felt inclined to give them up. He thoroughly agreed with the author, however, regarding the benefit to be derived from occasional larger doses of mercury in suitable cases. They did undoubtedly relieve a good deal of dyspnœa and engorgement in different organs, and whether one gave blue pill or a single large dose of calomel the result was equally efficacious.

With regard to the stimulating effect of nitroglycerin upon the heart, Dr. Thompson said he was thoroughly convinced that it was a good cardiac stimulant. Its failure to show much effect upon the arterial tension could be referred to its double effect of distending the arteries while increasing the heart's force. He found five grains of chloral an excellent adjuvant to nitroglycerin in overcoming the heart's embarrassment.

Dr. Henry F. Walker thought the most important service which the physician rendered the patient with chronic heart disease consisted in so regulating the diet as to prevent gastric disturbance yet keep up nutrition, and in relieving engorgement of the liver, etc. In his experience the remedies which were directly applicable to the treatment of the heart were usually those which only controlled its nervous irritability.

Dr. F. P. Kinnicutt agreed fully with the author and the previous speakers with regard to diet in chronic heart disease. With regard to mercurials, he thought he had obtained better results from the occasional use of rather large doses than from the smaller doses mentioned by Dr. Robinson. As to chloral, he had found it very usful in connection with nitroglycerin. There was a number of cases in which it was desirable to reduce the arterial tension, and nitroglycerin alone failed to accomplish the purpose even when given in large doses, but on combining with it five grains of chloral, repeating every four or five hours, he had seen distinctly beneficial results.

Dr. Kinnicutt agreed with what he had understood the author to say regarding the inadvisability of invariably trying to relieve arterial tension. Arterial tension was probably a conservative process in some conditions. In cases of increased tension in arteriosclerosis associated with renal disease, it often was a nice point to decide how greatly arterial tension may be lowered without incurring the risk of promoting serous effusions. In cases in which the arterio-sclerosis is associated with dilatation of the left ventricle, which so frequently is the ultimate outcome, clinically, in his experience the best results followed the combined use of digitalis or strophanthus and arterial dilators. Increased force is thereby given to the heart's action and at the same time the resistance in the blood current is diminished. For affecting the sclerosis itself, the routine use of the iodides he believed to be of value.

Nitrite of Sodium as an Arterial Dilator.—The President believed the author had spoken of nitroglycerin as representing the entire field of arterial dilators. It undoubtedly did the work very effectually for a brief period. Some experiments made some years ago had shown that the effect of moderate doses

of nitroglycerin was exhausted in about forty-five minutes. Given in the usual manner, there was likely to be an interval during which the system was entirely without its influence. But there were other nitrites to which this objection of so transitory an effect did not apply. Nitrite of sodium deserved special mention. It caused relaxation of the arteries for three or four hours and its influence was more even. Dr. Smith employed it a great deal in cardiac troubles because it was not necessary to repeat the doses so frequently as when nitroglycerin was used. Now and then the latter might also be added. With reference to the danger of salivation from the use of small doses of mercurials, he thought we were particularly liable to that accident when the kidneys were impaired, as they frequently were in cardiac disease. Moreover, salivation in such cases, complicated with anasarca, was very difficult to control. He preferred blue mass, which had not troubled him in that way.

Dr. Robinson closed. He had not expected to bring out anything particularly new in the paper, but his desire had been fulfilled in calling forth a discussion by a society composed of such distinguished members. One of the points which he had desired to bring out was the proper estimate to be placed upon what might be called the fad of the day, the Schott physical treatment and the Bad Nauheim. There was no doubt in his mind that this could be made a safe treatment, but there was also little doubt that its usefulness was very much exaggerated to-day and that, if it were not governed properly, it was capable of doing a great deal of harm. It was most essential before such treatment was undertaken that the physician should make a most accurate diagnosis of the case as one suitable for it. He supposed all would agree with that view, yet he wished to emphasize it. Another point to which he had wished to call attention was the question of so-called or, perhaps, real hypertension of the arteries. In watching the rising medical men of to-day in hospitals, he observed their fingers always wandering over the radial artery. They found hypertension there often, and always "went for it," usually by giving nitroglycerin. But to administer nitroglycerin in a manner to produce the result which the hospital interne desired would, the speaker thought, produce at times bad effects as well as good. He wished it understood that he agreed with Dr. Thompson and other speakers, that when calomel was given in small repeated doses its effects must be watched very carefully. He used it in this manner less in private than in hospital practice, for the reason that in private practice the patients could not be kept under so close observation. With the latter blue mass was preferable. Moderate doses of nitroglycerin would help along on occasions, but one should not depend upon this drug and increase the dosage to the neglect of matters of more practical moment, such as the use of mercurials, properly watched, for unloading the portal circulation, etc.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 4, 1897.

Edward G. Janeway, M.D., President, in the Chair.

The Health Department of Greater New York.—Dr. Stephen Smith read the first paper. He said the creation of the department of health for the territory of the Greater New York would prove an event of transcendent importance in the history of municipal or State medicine. Whatever the political, financial, commercial, or other advantage or disadvantage which might result from this union of various municipalities into one homogeneous government, there could be no doubt that their consolidation under one well-equipped health department would prove of immense importance to the public interest. There was ample proof of the necessity of bringing contiguous territory under a central sanitary authority. An outbreak of contagious diseases in outlying towns was more serious to New York City at present than when the outbreak was within the line of its well-organized health department. Again, it was of the greatest public utility that the laying of streets, drainage, sewage, etc., should be in accord with sanitary laws.

The creation of the board of health of New York City about thirty years ago was the best piece of legislation still remaining on the statute books, and, being about the first in this country, had been taken as the basis of similar laws in various other municipalities and States. Three points of criticism had been taken, which the reader considered in their relation to the charter of Greater New York: two were general, one specific. The first related to the powers of the health department. It must be admitted that a department clothed with such vast and unrestricted powers was an anomaly in civil government. No other department of the new municipality, no department of the State or of the national governments equalled it in arbitrary and unrestricted power over the person and property rights of the people. The board possessed legislative, executive, and judicial powers without restraint of higher authorities. Such a department was to be tolerated only because it had infinite possibilities of protecting the people against pestilential diseases and securing them health and longevity—the greatest boons which government could bestow. We could appreciate the necessity of giving such powers to the board of health only by a knowledge of the advance made in medical science, more especially as to the bacteriological origin of disease. The flood of light which the bacteriological department had thrown into the dark realm of contagious diseases had revolutionized preventive and curative medicine. The field of operation for preventive medicine was the community in its civil capacity. While the carrying out of sanitary medicine required that the health department be clothed with extraordinary power, yet, if this power were put under the control of incompetent and corrupt men, no method could be devised by which the property and person of the citizen could be more jeopardized.

The second point related to the qualifications of the authorities to carry out the laws. The proposed charter provided for a board of five members—the president of the board of police, the health officer of the port, and three members to be appointed by the mayor, two of whom should be physicians ten years in the practice of medicine immediately preceding their appointment, and one member not a physician, who should be president of the board. Dr. Smith objected to this composition of the board for reasons, some of which follow. He did not believe in *ex-officio* membership, for in nearly all departments such members were mere figureheads until they had some political object to carry out, when they became very officious and usually carried their point. The majority of the presidents of police the past twenty-five years had possessed, so far as he knew, no special qualifications for membership in the board of health. This provision was almost sure to result in introducing politics in its most dangerous form into the board. Nor was there any necessity for making the health officer of the port *ex officio* a member of the board. Being a State officer, he had no direct connection with the city government, usually was not even a citizen of New York City, and was not required to possess any special qualifications

which would make him a useful member of the board.

Dr. Smith objected very strongly to the qualifications required of the third appointed commissioner, which were simply that he should not be a physician and should be president of the board. Practically the law declared that any man—lawyer, clergyman, cobbler, or political tramp—could be president of the board, provided he had not a medical education. The only excuse was that the president of the board should be a business man, but it was a sufficient answer that most of the duties of the board required little knowledge of business; and, if it were otherwise, let it be remembered that in most cities and States the president of the board of health was a physician, and the conduct of their offices presented models of business methods.

Composition of the Health Board as It Ought to be.—The duties of the board of health, Dr. Smith said, could be divided into three groups: 1. Those requiring a knowledge of medicine and the applied sciences. 2. Those requiring practical familiarity with sanitary engineering and allied sciences. 3. Those requiring a knowledge of law. A board having a membership of experts in these three branches of knowledge would be competent to make judicious ordinances, to execute practical work in sanitary matters, and to enforce all legal obligations in proper manner. Dr. Smith thought the proportionate representation in the board of these three classes should be, in accordance with the duties to be performed, as follows: Three physicians, one lawyer, and one sanitary engineer, making a board of five. The doctors should be practitioners of ten years' standing, legal residents of the city; the lawyer a member of the bar association, and in his profession in the city at least ten years; and the sanitary engineer a member of the society of sanitary engineers, and in his profession in this city at least ten years. One of the three physicians should be selected from Manhattan, one from Brooklyn; the third, to be president of the board, should have had at least five years' experience in the health department, and should devote all of his time to the duties of the office. If it were insisted upon, the president of police and health officer of the port could be members, and the balance of power would still rest with the medical members.

Coroners Useless.—Dr. Smith said that no scheme could well be devised which would as certainly fail of its object as the coroner system, from which this State had suffered from colonial times. The duties of this office should be included under the work of the board of health through its bureau of vital statistics. In the bureau of deaths might be an officer called the medical examiner, who should have the necessary number of assistants, and whenever any suspicion surrounded a death they should investigate, have evidence presented before a judicial officer, and if the facts were sufficient have the case go to regular trial.

Approves of the Present Charter.—Dr. George B. Fowler, health commissioner of New York, thought we were fortunate in hearing the criticisms and suggestions of Dr. Smith, who had had so wide experience in sanitary matters. But there had been great advancement and extension in the health department of New York City since Dr. Smith's membership in it. He freely confessed that when he assumed the duties of health commissioner he was not at all prepared to understand the magnitude of the department as it existed to-day. What was necessary to govern the health department of the greater city need not differ much from what governed the present New York. The health board now consisted of the president of the board of police, the health officer of the port, the health commissioner, and a layman who was president. It was extremely important that the board should be free from the bane of politics, and it was, so far as he knew, to-day. Under the beneficent working of the civil-service law, they did not know or care what was the politics of the officers below the grade of commissioner. According to his experience, the board as at present constituted was about as efficient as it could be made. Regarding a lay member being president, he had found there were many duties not medical—concerning the making of contracts for the removal of manure, the drawing of plans for buildings, repairs, and improvements, etc., that a medical man would not care to perform, and could not perform as well as a layman. In a board properly constituted, the president left the medical matters to the medical commissioner. The president of the board of police was of special service in the board in certain cases of emergency. It was necessary that the health officer of the port should be with them in the event of invasion through the port by infectious disease. He doubted whether it was best to make a change. Be it far from him to suggest that there was no medical man who possessed business capacity equal to laymen, but hundreds of things connected with the department did not enter into the life of a physician, and it was a very serious question whether the president of the board should not be a layman.

Brooklyn's View.—Dr. Z. Taylor Emery, health commissioner of Brooklyn, endorsed nearly all that Dr. Smith had said, and then presented some suggestions which he had previously made before the charter commissioners. He would object to a board composed of an even number, as four. He strongly objected to the discrimination against a physician as president of the board. In cases of emergency relating to contagious diseases, the president had sometimes to issue orders before a meeting could be called, and only a physician could properly act under such circumstances. The board required the support of the medical profession, and a physician as president could have greater influence with the profession than a layman. Regarding business qualifications, the president in Brooklyn had been a physician, and he ventured to assert that the business of the board had been as well transacted as in boards with a layman at the head. The new charter limited the number of sanitary inspectors. He thought the number should be left to the discretion of the commissioners. Again, he thought the board should appoint a sanitary engineer, and have the department of plumbing, drainage, and ventilation under the control of the health department, instead of under that of buildings. This had been found the best plan in Brooklyn. Instead of legislating out of existence factories for bone boiling, fat rendering, and the like, he thought it would be best if they were left under control of the board of health. Surrounding counties might object to such factories being driven on to them. Further, the new charter required the separating of ashes and garbage. This should be left to the judgment of the board, for no doubt it would soon be recognized here, as it was in Europe, that it was best to mix them and burn all together. This had been shown abroad to be the most economical, safe, efficient, and sanitary manner of disposing of all refuse. Dr. Emery would place the reporting of marriages, births, and deaths under the board of health.

Staten Island's View.—Dr. Theodore Walser, health commissioner of New Brighton, Staten Island, told of the work of the health board of his town. The board had the plans of every new building, and its consent was required. All but one of the school buildings were new, and had sanitary arrangements approved by the board. He had for fifteen years, as health officer, registered all cases of contagious disease required to be reported, including scarlet fever, diph-

theria, and small-pox. During the past year there had been one hundred and twenty-eight cases of diphtheria, and on investigation he had found that all except four had occurred along the line of a certain open brook, which was filthy. In this matter something ought to be done, and if the charter of Greater New York should be adopted, he would much prefer to appeal to a medical man rather than to a layman as president of the board of health. The town had a crematory for garbage, which worked satisfactorily. The garbage was collected once or oftener every day. There should be something more definite about the cubic air space in schools, etc. If there was to be a new board of health, his town hoped it would be made better, not worse; that it would profit by the change, not be injured. He perferred medical men to deal with.

Dr. J. Walter Wood, health commissioner of Port Richmond, Staten Island, agreed with Dr. Smith in most matters, but said his remark on the laxity of boards of health in the suburbs did not apply to Port Richmond. So far as the office of coroner was concerned, having been coroner himself at one time, he could confirm his statements in that direction. Such a law as Massachusetts had would be better than the present system.

Dr. T. J. Thompson, health officer of Clifton, Staten Island, also endorsed Dr. Smith's paper. In his judgment, the majority of the health board of the Greater New York should be medical men. The minutiæ of the work should be left to the board itself, after it was given sufficiently comprehensive power. But there should be enough laboratories scattered throughout the territory embraced in the city to enable bacteriological examinations to be made as quickly as possible in all parts.

Dr. A. Jacobi was called upon to open the general discussion. He said that, since no motion had been made, he thought the papers, especially that of Dr. Smith, had sufficiently covered the ground and had offered many points which ought to be digested.

An Insult to the Profession.—Dr. Egbert H. Grandin said he had long contended that the clause in the present constitution which prevented a physician from being president of the board of health should be termed unconstitutional, because it discriminated against the individual. Yet it was proposed to perpetuate the insult in the new charter. There had been no argument advanced in its favor which could not be called absurd. He contended that a physician, provided he be competent, knew more about the disposing of manure and the erection of buildings than did a stock broker, a cobbler, or a political tramp.

The People Should be Represented.—Dr. E. G. Janeway asked the vice-president, Dr. Grandin, to take the chair, and discussed the question of the composition of the board. It was one of a great deal of importance. The board had such power that it was absolutely indefensible, in his opinion, that it should be composed of but one member. For the same reason it ought not to be composed alone of physicians. The people would give its mandates less heed than if there were also a lay member. They had a right to be represented. At one time he was for years associated with a lay member, and they had no trouble. But he would like to see some qualification demanded of the lay member. He thought it ought to be a scientific qualification. Regarding inspection of plumbing, drainage, and ventilation, he supposed that when this was taken from the department of health and turned over to the building department, it was done for convenience to architects and others, who previously had been compelled to go to two different departments with offices not in the same building. He thought that now it would be best to return to the former plan. Dr. Janeway repeated that he was very strongly in favor of a lay member in the board. He need not necessarily be president, although there was something to be said on that side. He had heard this argument used: that if the medical member of the board were burdened with the details of the executive work, a man could not be secured with as much ability in other directions as if he were chosen only for the general supervision of the medical department. For his own part, he was not strenuous either way.

Dr. Emery said he did not think it had been the contention of those who thought the medical profession had been somewhat imposed upon by the provision of the charter permitting almost anybody to become president of the board of health except a doctor, that there should be none but doctors members of the board. That was not contemplated. All that was asked for was that a physician might become president, not that the president must necessarily be a physician. Nor was it desired by any to separate the people from the board of health. Yet it did not follow that because a man was a physician he could not be in close contact with the people. He would not place upon the medical profession the stigma that they did not possess executive ability, business qualifications, or even common sense, as this provision in the charter would indicate. He was in hearty accord with Dr. Janeway as to the qualifications of the lay member. He saw no reason why the president of the police board should be a member, but, since he was to be, that fact in itself provided for lay membership.

Dr. Smith said, in the course of some closing remarks, that there was only one place for a lay member, and that was as the business agent of the board. He would not rule him out entirely, but would require that he be a business man and confine his work to the business interests of the board as far as possible.

Medical Expert Testimony.—A resolution offered at the last stated meeting was adopted, empowering the president to appoint a committee of five or seven to investigate the subject of medical expert testimony as now given in courts, and to make such recommendations as might seem appropriate.

Committee on the Charter of Greater New York.—On motion of Dr. Herrick, the president was authorized to appoint a committee of five, to take into consideration the charter of the Greater New York, and report at the next meeting.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, February 25, 1897.

S. Marx, M.D., Chairman.

Remarks on the Diagnosis and Treatment of Extra-Uterine Pregnancy in the Early Months.—Dr. G. H. Balleray, of Paterson, N. J., read the paper. The diagnosis of extra-uterine pregnancy in the early months would depend upon the circumstances of the case, the skill and experience of the practitioner. Nearly all cases were tubal, and the cause was generally believed to be some abnormal condition of the tube. We were indebted to Lawson Tait for placing the pathology of extra-uterine pregnancy upon a substantial basis, and it was he also who had taught us the proper treatment.

Diagnosis before rupture of the gestation sac might present considerable difficulty, but that it was impossible, as some writers had claimed, was far from the truth. The author pretended to no special skill, yet he had been able to make the diagnosis before rupture of the sac in several cases. The histories of two of these cases were read.

The first was that of a woman, who had given birth

in June, 1895, since which time menstruation had been irregular. In March, 1896, she began to have colicky pains, which required morphine. He found her bright, but pale and anæmic: pulse soft, cervix patulous, uterus pushed to the right side by a mass on the left and posteriorly, resilient, not movable, as large as a duck's egg. Dr. Coe saw the case with him, and concurred in the diagnosis of tubal pregnancy and in the propriety of an operation, which was done at the hospital. On opening the abdomen, Dr. Balleray found that each tube contained a fœtus, the tumor on the left being the larger. The patient recovered. The points of interest in this case were: 1, double extra-uterine pregnancy; 2, diagnosis based almost solely on physical signs, the history being simply one of colicky pains; 3, advantage of drainage, for symptoms of shock simulating hemorrhage followed the operation, and if it had not been for the drainage tube, which proved the absence of hemorrhage, he would have reopened the abdomen, and this additional shock would probably have caused a fatal result.

The doctor who called him to see the second case thought it was one of extra-uterine pregnancy. The patient was pale, poorly nourished; last menstruation some weeks previously. Three weeks before she was seen there had been some sharp colicky pains, but not sufficient to cause her to go to bed, and some bleeding for three or four days. She had noticed a shreddy substance in the clots expelled. Pulse soft; temperature, 99° F.; mass at the left of and posterior to the uterus, displacing the uterus slightly upward and to the right. The body of the uterus was somewhat enlarged, the cervix large and soft, as in early normal pregnancy. The patient was being removed to the hospital for operation, and on the way rupture of the sac occurred. On opening the abdomen about a quart of fluid and clotted blood was found and removed; the left tube with fœtus and placenta was removed; the appendages on the right side, being diseased, were also extirpated; the cavity was flushed and drained: the patient recovered.

Some idea of the frequency of ectopic pregnancy could be formed from the fact that at the Paterson General Hospital seven cases had been operated upon the past eight months. Rupture of the sac was sometimes the first evidence of anything wrong. Probably women spoken of as sterile were more liable to extra-uterine pregnancy than others, but it should not be forgotten that all women were liable during the child-bearing period.

The history of ectopic pregnancy was usually about the following: Cessation of menses for one, two, or three months, during which time the patient might or might not experience the usual symptoms of pregnancy—morning sickness, etc. After a time came colicky pains in the lower part of the abdomen, accompanied by the discharge of more or less blood from the vagina. The blood was sometimes fluid, sometimes clotted; occasionally a shreddy substance was mixed with it, or a membranous mass. The colicky pains might disappear and recur at intervals of several days or a few hours. The flow of blood might be continuous, but rarely was profuse. The physical signs were again mentioned in detail, after which the author considered the differential diagnosis from normal pregnancy in a misplaced uterus, from salpingitis, ovarian abscess, small adherent ovarian cyst, pregnancy in one horn of a double uterus, hæmatosalpinx, and hæmatoma of the broad ligament. The clinical history, together with the physical signs, usually enabled one to make the differential diagnosis; but in any event, most of the conditions named called for an operation. If necessary, he should give an anæsthetic and examine per rectum and vagina. The author disapproved of the indiscriminate use of the sound as a means to distinguish between intra-uterine and extra-uterine pregnancy. The earlier rupture occurred in extra-uterine pregnancy the more rapidly fatal was hemorrhage likely to be. When rupture occurred between the layers of the broad ligament, there was a large, soft, boggy mass at one side of and posterior to the uterus, the os uteri in a large proportion of cases pointing directly upward. He knew of no other condition which caused this particular misplacement of the uterus.

The treatment of extra-uterine pregnancy was purely surgical. Whether the diagnosis was made before or after rupture, no time should be lost in operating. Abdominal section was to be chosen in preference to vaginal. If the hemorrhage was limited within the broad ligament, the best interests of the patient were served by keeping her quiet, not operating, allowing blood and fœtus to be absorbed. If suppuration should develop later, prompt action would be required.

Dr. H. J. Boldt thought there was no necessity for removing patients to a hospital after rupture. They should be operated upon at home, and thus avoid the danger attending the transfer. Nor was it conducive to recovery to consume much time in trying to clean out all blood. If some were left and the operation expedited thereby, the patient would be more likely to recover, and absorption of the blood would take place subsequently. Regarding the drainage tube, he felt that we were getting farther and farther from its use. All told, he had seen nearly one hundred cases of ectopic gestation. He had been taught by experience not to operate upon a patient when in profound shock. It simply added to the shock, making it fatal, whereas if one waited a little the patient would rally and an operation could be performed with less danger. Referring to the possible cause of ectopic gestation, the question was surrounded by obscurity. No doubt some form of inflammatory disease was a predisposing cause. He thought that some cases could be explained only on the supposition that the spermatozoa met the ovum in the Fallopian tube, there impregnated it, and development began. The most common variety of ectopic pregnancy was tubal. Seldom did growth go on to term, but was interrupted usually between the second and the eighteenth weeks, more frequently before the tenth week than later. In his own experience tubal abortion was frequent. He believed it might become tubo-uterine, and cited a case, although Mr. Tait strongly opposed this view. Out of sixty-two operations by Dr. Boldt, there had been fifty-eight recoveries and four deaths. Electricity was more dangerous than an operation by an experienced surgeon. Nor was the danger over if the fœtus were killed, as decomposition and sepsis might take place. He would limit the vaginal operation to cases with movable uterus. In advanced cases he would remove the placenta, unless the adhesions were strong. In puncturing for hæmatocele, he would dilate the opening to large size.

Dr. E. J. Ill, of Newark, said ectopic pregnancy was usually first seen by the general practitioner. He had not seen a case among his own patients for three years. He thought diagnosis before rupture must be very difficult. Out of about fifty cases which he had operated upon, there had been only two in which he had made the diagnosis before rupture, and he did not believe that he would have recognized those had the patients not been under treatment for endometritis, and the tumor of ectopic pregnancy developed during that time, along with symptoms of pregnancy. After rupture occurred, the diagnosis was no longer in doubt. In early ectopic pregnancy with rupture there was rarely rise of temperature, and that fact was sufficient to lead one to open the abdomen and find the cause.

Physical signs were frequently negative. He did not remove the whole tube and ovary if any portion could be saved. A woman was better off with part of an ovary than with none at all. He would leave no blood or clots; they might become septic. He preferred the drainage tube to gauze, but the tube must be looked after. Eight subjects had refused operation, and, fortunately for the patients but unfortunately for his reputation, all recovered. But recovery was slow, and, while about forty per cent. might get well without operation, nobody could say what patient would not die, and therefore he always suggested operation.

Dr. P. A. Harris, of Paterson, thought that in the matter of diagnosis of ectopic pregnancy the younger graduates were pretty well informed. The diagnosis was not difficult, and the reason why it was not oftener made was that physicians had not acquainted themselves the past years with the few points necessary for diagnosis. Atypical menstruation in a person previously healthy and colicky pains were symptoms which should excite suspicion. Specialists were not likely to see cases before rupture, unless called by the general practitioner. The speaker had operated in only one case of the kind. As to drainage, he reserved it for cases in which there was septic material. If he believed in leaving blood in the abdomen, he would do as Dr. Boldt did—operate at the patient's home: but as he preferred to remove it, he would have the patient sent to a hospital. Regarding the temperature, while there was no rise in the primary hemorrhage, there was likely to be some subsequently from more or less sepsis.

Dr. Joseph E. Janvrin made some historical references, and mentioned the circumstances which had led him, about 1887, to abandon electricity and resort to abdominal section in ectopic pregnancy. It was his custom to ligate close to the uterus, to remove ovary and tube, to cleanse the abdominal cavity thoroughly. He thought those who had had obstetric and gynecological experience would have no difficulty in making the diagnosis.

Dr. Egbert H. Grandin said he would speak from personal experience, limited to two cases of early ectopic gestation seen in hospital practice and eighteen seen in consultation practice. The diagnosis seemed to him not so simple as some of the speakers had claimed. The symptoms were never the same, except two. The symptomatology given in the text-books was misleading. Too great stress was laid on amenorrhœa, not sufficient on hemorrhages. Great stress was laid on colicky pains, but these were reliable only in rupture. Again, great stress was laid on enlargement of the uterus, which was correct only before shedding of the decidua; after this event the uterus might not be perceptibly enlarged. The two chief guides to the diagnosis in his experience had been the knowledge that hemorrhage was not consistent with normal pregnancy, and the finding of a tumor at one side of or behind the uterus. The tumor was often high and did not approach the vaginal vault; therefore a rectal examination should be made in case of suspected extra-uterine pregnancy. Of the twenty cases, he had himself operated upon fifteen. The subjects had recovered. His conclusion had been that a clean cut was safer than waiting. He had been surprised that at this meeting and at the last meeting of the American Gynecological Society, the opinion had been expressed by some gentlemen that it was not best to operate during shock attending rupture. Why was the woman in shock? Because she was bleeding. To wait while the hemorrhage was progressing, as it was likely to be, the woman would die. In three cases in his own experience the pulse was imperceptible and the belly was full of blood, yet by quick work the women were saved. While patients in whom he had left blood after removing the tube, etc., had recovered, they had given him a great deal of trouble afterward. The assumption was that the woman with ectopic gestation had a diseased tube. How could one know that it was not septic, and that the clots were not septic? It was best to remove it and fill the belly with hot salt solution. As long as the belly was full of hot salt solution the woman would not die of shock. As to drainage, he had resorted to it only in bilateral operations, and then drained through the vagina.

Dr. A. Palmer Dudley believed that in extra-uterine pregnancy the egg in most cases was impregnated on its way to the uterus. One difficulty in early diagnosis was the fact that many of these women denied exposure to pregnancy. He emphatically agreed with those who thought operation should be done without removing the patient to the hospital. He passed a long pair of forceps down alongside the uterus to control hemorrhage while adhesions were being broken up.

Dr. W. Evelyn Porter thought ectopic pregnancy would be recognized early much oftener than it was if doctors were to make it a custom to examine all their cases of supposed pregnancy the first month or two. The most difficult cases to recognize were those of slow hemorrhage. When decided shock from loss of blood was present, the diagnosis became positive.

Dr. Edward W. Peet had made the diagnosis of ectopic pregnancy in one case at the seventh or eighth week; he used both faradic and galvanic electricity, and packed the uterus with gauze three or four times. Some two weeks later the patient had considerable hemorrhage from the vagina, and everything came away from the uterus. Whether the woman aborted of the ectopic pregnancy he did not know, for the mass had disappeared. The question arose, should one always operate? He could not tell whether it was a case of ectopic pregnancy until, as Dr. Ill had said, the abdomen had been opened. There were certain cases which they, the younger men, were not allowed to operate upon, and they had not the facilities for steering them to a hospital and operating for nothing. Was he justified in so treating his patient, or not?

Dr. Louis J. Ladinski wished to corroborate the testimony of the speakers in favor of operating as early as possible, as well as making the diagnosis as early as possible. One could certainly make the diagnosis if he took into consideration enlargement of the uterus, existence of tumor, irregular bleeding, the passing of one period or more, usually pain even before rupture. Operation should not be deferred, even if the patient was in extreme shock. He cited five cases of diagnosis before rupture, but in two rupture took place before the operation.

Pneumonia in Children.—Dr. Griffith (*The Medical News*, December 5, 1896) speaks as follows of this condition: "Among the conditions which render percussion difficult and unsatisfactory in childhood is the peculiar resiliency of the chest at this age. Unless the blow be light and percussion carefully performed, it is very easy to overlook a limited area of dulness which could easily have been found. It is as much or more the sensation of resistance to the finger which we must seek, as it is any alteration of the sound. Too hard a blow makes the whole chest reverberate, and prevents the possibility of local differentiation. I find a series of rapid light blows the best method as a rule. But in spite of the greatest care it sometimes happens that a child will pass through an attack of pneumonia without at any time revealing a dulness on percussion. Indeed, it often happens that the affected side is tympanitic rather than dull."

Therapeutic Hints.

Tentative Thyroid Therapeutics. 1. It has passed the experimental stage in the treatment of myxœdema, and is a specific for that condition. 2. There have been numerous undoubted cures of obesity by its use. 3. The results of its use for uterine fibroids are encouraging and justify further trial. 4. The reports of instances in which it has been used in the treatment of syphilis are favorable, but there are not enough data upon which to base an opinion. 5. It has proven useful in the treatment of psoriasis and lupus. 6. The reports as to its usefulness in goitre are conflicting, but it should be thoroughly tried before operation is determined upon.—Dr. Lindley, *Southern California Practitioner*, November, 1896.

Urticaria.—

℞ Sugar of lead ..... gr. xv.
Dilute hydrocyanic acid ..... ʒ iv.
Alcohol ..... ʒ viiss.
Water ..... to make ʒ ij.

—Dublin Journal of Medical Science.

Malarial Fever in Children.—Dr. Zuckermann speaks well of:

℞ Tinct. of eucalyptus globulus,
Alcohol ..... āā ʒ ij.
Quinine hydrochlorate ..... ʒ ss.
Quinoïdin ..... ↄ i.
Hydrochloric acid, sufficient to make a solution.
Dose: From twenty to forty drops five times a day.

—La Semaine Médicale, 1896, No. 35.

Gall Stones.—Dr. Balfe states that turpentine is best given according to the following formula:

℞ Ol. terebinth .. .. ♏ v.
Syrupi acaciæ ..... ʒ ss.
Sodii sulph. carbolat ..... gr. xx.
Sp. ætheris comp. ..... ♏ xv.
Aq. menth. pip ..... q.s. ad ʒ i.
M. S. To be taken twice or thrice daily.

—Therapeutic Gazette.

Fetid Diarrhœa in Children.—Dr. E. Tompkins speaks highly of the following as an intestinal antiseptic in children:

℞ Calomel ..... 10 cgm.
Sulpho-carbolate of zinc ..... 15 cgm.
Subnitrate of bismuth ..... 8 gm.
Pepsin ..... 2 gm.
Sufficient for twelve powders. Three per diem in a child of one year.

—La Semaine Médicale.

External Hemorrhoids.—Dr. Lewis H. Adler, Jr., gives:

℞ Fl. ext. hamamelis ..... ʒ i.
Fl. ext. hydrastis,
Comp. tinct. benzoin ..... āā ʒ ss.
Tinct. belladonnæ ..... ʒ i.
Carbolized olive oil (five per cent. carbolic acid) ..... q.s. ad ʒ iij.
M. S. Apply often to the parts.

—Medical and Surgical Reporter.

Lumbago.—A formula by Drs. Martindale and Westcott is:

℞ Atropine ..... gr. iv.
Oleic acid (more or less, p. r. n. ..... ʒ i.
Castor oil ..... ʒ i.
Oil of lavender ..... ♏ v.
Rectified spirit ..... q.s. ad ʒ i.

—Medical Times and Hospital Gazette.

Strontium Lactate is a pure diuretic, and is more valuable than any other remedy in the treatment of acute inflammatory conditions of the kidney.—Bronowski.

Uterine Leucorrhœa.—The following is a very useful astringent and antiseptic injection:

℞ Tannic acid ..... ʒ ij.
Pure alcohol,
Beechwood creosote ..... āā ʒ i.
Distilled water ..... ʒ viij.
M. A tablespoonful of this solution mixed with a quart of tepid water, and used as an injection three or four times daily.

—The Practitioner.

Sexual Neurasthenia.—

℞ Quinin. bisulphat ..... ↄ i.
Ferri subcarb ..... ʒ i.
Strychninæ sulphat ..... gr. ss.
Ext. damianæ ..... ↄ i.
Ext. cinchonæ ..... ↄ ij.
M. ft. capsulæ No. xx. S. One after each meal.

—Virginia Medical Semi-Monthly.

Irritable Bladder Due to Excessive Phosphaturia.—

℞ Acid. benzoic.,
Sodii biborat ..... āā ʒ ij.
Aquæ ..... ʒ vij.
S. One or two teaspoonfuls at a time.

—La Médecine Moderne.

Arsenic per Rectum.—In pernicious anæmia, pseudo-leukæmia, etc.

℞ Liq. potass. arsenit ..... ʒ i.
Aq. dest ..... ʒ ij.
S. One drachm injected into the rectum morning and night.

Vinay.

Fever Blisters.—

℞ Camphor ..... gr. v.
Arrowroot, powdered ..... gr. xxx.
Bismuth subnitrate ..... gr. xxx.
Cold cream ..... ʒ iv.

—Monthly Retrospect, September, 1896.

Vaginismus.—Dr. Touvenaint (*New Yorker med. Monatsschrift*) advises the following:

℞ Stront. bromid.,
Potass. bromid.,
Ammon. bromid ..... āā ʒ i¼
Aq. dest ..... ʒ viij.
M. S. Tablespoonful twice a day.

Or,

℞ Zinci valerianat ..... gr. ½.
Quinin. valerianat ..... gr. iss.
Extr. opii,
Extr. belladonnæ ..... āā gr. ¼.
M. ft. pil. No. i. S. From three to six pills daily.

Locally,

℞ Ext. krameriæ ..... gr. iss.
Morphin. hydrochlor ..... gr. ⅓
Ol. theobrom ..... ʒ i.
Ft. suppos. vaginal.

Or,

℞ Cocain. hydrochlor ..... gr. iij.
Extr. belladonnæ ..... gr. iss.
Strontii bromid ..... gr. iv.
Ol. theobrom ..... ʒ i¼
M. ft. suppos. vaginal.

Whooping-Cough.—

℞ Dried thyme ..... 5 parts.
Boiling water ..... 12 "
M. Infuse for ten minutes, sweeten to the taste, and give a tablespoonful every hour.

—Journal des Praticiens, November 28th.

Diphtheria.—Dr. M. S. Barsky (*International Medical Magazine*) recommends:

℞ Pilocarpinæ hydrochloratis ..... gr. ⅓
Ammonii carbonatis ..... gr. xv.
Potassii hydrochloratis ..... ʒ ss.
Aquæ destillatæ ..... ʒ ij.
Spiritus vini gallici,
Syrupi senegæ ..... āā ʒ i.
M. S. Of this mixture, a teaspoonful, a dessertspoonful, or a tablespoonful, may be given every hour, according to the age of the patient.

Sciatica.—

℞ Alcoholic solution of nitroglycerin (one per cent.) ..... ℥ ss.
Tincture of capsicum ..... ℥ iss.
Peppermint water ..... ℥ iij.

Five drops thrice daily in a tablespoonful of water for the first three days, and ten drops thrice daily on the following days.

—Troussevitch.

Flatulence.—

℞ Olei cajuputi ..... ℥ ss.
Tinct. lavand. comp. ..... ℥ ss.
Mucil. acaciæ ..... ad ℥ ij.
S. Desertspoonful when necessary.

—Hartshorne, *Medical Press and Circular.*

Diphtheria.—Dr. Benjamin (*Journal of the American Medical Association*, October 17, 1896), after ten years' trial of the following mixture, reports one hundred cases with one hundred recoveries:

℞ Acidi acet. dilut. ..... ℥ ij.
Pot. chlorat. ..... ℥ ss.
Acidi carbol. ..... gtt. v.
Tinct. ferri chloridi ..... gtt. v.
Pulv. alum. ..... gr. v.
Acidi salicyl ..... gr. i.
Glycerini ..... ℥ ss.
Aquæ rosæ ..... ℥ ss.
Aquæ ..... q.s. ad ℥ iv.
M. S. In severe cases have all the mucous membrane thoroughly sprayed through the nose and mouth at intervals of fifteen or twenty minutes, or even longer, about fifteen seconds at a time, the child breathing as naturally as possible during the application.

He also uses tincture of chloride of iron in large and frequent doses, as he thinks it produces favorable conditions of the blood and benefit is received by its local action while being swallowed.

Pharyngitis Sicca.—This is recommended for the dry throat of this condition (*Gaz. Hebdom. de Méd. et de Chir.*, August 20, 1896):

℞ Glycerin ..... gr. cccl.
Carbolic acid ..... gr. iv.
Tincture of aloes ..... gr. viij.
Tincture of iodine ..... gr. ivss.
Wine of opium ..... gtt. x.
M.

Coryza.—

℞ Uranium acetate ..... gr. ⅜–iss.
Finely powdered roasted coffee ..... ℥ iiss.
M. S. A pinch to be snuffed up the nostril two or three times a day.

—*La Médecine Moderne.*

Dyspepsia and Vomiting in Tuberculous Subjects.—Dr. Barth (*Gaz. Hebdom. de Méd. et de Chir.*) recommends the following:

℞ Prepared chalk,
Calcined magnesia ..... āā gr. iij.
Manganese dioxide ..... gr. iss.
Powdered belladonna ..... gr. $\frac{1}{100}$.
M. For one dose, to be taken after eating.

If there is severe pain, fifteen-one-hundredths of a grain of powdered opium may be added.

Inhalations in Phthisis.—Dr. J. A. Dower (*Brooklyn Medical Journal*) uses this formula:

℞ Iodophenol ..... ℥ ij.
Ethyl iodide ..... ℥ i.
Spiritus vini rect. ..... ℥ ij.
Spiritus etheris comp. (Squibb's) ..... ℥ i.
Aquæ ..... ℥ i.

Uterine Hemorrhage.—Dr. Egbert (*Philadelphia Polyclinic*, October 31, 1896) advises the following when the hemorrhage follows abortion and is attended with subinvolution:

℞ Fluid extract of ergot (Squibb's) ..... ℥ ij.
Fluid extract of viburnum prunifolium ..... ℥ ij.
Tincture of cinnamon ... enough to make ℥ ij.
M. Dose: Teaspoonful in hot water from two to six times a day.

Epistaxis.—In rebellious epistaxis the following is recommended for trial:

℞ Corrosive sublimate ..... gr. i.
Dilute hydrochloric acid,
Tincture of cannabis indica ..... āā ℥ ij.
Ergotin ..... gr. xxx.
Simple syrup ..... ℥ i.
Infusion of quassia ..... ℥ viij.

A large teaspoonful of this solution may be taken three times each day in a glass of water.

—*Revue de Thérap. Medico-Chir.*, June, 1896.

Spasmodic Cough.—

℞ Pot. bromid ..... ℥ i.
Vin. ipecac ..... ℥ iss.
Tr. belladon. ..... ℥ iss.
Syr. tolu ..... ℥ vi.
Aq. ..... ad ℥ iv.
S. One or two tablespoonfuls every three hours.

—*The Practitioner.*

Irritability of the Bladder After Delivery.—Mr. W. E. Fothergill ("Manual of Midwifery") says the following is a very good mixture:

℞ Salol,
Tinct. hyoscyami ..... āā ℥ i.
Infus. buchu ..... q.s. ad ℥ vi.
M. S. A tablespoonful three times a day.

Heart Affections in Early Life.—Dr. Charles Goodwin Jennings (*Pediatrics*) says that from seventy to eighty per cent. of the cases of heart complications in early life are rheumatic. In acute rheumatism in childhood only a minority of those affected escape endocarditis. British collective-investigation statistics give, in males, seventy-two per cent. of heart affections. At every visit to a case of rheumatism the physician should demonstrate the presence or absence of endocarditis. It is an early complication, coming on always in the first week of the disease, rarely after the tenth day. It is not infrequently the first manifestation of the process, the joint inflammation following it.

Burns of the Eyelids.—Burns of the eyelids, whether from lime or steam or an acid, should be treated by the application of sweet oil, while the further application of a lotion of carbonate of sodium, or the slightly moistened powder itself, may relieve the intense pain.—De Schweinitz.

Conjunctivitis.—Conjunctivitis of the milder type usually yields to applications of a boric-acid lotion; if more severe, nitrate of silver (two to five grains to the ounce) should be prudently applied. If the discharge is great, bichloride of mercury, 1 to 10,000, may be employed.—Hare.

Infantile Syphilis.—Dr. J. A. Coutts (*British Medical Journal*) writes as follows of the initial symptoms of infantile syphilis: There is a general agreement that in the majority of cases symptoms appear in the second month of life, and that their primary manifestation is exceptional after the third month has expired. The common expression of a relapse in the later months is the appearance of mucous tubercles. Initial symptoms might, however, appear as late at least as twelve months after birth. After referring to the symptoms and causes of "snuffles," and pointing out the necessity of distinguishing between the syphilitic disorder and the acute coryza of infants which has been described by Henoch, Dr. Coutts discussed the various forms of lesions of the skin, following in the main the classification and descriptions of Dr. Radcliffe Crocker, laying special stress, however, on the diagnostic importance of "syphilitic furuncle" described by Dr. Barlow, an indolent cutaneous swelling with a purplish color, which contains a scanty secretion of ill-formed pus.

New Instruments.

MIDDLE-EAR CURETTE AND OSSICLE FORCEPS.

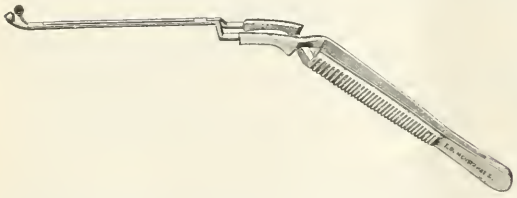
By FRANK ALLPORT, M.D.,

MINNEAPOLIS, MINN.,

PROFESSOR OF CLINICAL OPHTHALMOLOGY AND OTOLOGY, MINNESOTA STATE UNIVERSITY; EX-PRESIDENT, MINNESOTA STATE MEDICAL SOCIETY, ETC.

I DESIRE briefly to call attention to a middle-ear forceps or curette, devised by me and manufactured by E. B. Meyrowitz, New York. I have found nothing like it on the market, so venture to describe it. It is simply an angular forceps, whose confined blades shut by pressure and open by the removal of pressure. The two straight blades are made as delicate as is consistent with strength, and held together by bands—one near the angular bending, the other near the rounded points of the instrument. At about the latter vicinity the two blade ends turn gradually upward and become expanded into two hollow semi-balls, which come firmly together upon pressure with the fingers at the handle, and expand six millimetres upon removing the pressure.

The instrument may be used as a general ear-forceps for the removal of foreign bodies, cerumen, etc.: but is especially designed for the removal of loosened ossicles, polypi, and granulations from the vault of the tympanum. The upward bend of the points renders it easy to insinuate them up into the attic, where



the eye cannot reach. The blunt bullet points render injury improbable with reasonable care. The rounded concavity of the points and their somewhat sharpened edges make it feasible to curette the walls as the blades close, and at the same time to grasp an ossicle which has previously been loosened from its attachments and hold it firmly until it is removed. To an experienced aurist its utility will be apparent at a glance.

Fissure of Rolando.—Dr. Morrison (*British Medical Journal*, 1896, No. 1868) describes the following method of locating the fissure of Rolando: The measurements may be made with a piece of sterilized silk, marked off by knots to form the triangle, or by defining the sides of the triangle by means of the surgeon's finger, whose length is already known. A point is taken half-way between the glabella and the external occipital protuberance, and the breadth of the little finger behind it (about half an inch) indicates the apex of the triangle. An isosceles triangle is then mapped out on the scalp: its sides are three and three-fourths inches long. One lies in the middle line forward from the middle point mentioned above. The base measures four and one-eighth inches, and is anterior. The posterior side of the triangle is over the fissure of Rolando. Trigonometrically the apical angle of this triangle is 67° 27' 52", and this is practically identical with the angle formed by the fissure and the middle line of the skull worked out by other methods, and, from an examination of a large number of skulls of various sizes, is constant and correct.

A NEW NASOPHARYNGEAL CURETTE.

By J. STEWART DOUBLEDAY, M.D.,

PHYSICIAN FOR DISEASES OF CHILDREN, OUT-PATIENT DEPARTMENT, COLUMBIA HOSPITAL; ASSISTANT PHYSICIAN IN CHILDREN'S CLASS, VANDERBILT CLINIC.

HAVING seen no reference in the medical journals to Moure's modification of the Gottstein curette, and being convinced of its superiority to any other instrument at present used in the removal of adenoid growths from the nasopharynx, I take the liberty of calling attention to it. It is composed of two pieces. One piece resembles a large Gottstein curette, the cutting surface looking only downward, and the other fits in closely behind the curette loop with a flexible joint. This sec-

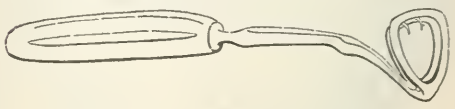


FIG. 1.

ond piece presents two bayonet points a quarter of an inch long. These points are therefore on a plane well posterior to the cutting surface. The handle is well grooved and large, and the faucial curve is good. It was shown to me in an instrument shop in Paris (Mariaud's), several weeks ago. Very few had then been sold, as it was quite new. The favorite instruments for the adenoid operation have been of late the Gottstein curette and the Cohn-Löwenberg forceps. The especial disadvantages of the former are: 1. Excessive hemorrhage from incomplete removal of growth. 2. The slipping away and loss of the growth after removal, in the pharynx or by inhalation into the larynx, with the attendant dangers. With the forceps the dangers are: 1. Incomplete removal unless several excursions are made. 2. The seizure of normal parts. I have used the new instrument in four cases, each time with pronounced success. The little patients were always held in the upright position by a skilled assistant, who also manipulated the mouth gag. At no time was anæsthesia used and suffering did not appear to be great. The operation in each case was almost instantaneous. I brought over two of the instruments and gave one to an associate. He has tried it in three cases with results similar to my own. This gentleman at first thought that the size of the curette was too great. I can only say that one of my cases was in a little girl of three years, the opening to whose pharynx seemed almost closed by the large faucial tonsils. She suffered greatly from dyspnœa, especially at night,

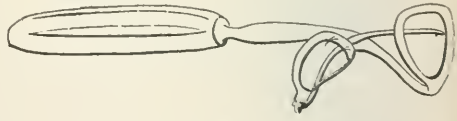


FIG. 2.

great nasal secretion, and very frequent micturition. The adenoid operation relieved all of these symptoms almost immediately. This child had what would be considered a very small nasopharynx. There was, however, ample room for the play of the instrument. The nasopharynx is far larger anyway than is usually supposed. In infants it is very small, but develops rapidly out of proportion to the rate of general growth. The rule governing the use of the Gottstein curette holds good with the new curette also. After the instrument is introduced, pressure must be made downward and backward, not directly downward. In each

of the seven cases which I have seen (five in dispensary, two in private practice) the hemorrhage has been transitory and insignificant, and no ill results have followed operation.

69 West Ninety-Third Street.

Surgical Suggestions.

A New Suture Material. — Dr. L. Arangino has prepared a new suture and ligature from the parietal peritoneum of cattle or horses. This is dissected off, cut into strips of different widths, twisted into cords, and dried for two or three days. These strands are freed from fat by soaking in ether, and are made sterile by soaking in a two-per-cent. solution of corrosive sublimate in alcohol. They are preserved in a weaker solution of the same character. He claims that these sutures can be easily prepared, are strong, are absorbed without difficulty, and are easily sterilized. They are certainly less liable to contain bacteria and micro-organisms than the submucous layer of the intestine, which is the common form of material used as "catgut." Arangino also sterilizes his material by placing it in oil of juniper for ten minutes, heating to boiling, and preserves it in absolute alcohol.

Acute Intestinal Obstruction.—Dr. Sands has classified the causes of acute intestinal obstruction as follows: 1. Errors of position, as intussusception volvulus. 2. Compression, as from inflammatory bands, diverticula, internal herniæ, tumors. 3. Obturation from foreign bodies, as enteroliths, gall stones, polypi, fæcal accumulations. 4. Stricture of the bowels, either fibrous or malignant. To this classification he would add external herniæ and food accumulations.

On Appendicitis.—Dr. Gilbert Barling, in the Ingleby lecture, states as follows. The ordinary positions (of the appendix) are as follows: 1. In this, the commonest, it lies to the inner side of the cæcum, covered by the ileum and extending obliquely upward from right to left. 2. The next most common is, when lying still to the inner side of the cæcum, it passes downward from right to left, reaching to and perhaps extending into the pelvis. 3. It occupies a position to the outside of the cæcum, running upward, it may be, until its free extremity reaches to or even in front of the right kidney. 4. It may be found lying entirely underneath the cæcum, or partly there and partly herniated into certain small peritoneal pouches. Other rare positions may be found, as, for instance, when it occupies the sac of an ordinary inguinal hernia, or some part of the abdomen not the right iliac fossa, the appendix being widely displaced with the cæcum, to which it is attached.

Acute Cystitis.—A very frequent cause of acute cystitis is the decomposition of residual urine. This may quite readily be cured without washing the bladder and without internal medication, simply by drawing off every drop of urine by the catheter every three hours. The catheterization must be done punctually every three hours, day and night, whether the patient urinates or not. Five minims of the oil of wintergreen twice daily, and the ingestion of a gallon of water every twenty-four hours, will contribute to the cure and will greatly hasten it.—*International Journal of Surgery.*

Rupture of the Bladder.—Diagnosis of rupture of the bladder being established, then comes the question of treatment. All ruptures extending into the abdominal cavity should be treated by laparotomy and suture, in such cases as are not too extensive or the edges of the wound too badly lacerated. The suture used should be the Lembert suture, including the serous coat and part of the muscular, care being taken not to include the mucous membrane. Silk is the best suture material, and the sutures should not be placed more than one-fourth of an inch apart and should extend one-half or three-fourths of an inch beyond the tear. After suture the bladder should be injected with a solution of boric acid before the abdominal wound is closed, to test it to see if it leaks. About six ounces of fluid are sufficient. If it should leak, additional sutures should be added to make it tight. Catheterization should be resorted to every fourth hour. Drainage through the urethra or perineum is harmful.—Dr. Magie, *Northwestern Lancet*, December 15, 1896.

Tuberculosis of Superficial Glands.—Dr. De Forest Willard, in a recent paper upon the treatment of tuberculosis of the superficial glands, advises that in their removal great care should be employed to prevent the discharge of pus and caseating material upon the fresh wound. If such an accident should occur, the area should be very carefully cleansed and disinfected. Temporary drainage is to be advised when infection has occurred from such discharges, but in operations with clean enucleation, primary union without drainage can be secured. In removing the glands from the axilla, the same care should be employed as in the removal of carcinomatous nodules. In the groin many difficulties may be encountered, especially if the indurated glands extend deep about the femoral or saphenous veins. With patients who absolutely refuse operation, local and constitutional measures must be employed, including tuberculin and orrhotherapy. The writer has more confidence in the local effects of iodine upon tuberculous granulations than in iodoform. He has had good effects from stimulating the cell growth by a mixture of aristol with nuclein applied locally. His conclusions are that tuberculous infiltrated glands should never be allowed to remain and contaminate the general system.

The Medical and Surgical Treatment of Appendicitis.—Dr. S. C. Gordon (*The Journal of Medicine and Science*) forms the following conclusions in an interesting paper on the above subject: "1st. That appendicitis is always to a greater or less degree peritonitis. 2d. That it is much more frequent than formerly, and due, in my opinion, to germs caused by the epidemic of influenza that has so generally ravaged the world. 3d. That salines have been successful in peritonitis from other causes, far beyond any other form of treatment, and in my own practice and that of many others in appendicitis never doing harm. 4th. That a majority of cases must be in the hands of men who are not experts in surgery and must be treated medically, and modern experience and common sense dictate the cathartic rather than the opium plan. 5th. That the opium method masks symptoms, checks elimination of toxic elements, and causes stasis in the blood-vessels, by paralyzing the vasomotor nerves, thus favoring gangrene. 6th. That the saline plan promptly relieves pain, washes out the toxic elements, and, most important of all, unloads the distended vessels, thus preventing gangrene and maintaining the integrity of the limiting membrane, formed by exudate, even in suppurating cases, and saves life until surgical aid is required or can be obtained (in cases demanding immediate operation). 7th. That in cases of well-marked limited abscess or general suppurative peritonitis, early operative procedure should be instituted, but in all cases such operation should be preceded by the saline treatment. 8th. That by following the above general principles ninety-five per cent. will go safely through the first attack, and often seve-

ral subsequent ones. 9th. That a large percentage of subjects undoubtedly fully recovers after one or more attacks, and no recurrence ever takes place. 10th. That inasmuch as there are no indications whereby we can determine which subjects will fully recover after one attack, it is safer to advise operation before a second one, especially as the organ is diseased to a greater or less degree."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 6, 1897:

	Cases.	Deaths.
Tuberculosis	227	121
Typhoid fever	4	3
Scarlet fever	170	10
Cerebro-spinal meningitis	2	1
Measles	156	10
Diphtheria	212	28
Laryngeal diphtheria (croup)	10	4
Chicken-pox	20	0

A Good Law is about to be enacted in Belgium making the physician who associates himself with one who practises illegally or in an unauthorized manner, so that the latter is protected by the diploma of the former, equally guilty and amenable to the laws as an accomplice.

The First Operation Under Ether in England.—The essays and addresses of the late Sir Russell Reynolds have just been published in book form. The scene (which he describes as an eye witness) of the first operation under anæsthetics possesses peculiar interest to Americans, and we therefore give it in the author's own words: "It may be interesting to many here to recall, and to some others to learn, that the first operation in England performed under an anæsthetic (ether) was witnessed in University College Hospital and was done by our great surgeon, Liston. Peter Squire, the father of scientific pharmacology in England, having become acquainted with the use of ether as an anæsthetic in America, administered it experimentally to his nephew, William Squire, who was then a pupil of our college, and rendered him quite insensible. He was the first to undergo the process in England. William Squire and I were fellow-students, and he administered it to me shortly afterward, as I wished much to know in what order the senses became extinguished. Those mixed senses, smell and taste, went first, then sight, then touch and the capacity for appreciating pain, and then *longo intervallo*—hearing. They, the senses, came back in inverted order, hearing being an easy winner in the race. The day after this observation was made there was a field day in the hospital, and Liston had consented at Peter Squire's request to try the anæsthetic. I can see him now, as he said to the students with playful eye and doubtful, almost scornful mouth: 'Gentlemen, we are going to try a Yankee dodge for making men insensible. This man's leg has to come off above the knee and Mr. Squire is going to give him ether, so that he wont feel it.' When Squire was giving the anæsthetic Liston leaned against a bench, trying the point and edge of his long amputating knife and smilling incredulously as the poor owner of the doomed leg hissed and snorted under the process of inhalation. Ether was not so pure and an apparatus for its administration not so handy in 1848 as they are in 1888, and so perhaps Liston was a little impatient to get to his work; but at length Peter Squire said: 'He is quite ready now, sir.' Liston's knife flashed in the air; I took out my watch to count the time, and the leg was on the floor in six and twenty seconds. As if it were yesterday, I remember the expression of Liston's face as he turned round to us students and said: 'This Yankee dodge, gentlemen, beats mesmerism hollow.'"

"Pour Sauver l'Innocence" of his young lady patients, a French surgeon diagnosticates uterine disorders and investigates pelvic symptoms through a suprapubic incision rather than introduce the index per vaginam.

"Pediatrics" appears in a new outside cover this year, in which the owls have less of the all-night look. There is also less filigree work, which adds to the dignity of Dr. Brown's excellent little semi-monthly.

Inebriety in Russia.—The Society of Neurologists and Psychologists of Moscow has appointed a special committee to report upon the present state of inebriety in that city, and to draw up a plan for the erection of a hospital for inebriates.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

EATING AND DRINKING. By Dr. Albert H. Hoy. 12mo, 304 pages. A. C. McClurg & Co., Chicago, Ill. Price $1.50.

LECTURE ON APPENDICITIS AND NOTES ON OTHER SUBJECTS. By Dr. Robert T. Morris. Second edition. 8vo, 173 pages. Illustrated. G. P. Putnam's Sons, New York.

THE MENOPAUSE AND ITS DISORDERS. By Dr. A. D. L. Napier. 8vo, 307 pages. Illustrated. The Scientific Press, Ltd., London. Price 7s. 6d.

A SYSTEM OF PRACTICAL MEDICINE. By American Authors. Edited by Dr. A. L. Loomis and Dr. W. G. Thompson. Vol. I. Infectious Diseases. 8vo, 985 pages. Illustrated. Lea Bros. & Co., Philadelphia, Pa. Cloth, $5.00; leather, $6.00; half morocco, $7.00.

THE DISEASES OF THE STOMACH. By Dr. C. A. Ewald. Translated by Dr. Morris Manges. Second edition. 8vo, 602 pages. Illustrated. D. Appleton & Co., New York.

GENITO-URINARY SURGERY AND VENEREAL DISEASES. By Dr. J. W. White and Dr. E. Martin. 8vo, 1,061 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

LECTURES ON RENAL AND URINARY DISEASES. By Dr. Robert Saundby. Second edition. 8vo, 434 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price, $2.50.

A MANUAL OF THE PRACTICE OF MEDICINE. By Dr. A. A. Stevens. 8vo, 511 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price, $2.50.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By Dr. J. N. Hyde and Dr. Frank H. Montgomery. Fourth edition. 8vo, 808 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

A MANUAL OF PHYSIOLOGY. By Dr. G. N. Stewart. 8vo, 706 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price, $3.50.

ESSAYS AND ADDRESSES. By Dr. J. Russell Reynolds. 8vo, 307 pages. The Macmillan Company, New York. Price, $4.00.

DISEASES OF THE GENITO-URINARY SYSTEM AND SYPHILIS. By Dr. F. E. Doughty. 8vo, 441 pages. Illustrated. Boericke & Tafel, Philadelphia, Pa.

INJURIES AND DISEASES OF THE EAR. By Macleod Yearsley, F.R.C.S. 12mo, 40 pages. The Rebman Publishing Company, Ltd., London.

ELEMENTARY BANDAGING AND SURGICAL DRESSING. By Walter Pye, F.R.C.S. Seventh edition. 16mo. 218 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price 75 cents.

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SCIENTIFIC PSYCHOLOGY.[1]

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THE object of this paper is to show, in very broad outline, and principally by the aid of illustrations drawn from the physical or natural sciences, in what sense the modern psychologist is justified is speaking of his subject as a "science," and how his treatment of its problems differs from that of the older "unscientific" psychology.

No one, I think, will dispute the fact that the subject matter of science is human experience. The special sciences, it is true, deal only with parts of experience—the physical or natural sciences with facts of experience conceived of, by abstraction, as independent of the observer who records them; the philosophical or mental sciences with facts of experience in their dependence upon the observing individual. But all alike deal with experience, under one aspect or another. Science is, in the first instance, a statement of human experiences.

But human experience is fragmentary; and we are accustomed to restrict the term "science" to a coherent and organized body of knowledge, of recorded experiences—to something that makes up a whole of knowledge, a system. Plainly, then, science is not simply a statement of human experiences. It is a statement of human experiences to which something has been done, which has been somehow worked over, and thus made systematic and unitary. That being the case, it is of the very utmost importance, when a new mass of recorded experiences comes into the field, to know precisely how this working over should be done to bring order out of chaos and make a science out of bare facts.

Facts may be systematized in two ways. To systematize in the first way is the supreme work of the scientific genius; to systematize in the other way is the most heinous sin of which the man of science can be guilty. The first way is that of supplementing facts by hypothesis; the second way is that of transcending facts by speculation. It is difficult, except by illustration and example, to make clear the precise difference between these two processes—all the more, since in any given science there will always be theories which may plausibly be placed under either rubric. But we must make the attempt, in general terms, before having recourse to concrete cases.

To "supplement" is, by derivation, to fill up; to "transcend" is, by derivation, to climb over. In these two root ideas we have the key to the difference of meaning. When we supplement, we fill up a gap in our record by a hypothetical record of the same kind; when we transcend, we fill out a gap by material taken from some other domain of experience, foreign to the material of the record. In the first case, we patch up a hole in a brick wall by laying in other bricks, as nearly of the make and pattern of the original as we can find; in the second, we fill up the hole, say, by affectionate remembrances of the architect who built the wall. The affectionate remembrances may fill a gap in our conversation with the architect's friends; they cannot mend the wall. This supposed instance, absurd as it is, may serve to emphasize the fact that scientific supplementing keeps to its own kind of experience; that when we commit the error of transcending experience we are really climbing out of our proper sphere into another where we have no business.

The history of any science may be summed up in the phrase—from speculation to hypothesis. At first, experience is transcended at every turn. Primitive man sees in the thunder cloud not a result of evaporation and condensation, but an angry giant, storming the gates of heaven; in the stone or branch that catches his foot, the manifestation of some hostile demon, who is seeking his injury; in the ill-fortune of his tribe by war or famine or pestilence, the working of a spell cast by an enemy more skilled in magic than his own medicine men. By slow degrees all this changes; but how slowly there are perhaps few except special students of the sciences who realize. And though every one smiles nowadays at the simplicity, the unscientific fancifulness of primitive man's explanations of nature, I am not so sure that every one knows just why he smiles. Even in the realm of physical science it is not so easy to separate hypothesis from speculation, as I said just now; while in the case of psychology the great majority of the general educated public is, I venture to think, almost entirely at sea as to what constitutes legitimate and what illegitimate theory. I purpose, therefore, to take a series of examples of transcendence from various sciences, in order that we may be quite clear about our fundamental principle, before we go on to consider psychology itself.

Let us begin with physics, the "mother of the sciences," as Bacon called it. The stock instance of exploded speculation in physics is the familiar phrase, Nature abhors a vacuum. It is surprising to realize that that statement held its own so vigorously in the history of physical science that when Robert Boyle published his refutation of it, along with that of several other erroneous theories, in 1666, he felt obliged to call his book "Hydrostatical Paradoxes." And yet the phrase transcends experience in a very obvious way. It personifies nature, and makes one of her emotions, the emotion of horror or abhorrence, the cause of a physical phenomenon. If it is objected that we should not press that meaning, that the statement must not be taken literally, I reply that it was,

[1] This paper contains the substance of an address upon the "Principles and Methods of Modern Psychology," delivered before the Tompkins County Medical Society, January 27, 1897. The address was followed by a series of demonstrations, in which the psychological application of the general principle set forth in the paper was illustrated in detail.

Most of the instances of transcendence here cited will be found in Whewell's "History of the Inductive Sciences" (3 vols., 1857); Butler and Armstrong's "Chemistry" (Enc. Brit., 9th ed.); Burdon Sanderson's "Ludwig and Modern Physiology" (Science Progress, March, 1896). The reader may also consult Kuelpe's "Introduction to Philosophy" (1896, trs. 1897).

as a matter of fact, used as a principle of explanation, and that however you refine upon it you cannot get rid of the underlying transcendence. Or take another instance. The Aristotelian physicists of the time of Galileo maintained that heavy bodies fall downward with a speed exactly proportional to their weight. The reason was simply this: There are four elements, of different weights. Each element tends toward its own place—earth lowest, water above earth, air above water, and fire above air. Hence the heavier the body, the greater its effort to get below other bodies. The transcendence is of the same kind as before: the elements are personified, regarded as in a certain sense wanting to perform their duty, and being satisfied when they have reached their appointed position.

In chemistry, to turn to another science, we find the tendency to personification continuing as late as it did in physics. Van Helmont, whose name every one knows as the inventor of the word "gas," believed that water was the ultimate principle from which all substances are derived. There is in the world, however, besides water, an *archæus*, a formless ultimate something. This something generates the different bodies from water, to which it is attracted by—an odor! And this was as late as the seventeenth century—Van Helmont lived from 1577 to 1644.

The century following the death of Van Helmont is known in chemistry as the phlogiston period. Phlogiston means "combustible," and the word was used to designate an element—the matter or principle of fire, not itself fire—which, along with water, acid, and earth, made up the various chemical compounds. When a body burns, it parts with its phlogiston; if it will not burn, it has already parted with its phlogiston. Most combustibles are insoluble: phlogiston is of a dry character. Metals are made heavier by being passed through a furnace: then phlogiston must be the principle of levity or negative weight. And so on. Now the modern chemist has wholly discarded this principle. Evidently, then, it transcended experience. The transcending, however, is not nearly so obvious as in the previous instances that I have taken. The theory was founded upon experimental data, and explained, in a way, many facts of experience that had hitherto resisted explanation. Nevertheless, the transcending is there. For the phlogiston theory is not a supplementing in kind; it is not, to take our old metaphor, a filling out of a gap in the scientific edifice by bricks of the same kind as those whose value time has proved. It resembles rather the running up of a cross wall to support the old structure—a wall whose materials are perishable, and whose plan does not fall in with that of the whole building. The old builders are not to be too severely blamed; scientific criticism had not developed, a century and a half ago, to anything like its present level. But while we do not blame, we may at least take warning.

The phlogiston theory received its death blow at the hands of the great Lavoisier (1743–1794). And Lavoisier's argument against it was practically that which I am urging now: it was a transcendence. All the phenomena of combustion, he said, were explicable without it, while, on the other hand, there was no evidence of the existence of the principle. Or, to quote the words of Davy, written in 1814: "It was the glory of Lavoisier to lay the foundation of a sound logic in chemistry, by showing that the existence of this principle, or of other principles, should not be assumed where they could not be detected."

Let me take one more instance from chemistry—an instance that brings us down to our own times. There are many series of chemical compounds in which occur terms of, *e.g.*, the character PCl_3 and PCl_5, or N_2O_3 and N_2O_5. That is to say, a certain number of atoms of one element may hold a greater or a less number of the atoms of another element. The explanation given until quite recently of this curious fact is as follows: Each atom of the first element has a certain affinity for atoms of the second; or, if we count each of the latter atoms as one, as a unit, each atom of the first has a certain number of units of affinity for the second. Thus P has five units of affinity for Cl. But sometimes not all of the units of affinity are engaged in the particular compound; and when that is the case, the disengaged atoms satisfy each other. In PCl_3, for example, only three units of affinity are engaged: the other two are satisfying each other. It is clear, at once, that this explanation transcends experience; the notion of affinity is as dangerous and as superfluous as the notion of phlogiston. Modern chemists have recognized that, and speak not of affinities and satisfactions of the atoms, but only of saturated and unsaturated compounds. PCl_5 is a saturated, PCl_3 an unsaturated compound; the one cannot, the other can, take up more atoms of Cl. Now this is not supplementing; but it is a wise refusal to try and pass beyond the bare facts in a case in which that passage must, as knowledge stands to-day, involve transcendence. We naturally think of the term *x*-rays as evidencing a similar wise abstention from speculation in the physical sphere.

I turn now to the two great sciences of organic nature, biology and physiology. Modern biology and modern physiology both owe their origin to a somewhat abrupt change from speculation to hypothesis, from transcendence to supplementing.

Up to the middle of the forties of the present century, physiology was bound in the chains of a fatal transcendence. The method of the physiologist consisted essentially in this: that you should explain everything that you could on the analogy of inorganic nature; that you should regard the living body, so long as you could, as a machine; but that, when anything occurred which was not explicable from that point of view, you were justified in putting it down to vital force. Vital force was, therefore, a power or faculty residing in the living organism, and not found outside of it; and those aspects of the living body which rendered it different from things not living were the result of the action of vital force. Now about this notion of vital force, three things may be said: (1) It puts a premium upon faulty observation; it checks analysis. If you are always liable, no matter how far you have carried your physical explanation of some living function, to be stopped outright by a manifestation of vital force, which you cannot go behind, what is the use of carrying on your physical analysis at all? Why not say at once: "This is thus, because the animal is alive"—and have done with it? (2) The idea of vital force transcends experience. What you have before you are the phenomena, the facts of living; not the facts of vital force. To assume vital force is to speculate, not to make hypothesis; it is running up a new wall, not building within the structure of the science. And (3) vital force gives no explanation of what it pretends to explain. A process in the living body is no more explained by calling it "vital," than a process of combustion is explained by calling it "phlogistic."

In 1847 four men met at Berlin—three of them already friends, the fourth at that time a stranger to the rest. Their names were Helmholtz, Bruecke, du Bois-Reymond, and Ludwig—all now, alas! names only. These four men were steadfastly resolved to constitute physiology upon a physical and chemical foundation, and to give it equal scientific rank (as one of them wrote years later) with physics. Life, for them, was not a sum of manifestations of an unknown and transcendent force: life was a group, a total of physical and chemical processes, complicated, it is true, beyond the usual complexity of either science,

but none the less physical and chemical in their nature. And that is the principle of modern physiology; that is the fundamental hypothesis which is being worked out in detail in modern physiological laboratories; that is the thesis which the individual physiologist maintains and illustrates, so far as in him lies. And those who know modern physiology know what immense progress has been and is being made, how ample the harvesting of results has been and still is, since the day when "vital force" dropped out of the vocabulary of science.

If we date the rise of modern physiology from the year 1847, we may date that of modern biology from the year 1859—the year which saw the publication of Darwin's "Origin of Species by Means of Natural Selection." It is hardly necessary to state what in this case was the transcendence, and what was the hypothesis which replaced it. Special creation has given way to evolution and descent. This is to us a matter of course; we think in terms of evolution; we apply the idea of evolution in all sorts of departments; we have customary metaphors and phrases that imply the notion of evolution; we take it for granted that when a new biological laboratory is equipped, it will be equipped on evolutionary principles, furnished with the means of tracing out with still greater minuteness than has yet been done the course of organic development and differentiation. Yes; when a science ceases to transcend experience and is able to supplement it, then that science can do wonderful things indeed.

And now, what of psychology, to which all this introduction was to lead up? Modern psychology, like physiology and biology, has become a science by the passage from transcendence to experience, from speculation to hypothesis. If dates must be given, it is probably pretty true to say that modern psychology arose in the seventies of the present century, with the publication of Wundt's "Principles of Physiological Psychology," in 1874, and the opening of the first psychological laboratory at Leipzig, in 1879. And the manner of its arising was as follows:

Psychology is—so the traditional definition tells us—the science of mind. Now, just as the older physiologists regarded the phenomena of living matter as the expression of a vital force, so did the older psychologists regard mental phenomena as the expression of a mental force. It was supposed that mind was a real being, one and indivisible, a sort of thing or creature, which took up its abode within some individual body, and from that body manifested the various powers with which it was endowed. The powers were three in number: (1) The power to know, judge, perceive, and reason; (2) the power to suffer and to enjoy; and (3) the power to choose and act. By the first power mind manifested itself as intellect, by the second as feeling, and by the third as will. Plainly, there could be no science of psychology on that basis. The same remarks hold against this notion of mind as against the vitalistic speculation of physiology. Analysis is killed; you may be met at any point of your inquiry by some unexpected, unforeseen, incalculable act of the irresponsible being that you are examining. Experience is transcended: you have in experience mental processes, facts, not manifestations of a being, an entity. And nothing is explained by the speculation. To say that a certain bit of experience, an idea, or a wish, is a manifestation of the thinking or willing mind, is simply to cloak your ignorance by a word.

The first thing that psychology had to do, then, in order to become a science, was to get rid of this mind. And so there arose the curious saying that the new psychology, the new science of mind, was a psychology without a mind; was "Hamlet" with the part of *Hamlet* left out. So it was—a psychology without the mind of the older speculative philosophers. But not in any other sense. Just as you may say to-day that physiology is the science of life, meaning by life the sum total of vital processes—*i.e.*, of the physical and chemical processes that run their course in the living body—so you may say that modern psychology is the science of mind, if you mean by mind the sum total of mental processes that run their course in our experience. If you mean by "mind" some being which is sitting inside you, reading and understanding these lines, then psychology is not the science of that mind. But if you mean by mind the mental experiences that you have in reading—the visual ideas of the words, the feelings of satisfaction or dissatisfaction with their meaning, the pressure of your chair and clothes, the taste of your cigar, etc.—then psychology is the science of mind; for it undertakes to analyze out all that tangle of mental processes, and to discover the laws and uniformities which govern their connections and disjunctions. The new psychology is the science of mental processes.

Now I think that I hear two objections, natural objections, to this exposition. In the first place, it may be urged: You say that you have got rid of "mind," in the old unscientific sense, and yet you speak confidently enough of "mental" processes. What is a mental process, if it is not a manifestation of a real unitary mind? The answer is given with a statement made at the outset of this paper. I said there that experience could be looked at by abstraction apart from the experiencer, or that it could be looked at as dependent on the experiencer. The first way of looking at experience is the way of the natural sciences; the second is that of the mental sciences. Take an instance: A piece of wood and a piece of metal lie in a cold room. The physicist tells you that their temperature is the same, so many degrees. Your sensation tells you, if you lay your hand upon the objects, that the metal is a great deal colder than the wood. Both of these things are facts: but the physicist, in his statement of the matter, abstracts from the sensation of the experiencing individual; the psychologist, in his statement, thinks only of the dependence of experience upon the experiencing individual. Or again: To the mathematician a triangle is not equilateral unless its three sides are measurably equal; to the psychologist any triangle is equilateral which the experiencing individual takes to be equal sided. Measurements can be made in the latter case as strictly as in the former; but the results of measurement are different. A mental process, then, is a process of experience conceived of as dependent upon the experiencing individual.

The second objection that I foresee is of a different order. Is not this doing away with a real mind, it may be said, a dangerous doctrine, likely to upset thinking, and possibly to lead in the long run to materialism? The answer here is twofold. If a thing is scientifically true, it has to be accepted, whether it lead to one "ism" or another. Nothing is gained by shutting your eyes to the truth. But, secondly, the whole text of the present paper should show that modern psychology cannot lead to materialism. For the formula of the materialistic philosophy runs: Mind is material, the outcome or function of matter. The proposition sounds simple enough; and yet it conceals no less than two transcendences. In the first place, what is matter? We must remember that experience is, in itself, unitary, a whole. We can abstract from various aspects of it, for the purposes of human knowledge; but that abstraction does not really divide it up, cut it into parts. Now "matter" is a sort of personification of the independent aspect of experience; those elements of experience which are independent of the experiencing individual have been abstracted from the whole of experience, and set up by themselves, under the name of matter, as if they

existed by themselves. Of course they do not; and the scientific man who knows anything of the foundation of science in the nature of human knowledge knows that they do not—that matter is only a working hypothesis for certain sciences; an abstraction, not a reality. Hence to make this "matter," which we have abstracted from experience, the one fundamental thing in experience, is obviously to transcend experience, to fall into speculation. But again: Mind is said to be material, the outcome of matter. But mental processes are defined by attributes that are quite different from the attributes whereby we define matter: and the laws of independent experience are quite different from the laws of dependent experience. Materialism, that is, not content with having set up a one-sided abstraction as the ultimate and final reality in the world, now goes on to pick up the other half of experience, which it had previously disregarded, and to make that half of the same kind as the first, the abstracted half; and this in defiance of the fact that the second half is in its characteristics very different from the first, and that it is one of the first rules of logical thinking not to argue out of one department of thought into another. We should not argue that because a man is a good husband, therefore he is a great mathematician; and yet materialism makes precisely that mistake—bringing together two aspects of experience which are altogether different and distinct.

No; modern psychology does not lead to materialism or any other "ism," any more than physics does. It pursues its course without regard to anything outside itself. The metaphysician may take its principles, if he will, just as he may take the principles of the other sciences and work them up into a single self-consistent scheme of the universe. And the teacher may take its results, if he will, and work them up into a system of pedagogy; just as the results of physics are utilized in engineering, or the results of chemistry in the making of dyes and perfumes. But the science itself is a very Gallio, and cares for none of these things.

DISARTICULATION AND EXCISION OF THE LOWER JAW ENTIRELY FROM WITHIN THE MOUTH (WITHOUT A SCAR).

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I FIRST removed one-half of the lower jaw, disarticulating at the temporo-maxillary joint, in the case of Sarah Jacobs, thirty-eight years of age, in the Mount Sinai Hospital on January 6, 1890. Chloroform was administered, the patient being placed on her left side and the face turned sharply downward so that the blood would escape freely from the mouth and away from the larynx. The teeth on the left (the diseased) side of the jaw were extracted, and the orbicularis oris was widely dilated by four retractors properly inserted. The bone was then divided with the chain saw and cutting forceps near the symphysis menti. With the elevator the periosteum was carefully raised and the bone disarticulated. The wound was immediately packed with sterile gauze, which was removed two days after the operation and not renewed. The patient was discharged cured on the 24th of that month. As soon as the operation was completed, the remaining half of the lower jaw was wired in line with the teeth of the upper jaw of that side and held in this position until the patient, three weeks later, was ready to be fitted with an artificial apparatus. This apparatus, made by a dentist, was intended to enable the patient to chew her food by keeping the teeth in line and preventing the remaining half of the jaw from being drawn toward the median line by muscular action. The last time I saw her after the apparatus was applied, it was working satisfactorily.

The same operation was performed in the case of M. G—— , aged eighteen years, who entered the Polyclinic Hospital on November 17, 1895. Family and personal history negative. The diagnosis was osteo-sarcoma. One year previously, she noticed a painful swelling on the right lower jaw. There had been no injury and no defective teeth on that side. An exploratory incision and microscopical examination confirmed the diagnosis of sarcoma. Operation, November 21st. The mouth was stretched with four silk retractors inserted through the lips at points equi-distant and held by assistants. The patient was placed in the lateral position with the mouth dependent. A tooth was extracted near the symphysis menti and the bone here divided with a sharp chisel and cutting forceps. On account of the malignant nature of the neoplasm, the soft tissues were divided with the scissors well away from the growth, sacrificing the lining membrane of the buccal wall and the floor of the

FIG. 1.—M. G. Removal of Left Half of the Inferior Maxilla without External Incision.

mouth. The operation was done rapidly, and gauze was packed in to control bleeding as the exploration was being made. When all the tissues were free beyond the angle of the jaw, leaving only the ligaments and the insertion of the temporal muscle, the operation was completed by seizing the bone above the ramus with a lion-jaw forceps and twisting a number of times in one direction until the ligaments were ruptured, allowing the coronoid process to be drawn down and the insertion of the temporal muscle divided with scissors. Twisting the artery prevented hemorrhage of any note from this vessel. The cavity of the wound was packed with sterile gauze and the remaining half of the law wired in position as in the preceding case. The condition of the girl a year after the operation is shown in the accompanying photograph from an untouched negative. She could not afford the expense of an artificial apparatus, and, in consequence, the remaining half of the jaw has drifted to the median line somewhat. She is, however, able to chew food and is in perfect health, with no suggestion of recurrence at this date, fifteen months after the operation.

These are the only cases of disarticulation of the jaw from within the mouth known to the writer. In 1845, the late Dr. J. Marion Sims, in Montgomery, Alabama, in a case of osteo-sarcoma of the lower jaw,

divided this bone through the ramus with a chain-saw and removed the remaining section of the lower jaw from within the mouth without external mutilation. In the *American Journal of the Medical Sciences*, October, 1847, he says: "There are several considerations to recommend this operation in preference to the usual one with its extensive incisions. (1.) There is no external mutilation. (2.) As the third branch of the fifth pair of nerves was divided at the outset of the operation, its subsequent stages were comparatively free from pain. (3.) As no important blood vessels are cut, no ligatures are required. (4.) There is no trouble with the after-treatment. (5.) It is just as easy of performance as the old operation."

Fig. 2.—Left Half of Lower Jaw. Disarticulation from within the Mouth and without External Incision.

The operation is not difficult and is perfectly safe in proper hands, and cannot but be compared favorably with the procedures which require either incision outward through the cheek from the angle of the mouth, or down the median line of the chin to which is added an incision along the border of the lower jaw.

PERSONAL EXPERIENCE IN HERNIA OF THE BLADDER, WITH TABLE OF CASES.

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Hernial protrusion of the bladder through the inguinal and femoral openings has been recognized as remotely as 1520 (Verdier). It has remained until recent years chiefly an anatomical curiosity. The modern methods of operation for radical cure of hernia require a more extensive dissection, which has resulted in the observation of a comparatively greater number of herniæ of the bladder. Clinically these herniæ may be divided into two classes—those frankly engaged in the hernial orifices, and those due to traction of the bladder into these orifices during the course of the operation. To the latter the term "operative cystocele" has been given. Both varieties are important, and their possible occurrence should at the present time never be absent from the operator's mind.

The limits of this paper will allow of but little general consideration of the subject. The literature has been recently so enriched by valuable papers in 1895 by Curtis, Fenger, Jaboulay and Villard, Salistcheff: in 1896 by Imbert and monographs in French and Italian—that in the absence of new views as to the origin or treatment of this condition a lengthy consideration would consist simply in reiteration of previous publications. This part of my paper will be confined to the report of clinical cases observed by myself, merely touching on the prominent features which they illustrated. In a second part I have endeavored to bring the literature of the subject up to date, having added forty-five cases to the fifty-eight reported by Curtis, a total of one hundred and three cases, which furnish some interesting statistical deductions.

My own experience of hernia of the bladder comprises four cases seen within a period of twelve months; twice in my own practice, twice while assisting colleagues. Two were inguinal (both in males), two were femoral (both in females). The bladder was opened twice; one inguinal, one femoral.

Case I.—As regards the first case, in June, 1895, I do not feel that I have the privilege of more than alluding to it. I only mention it to show the fact of my experience. It was in an inguinal hernia and was readily recognized by the surgeon whom I was assisting.

Case II.—M. S——, woman, fifty years old, admitted to St. Luke's Hospital, August 18, 1895, with strangulated right femoral hernia of ten days' duration. Condition very bad: pronounced sepsis. Immediate herniotomy. The sac contained a mass of gangrenous omentum: the ring was enlarged to allow a sufficient margin of healthy omentum to be pulled down and resected. With the omentum came a pouch-like knuckle of a hollow organ covered by peritoneum, which could be made to protrude only a slight distance. It was certainly not intestine, large or small, and it had every appearance of the bladder and was considered to be such: but the patient's desperate condition did not warrant me in wasting any time in further means of identification. Though but little shocked, the patient succumbed within twenty-four hours to her pre-existing sepsis. There was no post-mortem. I have absolutely no doubt as to the correctness of diagnosis in this case of intraperitoneal vesical hernia.

Case III. was observed while I was assisting in an operation in the practice of Dr. Robert F. Weir, to whom I am much indebted for permission to report the case. Miss B——, aged thirty-two years, had left femoral hernia of many years' standing. She was subject to chronic nephritis with occasional acute manifestations and hæmaturia. Operation for radical cure, December 27, 1895. The hernial sac was exposed, ligated at the highest part of the neck, and the distal portion cut away. A second structure then appeared in the inner angle of the wound. Supposing it to be a second sac, it was incised, whereupon urine came out. The identity of the bladder was further established by digital exploration, and, the incision being clearly in the extraperitoneal portion of the viscus, the opening was closed with a double row of catgut sutures and the bladder returned, protected by a strip of iodoform gauze. The rest of the wound was left open. A catheter was placed in the bladder for five days. The result was absolutely uneventful, the healing of the bladder being complete by primary union, and at the present writing the patient has remained absolutely free from vesical disturbances. No recurrence of the hernia or of the hæmaturia.

Case IV.—A man of fifty odd years. Operation in Almshouse Hospital, April, 1896, for radical cure of right inguinal hernia of long standing. The sac was buried in a mass of fat, which often accompanies old herniæ and to which the term lipocele of the cord is applied by French authors. It was necessary to cut through this very carefully till the sac could be reached. The latter was freed of all its adhesions till the neck was clearly defined, when it was ligated, cut off, and the stump returned into the abdomen. The fatty mass above mentioned, which had been torn off of the sac, still had to be dealt with before the deep sutures could be applied by Bassini's method. After careful examination it was ligated and cut away. On examination of the attached cut surface, a minute fragment of mucous membrane was seen. Removing the ligature, I discovered that this fat contained a thin

finger-like diverticulum of the bladder, which I had snipped off. The wound admitted a finger. It was wholly extraperitoneal. It was closed with a double row of silk sutures not involving the mucous membrane, and returned to its normal position protected by gauze packing. The hernial wound was packed. No catheter was employed. At first the bladder remained tight, but a minute sinus developed after a few days following unnecessarily vigorous probing. It was, however, only temporary. Since leaving the hospital the patient has been lost to observation.

In these two cases in which the bladder was wounded the conditions were those which furnish examples of most of the lesions recorded, namely, when the bladder is mistaken for a second sac or a reduplication of the peritoneum, and when a portion of the bladder is drawn out by the fat adhering to or surrounding it. This latter condition is one which makes its recognition occasionally very difficult. From my own experience in the first three cases I have had the possibility of lesion of the bladder ever present, and in several difficult cases similar to the last recorded had introduced a sound into the bladder to make sure of its absence. To this watchfulness I may attribute my discovery of the lesion, for at first sight a minute piece of mucous membrane rendered anæmic by a ligature and buried in a mass of fat might well be overlooked, with serious or fatal results.

The mechanism of this form is, however, quite simple. The extraperitoneal portion of the bladder behind the pubis is continuous with the rest of the preperitoneal fat, and when dragged down in the course of hernial descent draws out the adherent bladder with it, thus forming a cone whose interior contains that organ.

While the above represent most of the difficulties, there is another rare condition which may give rise to great trouble. In this the bladder lies in such a prominent position that it is mistaken for the hernial sac, or may represent all the hernia that exists—a hernia of the bladder in the strictest sense. Such dispositions are almost sure to deceive an operator unless the conditions are particularly favorable. In such cases there is generally no drawing out and thinning of the muscular wall, and the unusual thickness of the supposed sac may put the operator on his guard. My colleague, Dr. P. R. Bolton, of New York City, has been so kind as to allow me to record such an illustrative case.

The patient was a man, aged fifty-three years, with double direct inguinal hernia. Operation, July, 1896, for radical cure. On the left side the bladder lay directly exposed after removal of the superficial coverings. It was opened on the supposition that it was the proper hernial sac. The vesical wound was closed with catgut sutures. No hernial sac proper having been found, the condition was considered to present a true hernia of the bladder. The wound was packed with gauze. Patient died three days later and the post-mortem established the following facts: On the left side the bladder wound had given way, and although it was situated extraperitoneally urine had entered the peritoneal cavity by finding its way through a minute rudimentary hernial sac, in close apposition to the bladder, which had been opened simultaneously with that organ, and, not being recognizable, had not been sutured. The hernial portion of the bladder was of normal thickness. Examination of the right inguinal region showed the presence of a finger-like vesical diverticulum (in this case of normal thickness) through the conjoined tendon and the external ring, accompanied by a small hernial sac.

It should therefore be firmly impressed on the operator: 1st. That when an ordinary sac has been exposed and opened, anything resembling another sac should be looked upon with the suspicion that it may be the bladder, and should be approached as such until its identity with that structure is clearly disproved by all the means of recognition at our command. And further let it be remembered that exploring with a sound, distention with air or fluid, will sometimes apparently fail to establish the connection of a given structure with the bladder, and lead the operator to open this organ in spite of all the precautions taken. Several such cases have been recorded. 2d. All fatty material in the neighborhood of a hernial sac, especially on its inner posterior aspect, should be treated as if a portion of the bladder was hidden within it and should never be cut away till the absence of anything but fat has been demonstrated.

While the recorded cases of lesion of the bladder are very few, it is my belief that the accident is fairly common. I was so impressed with my own experience in encountering the bladder twice within a few months during the course of less than two dozen operations for hernia that it seems an obvious duty to bring up this subject again, although the admirable paper of Curtis in the *Annals of Surgery* has already fully covered the ground.

A perusal of this article, if they are not already familiar with its contents, is earnestly recommended to those who are doing operations for hernia.

The following observations are derived from combining Curtis' cases (58) and those collected in my table (45), a total of 103. These are divided into: Bladder wounded during operation, 67; bladder reduced without injury, 36.

Sex and anatomical variety of hernia: 76 cases were observed in the male, 23 in the female sex: 77 herniæ were of the inguinal variety, namely, 70 males, 7 females; 22 herniæ were of the femoral variety, namely, 6 males, 16 females.

The large number of femoral herniæ containing bladder is interesting in reference to Laidy's[18] observation in his paper in reporting such a condition, "that to the best of his knowledge his case is the first on record of the presence of the bladder in femoral hernia."

Age, under twenty-five years, 6 cases; twenty-five to fifty years, 35 cases: fifty and over, 52 cases. It is well to bear this proportion in mind, that more than half of the cases were encountered in subjects over fifty years of age. Wyeth's case, two and a half years, is the youngest so far observed.

The bladder was found to be present: intraperitoneal, 7; extraperitoneal, 73; intraperitoneal and extraperitoneal, 18. As previously pointed out, the intraperitoneal form continues to be the rarest observed. When it was not clear whether the bladder presented itself as the intraperitoneal and extraperitoneal varieties combined, and there was evidence that some portion of it was extraperitoneal, the case has been classified under the extraperitoneal variety.

The bladder was wounded under the following conditions: Mistaken for the hernial sac, 13; mistaken for a second hernial sac, 10: mistaken for other structures, 15; not seen till injured, 12; recognized but accidentally injured, 2. The "other structures," were for the most part accumulations of fat covering the bladder and continuous with the so-called lipoma of the cord.

The total mortality was 19 deaths in 64 cases, thirty per cent. This percentage must be analyzed in order to arrive at an approximate estimate of the mortality due to the vesical lesion. Curtis says of the 11 fatal cases tabulated by him: "In only 8 cases at the most can it be said that the vesical wound was even indirectly the cause of death." Of the 8 fatal cases contained in my tables I can eliminate the following

TABLE I.

WOUNDS OF THE BLADDER IN OPERATIONS FOR HERNIA.

No.	Operation and Date of Operation	Patient: Sex	Patient: Age	Hernia: Region	Hernia: Condition	Hernia: Other Hernia Complicating	Hernia: Variety	Bladder Wound Recognized	Bladder Mistaken for	Treatment: Bladder Wound	Treatment: Hernial Opening	Treatment: External Wound	Catheter a Demeure	Result: Bladder	Result: Duration of Sinus	Result: Recovery or Death	Time and Cause of Death	Size of Vesical Wound	Remarks
1	Bolton, 1896* [21]	M	53	L. I.	Red.	Empty.	Extra.	During.	Hernial sac.	Catgut suture.	Open.	Open.	No.	.....	.....	D.	Third day, septic peritonitis.	.....	(See hist. for details.)
2	Breffeil, 1896* [5]	F.	41	R. F.	Strang.	Intestine.	Intra and extra.	During.	Secondary sac.	Ligature; superficial suture.	.....	.....	.....	.....	.....	R.	.....	Superficial laceration.	Reported four days after operation.
3	Demoulin, 1895 [20]	F.	63	L. I.	Strang.	Intestine.	Extra.	After.	Secondary sac.	Ligature; suture next day.	Suture.	Suture.	Yes.	.....	.....	D.	Fourth day, pulmonary cong.	4 cm.	Autopsy; bladder tight.
4	Duplay, 1873 [20]	M.	Old	Ing.	Strang.	Intestine.	Extra.	Autopsy.	Secondary sac.	No suture.	Open.	Open.	.....	.....	.....	D.	Few days, uræmia.	.....	.....
5	Fenger, 1890 [19]	F.	23	L. F.	Irred.	.....	Intra.	During.	Peritoneal redundance.	Catgut suture.	.....	Drainage.	Yes.	.....	.....	R.	.....	Finger.	.....
6	Gibson, 1896 [21]	M	50	R. I.	Irred	Omentum.	Extra.	During.	Not seen till opened.	Tier suture.	Open.	Open.	No.	Sinus.	Few days.	R.	.....	.....	.....
7	F. Guinard, 1896*	I.	60	R. F.	Strang.	Intestine.	Intra and extra.	During.	Not seen till opened.	Ligature.	Open.	Suture and drainage.	Yes, four days.	.....	.....	D.	Eighth day, urinary extravasation.	2 cm.	Abscess, bladder wall.
8	Hollander, 1894 [9]	I	64	R. F	Strang.	Omentum and intestine.	Extra.	Six weeks after.	.....	.....	Suture.	Suture.	.....	.....	Persistent.	R.	.....	.....	Sinus developed six weeks after operation.
9	Jaboulay and Vallard [13]	M	6	L. I	Strang	Intestine.	Extra.	During.	Secondary sac (torn).	Tier suture.	Open.	Open.	.....	.....	.....	D.	Three weeks, uræmia.	.....	Gangrene of scrotum.
10	Jaboulay and Vallard [13]	M	4	L. I	Irred.	Intestine.	Extra.	During.	Not seen till opened.	Suture	Open.	Open.	.....	.....	.....	R	.....	.....	.....
11	Jaboulay and Vallard [13]	F.	30	R. F.	Irred.	.....	Extra.	After.	Hernial sac.	Ligature.	Suture.	Suture.	.....	.....	.....	R.	.....	Finger.	.....
12	Kablukow [7]	M	17	Ing.	.....	.....	Extra.	During operation.	Not seen till opened.	Tier suture.	Suture.	Suture.	.....	.....	.....	R.	.....	.....	.....
13	McGowan [18]	M	85	L. I.	.....	.....	Intra and extra.	During.	Tumor not connected with bladder.	Catgut suture.	Suture.	Suture.	No.	.....	.....	R.	.....	.....	Sound passed into bladder for aid in diagnosis.
14	Mauté, Angerer's Clinic, 1894 [16]	M.	56	R. I.	.....	.....	Extra.	During.	Not seen till torn.	Silk suture.	Suture.	Suture.	Yes.	.....	.....	R.	.....	.....	.....
15	Monari, 1895 [20]	M.	48	R. I.	Irred.	Omentum.	Extra.	During.	Recognized but torn.	Tier suture; cat gut.	Second'y suture.	.....	Yes, two days.	.....	.....	R.	.....	.....	.....
16	Pranischnikow [7] .	M.	52	I.	Strang.	.....	Extra (?).	During.	Not seen till opened.	Suture to ext. wound.	.....	.....	.....	.....	.....	D.	Purulent peritonitis.	.....	.....
17	Quénu [17]	M	38	R. I.	.....	.....	Intra.	During.	.....	3-tier suture.	.....	.....	.....	.....	.....	R.	.....	.....	.....
18	Rahme [18]	M.	Adult	R. I.	.....	.....	Extra (?).	After.	Hernial sac.	Ligature.	.....	.....	Yes, four days.	.....	.....	R.	.....	.....	.....
19	Salistcheff, 1894 [18]	M.	67	R. I.	Strang.	Intestine.	Extra.	After.	Secondary sac.	Tier suture.	Suture.	Suture.	Yes.	.....	.....	D.	Second day, purulent peritonitis.	.....	Death apparently not due to bladder wound.
20	Sebileau [17]	M.	54	L. I.	.....	.....	Extra (?).	After.	.....	Suture.	.....	.....	.....	.....	.....	R.	.....	.....	.....
21	Sebileau [17]	M.	42	R. I.	.....	.....	Extra (?).	After.	.....	Suture to ext. wound.	.....	.....	.....	.....	Two months.	R.	.....	.....	.....
22	Sebileau [17]	M	47	L. I.	.....	.....	Extra	After.	Recognized but torn.	Suture to ext. wound.	.....	.....	No.	.....	One month.	R.	.....	.....	Bladder encountered on right side.
23	Thinny, 1895 [11] ..	M.	51	L. F.	Red.	Intestine.	Intra and extra.	During.	Not seen till opened.	Catgut suture.	Drainage.	Suture.	Yes.	.....	.....	R.	.....	2½ cm.	.....
24	Tuttle, 1896 [21] ..	M.	58	R. I.	Irred.	Intestine.	Extra.	During.	Not seen till opened.	Silk suture.	Suture and drainage.	Suture and drainage.	Yes.	Sinus till death.	.....	D.	Two months, acute nephritis.	Finger.	.....
25	Weir, 1895 [21] . .	F.	30	L. F.	Red.	Empty.	Extra.	During.	Secondary sac.	Tier suture; catgut.	Open.	Open.	Five days.	.....	.....	R.	.....	.....	.....
26	Wyeth [4]	M.	21	R. I.	Strang.	.....	Extra.	During.	.....	Suture.	.....	.....	Yes.	.....	.....	R.	.....	.....	.....

* The number after the name and date indicates the number of the reference.

TABLE II.—BLADDER REDUCED WITHOUT INJURY

No.	Operator and Date.	Patient. Sex.	Age, Years.	Hernia. Region.	Condition.	Variety.	Complicating Hernia.	Bladder recognized.	Means of Diagnosis.	Recovered. Died.	Remarks.
1	Blahe * [21]	M.	[illegible]	R. I.	Red.	Extra.	Empty.	During.	Muscle and pedicle.	R.	
2	Demoulin [1894] [20]	F.	[illegible]	R. F.	Strang.	Extra.	.....	During.	Sound.	R.	
3	Fenger, 1894 [10]	F.	51	I. F.	Irred.	Extra.	Omentum.	During.	Sound.	R.	
4	Fenger, 1895 [19]	M.		I. I.	Incar.	Extra.	Intestine.	During.	Sound.	R.	
5	Gibson [21]	F.	..	R. F.	Strang.	Intra.	Omentum.	During.	Typical appearance	D.	
6	Guinard, 1895 [2]	F.	74	R. F.	Strang.	Extra.	Intestine.	During.	Muscle and pedicle.	R.	Cocaine anæsthesia.
7	Jaboulay and Villard [13]	M.	50	R. I.	.....	Lotra and extra.	.....	Before.	Palpation.	R.	Prostate was included.
8	Laidy, 1895 [14]	M.	35	I. I.	Red.	Extra.	.....	During.	Muscle and pedicle.	R.	
9	Laidy, 1895 [15]	F.	40	R. F.	Incar.	Extra.	Omentum.	During.	Catheter.	R.	
10	Monari, 1893 [9]	M.	40	R. I.	Irred.	Extra.	Omentum.	During.	Muscle.	R.	
11	Monari, 1893 [9]	M.	66	R. I.	Red.	Extra.	.....	During.	Pedicle.	R.	
12	Monari, 1894 [9]	M.	59	R. I.	Strang.	Extra.	Intestine.	During.	Catheter	R.	
13	Monari, 1894 [9]	M.	53	I. I.	Red.	Extra.	.....	During.	Muscle, catheter.	R.	
14	Monari, 1894 [9]	M.	57	R. I.	Red.	Extra.	Intestine and omentum.	During.	Catheter	R.	
15	Salistcheff, 1894 [10]	M.	32	R. I.	Red.	Extra.	.....	During.	Sound.	R.	
16	Sokoloff, 1894 [10]	M.	35	I. I.	Red.	.....	.....	During.	Sound.	R.	
17	Treves [12]	M.	[illegible]	R. I.	Red.	Extra.	Empty.	During.	Muscle and pedicle.	R.	
18	Thomas, 1795 [6]	M.	52	R. I.	Strang.	Extra.	.....	During.	Aspiration.	R.	
19	Zartanan, 1894 [15]	M.	24	I. I	Red.	Extra.	.....	During.	Muscle and pedicle.	R.	

* The numbers indicate the bibliographical reference.

as dependent on conditions other than the bladder wound:

Reference	Cause of death	Time of death.
Demoulin (20).	Pulmonary congestion.	4 days.
Tuttle (21).	Acute nephritis.	2 months.
Salistcheff (10).	Purulent peritonitis after severe strangulation. Autopsy, bladder wound irreproachable.	2 days.

If then these 11 cases are deducted, we have a mortality of 12½ per cent., which is probably a fair estimate.

The following table of the mortality, according to the treatment, may be of some value:

	No. of Cases.	Deaths
Bladder sutured, no catheter à demeure (or none mentioned)	20	5
Bladder sutured and catheter à demeure	18	6
" " treated open (in the wound)	10	4
" " ligated or not treated	10	4

While the above table is based on too indefinite data to furnish clear indications for treatment, it fails to give any support to the treatment by the catheter à demeure. In certain cases the use of the catheter has been attended by very bad results. It might be well to limit the use of the catheter in general to the intraperitoneal variety of bladder wounds. In the other forms, if the bladder has been carefully sutured with a tier suture (preferably silk) the best results will probably follow the insertion of gauze packing (iodoform gauze should be avoided in elderly or nephritic subjects) at the site of the wound, application of provisional sutures, and leaving the wound open until the attitude of the bladder lesion has become apparent.

As regards the union of the bladder after suture, with reference to the use of the catheter, we find: Suture of bladder and catheter à demeure, 17 cases: sinus in 5, or 29 per cent. Suture of bladder, no catheter à demeure, 14 cases: sinus in 3, or 21 per cent. This table must be judged on its merits. It seems again to belittle the value of the permanent catheter.

Besides my indebtedness to the gentlemen previously mentioned, I must express my great appreciation of the kindness of Dr. J. P. Tuttle and Dr. J. A. Blake in allowing me to include two of their cases in my tables.

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CONDITIONS WHICH MAY SIMULATE ORGANIC OBSTRUCTION OF THE LARGE INTESTINE.

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WITHIN the past few years a number of cases of anorectal disease have come under my care, both for treatment and in consultation, in which rectal obstruction, with or without incontinence, was the dominant symptom. But the most interesting cases, in which the symptoms were most accentuated, were those in which a stricture or new growth had been suspected, in consequence of painful or difficult defecation, yet in which on a systematic and searching examination no adventitious formations or strictures could be detected.

In searching through the annals of surgical literature, it was obvious that many of our most eminent authorities in past ages, and especially in this century, have given this subject of differentiation in diagnosis their most serious attention. Nevertheless, in current medical publications but little appears on this highly important topic. In this present instance only those obstructions of a colic or rectal origin will be considered, as these are most often of a non-inflammatory type or dependent on mechanical causes.

Anatomical and Pathological Considerations.—Inasmuch as the present study of intestinal stenosis is limited to the colon and its terminus, it follows that in order to comprehend the pathological conditions met with in this segment of the alimentary canal a brief review of construction and functions is necessary, because in many important and vital particulars we shall find here the anatomical elements and physiological phenomena quite characteristic and unique; and besides, a brief recapitulation of them will aid in

[1] Read at the annual meeting of the Mississippi Valley Medical Association, September 16, 1896, St. Paul, Minn.

the better understanding of diseased processes by all, no matter how conversant some may be with the normal anatomy of the parts under consideration.

We constantly read of "fæcal leakage, fæcal extravasation or admixture," after an injury to any part of the intestinal tract. But this is an error, as in health fæces proper are only found after the digested aliment has passed into the colic receptacle, which serves the purpose of a reservoir, similar in function to the bladder, to discharge its contents in obedience to the demands of nature as occasion requires. The caput coli begins as a large, flat, sacculated pouch, commonly embedded on its posterior surface in the loose connective tissues of the iliac fascia. The remainder of the colon is sacculated and gathered up into convoluted folds, by dense, broad, longitudinal bands. The ascending colon has no mesentery, but as it arches under the liver its transverse segment is gathered up by the gastro-colic omentum, until it takes another curve at its splenic arch, where the descending colon is fixed against the lateral abdominal wall; and when the crest of the ilium is reached the sigmoid bend begins. This segment has a mesentery of varying length, and ends where the rectum begins. The latter, in the male, is the only tubular structure of very great size passing out through the perineum. In the female, the relations of the vagina and rectum are so important, from a surgical standpoint, that a lengthy chapter might be written on them with great advantage, though only a short reference can be made here. Taking the large intestine as a whole, from the ileo-cæcal valve, where it begins, to the sphincter ani, where it ends, it strikes one as a needlessly complicated and worse than useless structure, which might be substituted by another which would equally well supply its purposes as a mere receptacle, without being, as it is from infancy onward, a constant source of danger and very frequently a menace to life itself: for it will be remembered that this pouch subserves no function essential to life, being restricted in this respect to receiving, storing, and discharging fæces. The movement of the fæces through the colon is languid, and is probably aided as much by respiratory action and gravity by as its own muscular development, which is very scanty and irregularly formed.

We note a wide distinction between the glandular layers of the small and large intestines. In the latter we encounter an excess of lymphoid stroma, with a diminution in the number and capacity of the glandular elements. Notwithstanding this, however, the internal surface of the colon, unlike that of the bladder, possesses great absorbing powers; *e.g.*, nearly any of the most lethal non-corrosive alkaloids may be injected in solution with impunity and retained in the bladder: while if the same substances in the same form were injected into the rectum, they would almost at once produce toxic symptoms. This singular difference in the resorbing properties of these two excretory receptacles is most striking, and it is remarkably reversed when we view it from a clinical standpoint; when we recall the prompt constitutional disturbances serious impediment to urinary discharge will provoke, and, *per contra*, the impunity with which the system will for weeks, and sometimes even months, tolerate enormous fæcal accumulations in the large intestine. Vesical distention appears to give rise only to uræmic symptoms and constitutional infection when inflammatory changes in the mucosa have been produced. But in cases of fæcal infection of the rectum, provided its development has been gradual, it may persist over a very long period before such grave constitutional disturbances arise as call for active relief.

Peculiarities of the Movement of the Residuary Elements of Alimentation in the Colon. The movement of the semifluid aliment in the intestine is one of ceaseless activity, although it varies in degree in different situations and at various intervals of digestion. If we quickly open the peritoneal cavity of an animal, we may witness the slow, regular, peristaltic wave, the vermicular movement of the intestine, more active in some coils than in others. With the palm of the hand laid flat over the nude surface of the bowel, we are distinctly sensible of a double motion: first, we feel the alternate contraction and expansion of the ring muscle, with a rising and falling movement induced by a contraction of the longitudinal muscle fibres. The small intestine, after it clears the retroperitoneal tissues of the duodenum, is free and unfettered in all its movements: but not so with the large intestine, which is in its greater part a fixed organ, and in structure made up largely of strong bands of fibrous connective tissue, and passive in motion. With this segment of the alimentary canal exposed, no peristalsis is present. But if we seize the colon in the hand for a moment, we will observe that its walls have exhaled a distinct fæcal odor. The phenomenon would go to show that the diffusion of sulphuretted hydrogen gas through the colon is probably constant, and is certainly innocuous. The fæces, as they pass through the colon, must clear three angles and as many curves. The first and most pronounced is the ileo-colic. This is fairly constant in the human being, although we sometimes find at this site a persistence of the fœtal type, or that of the rodent, wherein the fusion of the large and small intestine is in the direction of the long axis of the bowel. At this point the first impediment to the intestinal contents is encountered. Here they are projected beyond the trap-door valves and lodged in the colic reservoir: and at this point, exclusive of the rectum, fæcal impaction most commonly occurs. At this point the fæces are sent directly inward, then down and into the base of the cæcum, there to make a counter detour upward, against gravity, and pass the hepatic flexure.

The position and direction of the transverse colon are subject to many variations, some of which may give rise to serious consequences, as has been plainly pointed out in a recent able contribution of Dr. Theodore W. McGraw.[1]

The transverse colon lies on the anterior surface of the small intestine, its horizontal segment, through its relations and connection with the stomach, being liable to constant changes, with the distention of this organ. As the stomach descends, the transverse colon is arched downward, again regaining its normal direction on the evacuation of the contents of the stomach. Sometimes, in consequence of various pathological conditions, especially those favoring displacement of the kidney or in umbilical hernia, not only do we find an accessory arch, but such acute bending of the hepatic and splenic flexures as will surely lead to mechanical constipation, indigestion, or dyspepsia.

The colic spiral—the sigmoid flexure—is provided with a free mesentery, and is capable of enormous dilatation. This lies behind the small intestine and lodges the fæces, prior to evacuation. After we pass this double bend, we come to the rectum, the musculomembranous terminus of the alimentary canal.

Irregularities of Development and Congenital Defects.—The experienced surgeon understands well the difficulties which may present themselves during the course of an operation on any region within the peritoneal cavity, from atypical development and the disordered relations of the viscera, so often met with after the abdomen is opened. McGraw well emphasizes this in connection with the anatomy and surgery of the colon, and Jacobi has called attention to the frequency of obstinate constipation, and even serious fæcal ob-

[1] "Surgery of the Large Intestine," Annals of Surgery, August, 1896.

struction, in consequence of a preternaturally elongated mesentery of the sigmoid in the infant.

Since the iliac operation first became a procedure *au courant* for pathological lesions of the caput coli and appendix, it has been my custom, when opportunities to make autopsies have permitted, to examine carefully the entire colic tract, especially at its origin. In the course of this investigation, I have been struck with the great diversity found in the proportional size of the large gut and its relations to other organs. In one subject, a woman, the colon was found no larger than the small intestine; in other instances there was practically no diverticulum at the cæcal end, and the ilea in others were found to join the colon in the most diverse directions. The most variable of all structures was the meso-colon, sometimes so long as to permit the cæcal end to make excursions in various directions, far from the side where it is most commonly lodged.

The gastro-colic folds of the omentum greatly vary in density and in their elongation tendencies, in some few instances being readily drawn down in its centre as far as the pubis. The most constantly fixed portion of the colic tract was found to be the descending colon.

The sigmoid bend in the female is capable of great distention, and in this sex its long mesentery allows of a very wide latitude of motion, probably in order to fill physiological demands. The rectum is found the most regularly formed segment of the large intestine, although more generally influenced by pathological conditions in neighboring organs and structures than any other.

Influence of Sex and Physiological Conditions.—We observe the widest differences of relations of organs along the ano-rectal tract in the male and female. In the former the base of the bladder is supported by a septum of loose connective tissue, immediately below which is the prostate, lying between the urethra and rectum. The ampulla or rectal pouch rests in a bed of loose adipose tissue, which is capable of great distention; sometimes, in cases of impaction, occupying nearly the entire hollow of the pelvis.

In the female, we note a wide departure in both the anatomical relations and the functions of the adjacent organs. In her the vulva, the vagina, and the uterus widely separate the rectum from the entire urinary apparatus; although in pathological conditions of either, the genito-urinary and rectal organs reciprocally act on each other. The rectum is always encroached on by the distended bladder, and, *vice versa*, the loaded rectal ampulla advances forward and bears heavily on it, in such a manner, in aggravated cases, as to produce polyuria or troublesome rectal tenesmus. In the pregnant state, during the earlier stages, while the uterus is yet in the pelvis, the rectum and vascular apparatus are steadily compressed; as this state, however, is only intermittent, and as the healthy rectum in young women is generally empty, no harm results, although constipation is one of the earlier symptoms of the parturient state.

Clinical History of Intestinal Obstruction in General.—To enter on anything like a detailed description of the vast number of pathological conditions which lead to occlusion of any part of the intestinal canal would be a large undertaking, far beyond what is intended here; still, it cannot be entirely passed over, as to that part of the intestinal path above the large bowel while endeavoring to set forth the symptomatology of those obstructions limited to the elongated fæcal pouch.

Intestinal obstruction may occur at any stage of life, but is by far the most common after middle life; after degenerative changes commence in the vascular, nervous, and muscular systems; at that stage in life when the consequences of defects in development begin to declare themselves, hereditary tendencies, changes in the organs and the susceptibility of the tissues to the invasion of malignant disease are evident.

Obstruction of the lumen of the bowel is, in general, dependent on influences of two orders—one, intrinsic, restricted to the intestinal wall and its immediate investments; and the other, extrinsic, in which obturation, partial or complete, results from pressure transmitted from other organs or structures; to which might be added impaction from foreign or autogenous bodies in the lumen of the bowel.

Dangers to Life in Intestinal Obstruction.—The dangers to life in intestinal obstruction depend on many circumstances, the most important of which are (*a*) its situation, (*b*) its acuteness, and (*c*) its completeness. That dreadful *ensemble* of symptoms which we witness in obstruction of the small intestine will generally be absent when the larger is choked up or closed. Obstruction of the large intestine is very seldom acute or complete, except in very advanced malignant disease or in hernia. It cannot be said that life is ever suddenly jeopardized by occlusion of the large intestine, except when it is forced out of the abdomen by a hernial extrusion; and even here, in my own experience, in those cases of descent of the cæcum or the sigmoid, in strangulated hernia, the extent of shock or collapse is not by any means so marked as when the small intestine is nipped in the portals of escape.

From the above observations, it becomes at once apparent that emergency operations on the large intestine, for sudden occlusion within the abdomen, are rarely if ever called for. This being conceded, it is obvious that, when any part of the sewer vent of alimentation becomes obstructed from any cause whatever, sufficient time is permitted the operator to make all necessary preparations to insure the greatest degrees of success from surgical intervention.

Although we are seldom forced to open the large intestine in any of its areas under pressure, there is no segment of the alimentary canal so often tapped for mechanical obstructions, none with greater impunity or greater advantage to the afflicted. Assimilation of the aliment is ended when the injecta reach the cæcal portal, and from this point around the colic circle the greater part of the intestine is extraperitoneal and in close contact with no highly vascularized areas.

Morbid Anatomy of Obstruction in the Large Intestine.—For the purpose of simplifying the study of the morbid anatomy, we may commence with advantage at the ano-rectal outlet, as this is by all odds the most frequent seat of obstruction, through fæcal impaction, as well as obliteration of the emunctory by the manifold pathological changes in the mucous and submucous tissues, anywhere from the anal verge to the peritoneal investment of the rectum above.

Hemorrhoidal Degeneration.—Pathological changes in the superficial and deep veins at the anorectal junction lay the foundation of the vast majority of those manifold diseased conditions known by the laity as "piles," or hemorrhoids of numerous types. Now, in not a few of these cases of a chronic character, trophic changes extend up the wall of the bowel, reducing its expulsive power, so that the alvine discharges are imperfectly dislodged or with such difficulty as to cause one to suspect stricture. This surmise is strengthened by the ribbon-like moulding of the evacuations. All these signs are apparent in consequence of the pronounced stasis in the ano-rectal veins, an interstitial inflammation, and hyperplasia leading to a falling in of all the rectal walls: a condition aggravated by violent straining at stool when the discharges are at all solid.

Pathologically the condition is quite the opposite of undue contraction or submucous fibrous induration, as impediment and resistance come from relaxation, want of tissue, and tendency to prolapse.

Rectal Dilatation Consecutive to Enervation and Atrophic Changes in the Rectal Walls as a Predisposing Factor in Fæcal Impaction in the Ampulla.—The levator ani in the male chiefly serves the purpose of powerfully aiding in the expulsion of the alvine mass, after it has entered the rectal pouch. But in the female this muscle exercises more complex functions, being not only concerned in defecation, but also contributing largely as a support to the perineal body, thereby indirectly supporting the vagina, the uterus, and the bladder. This muscle often sustains serious damage in tedious or difficult labors, permitting thereafter a tendency to uterine displacement and a prolapse forward on the weakened anterior wall of the rectum.

The upright attitude of the human body, involving a strain on the venous system in consequence of the movement of the blood against gravity, favors premature degenerative changes in the vessels of the lower extremities and the rectum. Therefore, varix of the hemorrhoidal vessels in various degrees appears, and when aggravated becomes infected, inflames, or ulcerates. In aggravated chronic cases, a low grade of inflammation is propagated through the walls of the bowel into the muscular tissue of the levator ani and sphincter ani muscles.

Now that the integrity of the rectal support has been undermined and atrophic changes are manifest, disturbance of function soon follows. This presents itself by two opposite conditions. One is a hyperæsthesia, with a weakening of the external sphincter and prolapse of the pre-anal folds of the rectal mucous membranes during and after defecation. In the other pathological state, the normal sensation of the rectal mucous membrane is annulled; and though the external sphincter remains well closed, the levator ani has diminished in its contractile power and permits of enormous insensible dilatation. With this latter phase alone of trophic change are we now concerned. It is well to remember, however, that rectal enervation, atrophy, and impaction are often dependent on other pathological conditions than those enumerated, the most conspicuous being degenerative, as in the anæsthesia of old age, in locomotor ataxia, in dementia, or any pathological state of the brain or spinal cord which perverts or diminishes the conducting powers of the sensory nerves. The patient, on defecating, fails thoroughly to empty the rectum; some scybala remain, concretions form, and in time massive enteroliths, fæcal calculi, solidly fill the hollow of the pelvis. These fæcal deposits in some individuals seem to undergo petrifaction, and in certain instances it seems inexplicable with what impunity they are retained without giving rise to ulceration or sloughing, the acquired tolerance of the tissues permitting their insensible lodgment over periods of months and years. How, also, with those large bowlders jammed solidly into the rectal ampulla, the fæces can filter down by them, seems quite incomprehensible.

In one case last year, my patient, an aged gentleman, the father of a physician, declared to me that he had unconsciously carried his enormous enterolith for fourteen years. This, he said, he was positive of, because since that time an evacuation was impossible, unless his valet gave him a large soap enema, which was done every morning. In this case, after detaching the mass, I undertook to deliver it with an obstetric forceps; but as the external sphincter would not yield amply for it to pass through, I had to split it with an osteotome and displace it in sections. It had the shape and outline of a medium-sized cannon ball. After this was dislodged, several other globular bodies, varying in size from the fist to a pigeon's egg, were brought through the anus.

Enlarged Prostate.—It is my conviction that prostatic hypertrophy, when it engages the posterior half of the lateral lobes, is a prolific source of fæcal stasis or impaction in elderly men. It stands out in the lumen of the gut in such a manner that as the fæces descend their course is deflected, so that what passes must make its way through an irregularly formed chink, in consequence of which a considerable residue is left behind, to form the nidus of a later concretion.

The female rectum, in the child-bearing woman, in the weakly and those advanced in years, is greatly exposed to influences of an extrinsic order which positively interfere with the free movement of the rectal contents. In the most aggravated cases, a condition clinically and pathologically analogous to those types of hernia which sometimes obtain in the male exist, in which the tendency to visceral prolapse is so great that no description of surgical procedure will permanently cure nor apparatus entirely control.

The anterior wall of the rectum, having lost the contractile aid of the wasted levator ani, is devoid of support and falls forward into the vagina; the recto-vesical fascia allows of a descent of the base of the bladder; and, what is most common, the uterine ligaments stretch, retroversion follows, and the uterus falls back and downward, steadily maintaining an uninterrupted pressure against the rectum.

How many women thus afflicted are fruitlessly treated for constipation with laxatives? And how many are there, with predisposing tendencies to hernia, who complete its evolution by the straining at stool necessitated by this disordered position of the pelvic organs? This tendency to procidentia in the female, although by no means infrequent, is not one of those "conditions which may simulate obstruction of the rectum" in an aggravated degree, although it is, nevertheless, a source of serious apprehension in some cases, through the discomfort it may give rise to, and especially when an error is made in diagnosis and the medical attendant mistakes the ectopic uterus for a morbid growth, as has occurred in two cases coming under my own immediate notice. One case was in a married lady, coming from Utah for an operation for the removal of a tumor of the rectum that did not exist. The other was a young, unmarried woman, who had suffered from backache and straining at stool. She was brought to me by her physician, who wished to have arrangements made for an operation. Comfortably fitting pessaries promptly relieved both cases.

It is well known that the sigmoid flexure, particularly in women, may undergo, under various circumstances, enormous dilatation. Surgical literature abounds with the records of such cases. The latest and fullest contribution on this subject appeared in *La Suisse Romande*, in May, 1894, by Reverdin. In one case there enumerated, although obstruction was not complete, the mass attained to such proportions that a new growth was suspected and the abdomen opened. An enormous fæcal mass was removed from the sigmoid, with fatal results. Next to the rectum the sigmoid flexure is in women the most common seat of impaction of an aggravated description; although, probably, in most instances this is consecutive to stagnation lower down.

Hernia.—Of all the causes of acute and complete intestinal obstruction, hernial protrusion occupies a foremost rank. How many there are who have a "stoppage of the bowels," and in vain, by cathartics and enemata, the intestinal passage is forced; when, alas! often too late, a rupture is discovered. A hernial extrusion has painlessly and unconsciously come down and become strangulated, or a small undiscov-

ered one has been suddenly caught in the portal of escape. But strangulation of the large intestine is not common. It is said to occur in about one in every twenty cases, according to Astley Cooper. In my own operations for strangulation, I have on four occasions found the cæcum in the sac. In a femoral hernia of a woman, the sigmoid flexure was discovered; while in several umbilical herniæ—twice in the strangulated and four times in operation for radical cure of the reducible hernia—the transverse colon has been found.

Quite a few cases have come under my observation of intermittent obstruction of the colon, from the temporary incarceration of a knuckle of the colon, in both the reducible and irreducible herniæ of various anatomical types. This last summer an instance came to my knowledge illustrating this. The patient, a young man from Virginia, was brought to me by his surgeon for examination and advice. He had some time previously been treated with rectal bougies for rectal stricture, but without benefit. I could detect no evidence of such a lesion on the most careful examination. But he had an inguinal hernia, which could not be well retained with a truss. When this came down and became tumefied, his evacuation ceased and the distress was great. When it was reduced, he was easy and comfortable. I advised an operation, with a view to detaching the colon, which evidently had contracted adhesions and led to kinking when displaced; besides to attempt a radical cure of the hernia at the same time.

Neoplasms.—Tumors of an extrinsic origin seldom induce a dangerous stenosis of the large intestine. The economy provides a way of escape in most cases, by the property of the mesentery to elongate, and thus allow the gut to move out of the way of an encroaching growth. In sarcoma of the liver or kidney, leading sometimes to enormous enlargement and displacement, the colon makes an excursion out of reach of great pressure. The same is true of most new growths involving the uterus or ovaries; although in massive fibroids of uterine origin mechanical constipation is one of the most serious complications we have to deal with.

Cæcal Obstruction.—Independent of invagination of the cæcal end of the small intestine in infants and young children, we seldom encounter mechanical impediment at this site; and although fæcal impaction is not very unusual here, it is probably one of the most prolific causes of diseased appendices. This part of the alimentary canal is not so distensible as that nearer the anus, and is very prone to take on inflammation from trauma sustained from without and the effects of overdistention in impaction. Obstruction from the lodgment of foreign bodies or concretions carried down the small intestine seldom can occur in the caput coli, because anything that can clear the ileocæcal valve readily passes on through the colon.

The above briefly summarizes the principal pathologic causes, other than organic, which embarrass partially or completely the fæcal current on its way out of the body.

The Symptomatology and Diagnosis of Conditions which may Simulate Organic Obstruction of the Rectum.—The symptoms which attend rectal or colic obstruction may be grouped in the classes, local and constitutional.

Local Symptoms.—This class is the more numerous and less accentuated. The patient complains of being costive. Constipation is the rule. His motions are hard, or, if enemata are frequently given, the fluid discharges lead him to believe that the passages are loose. In most of these cases, in which the seat of impaction is in the rectal ampulla, the pressure resulting may give rise to pain in the back, lumbago, sciatica, or vesical weakening, rendering frequent urination necessary and producing a tendency to vesical leakage. On evacuation of the bowels, there usually remains a sense of fulness with rectal tenesmus. In nearly all cases we find an engorged, congested state of the hemorrhoidal veins, some of them being thrombosed, their bases fissured, and occasionally the smaller sacculated masses covered by a granular surface, prone to bleed on moderate irritation. In these cases "piles" are commonly complained of, and a moderate grade of proctitis is present.

The vesical symptoms vary in different individuals. In some the bladder in a large measure escapes severe pressure, by its fundus rising out of the pelvis; nevertheless, vesical complications are quite inevitable in protracted cases. The weight of the fæcal mass induces an irritation of the prostate and interferes with a thorough drainage of the bladder. The healthy rectum in the young or middle aged should be always empty, but in this class a residual mass of hard, desiccated fæces remains.

Acute obstruction of the large intestine is invariably consecutive to chronic impaction, dependent on an impediment culminating from within. The large intestine in the normal state is quite devoid of sensation, and even on great distention by either solids, liquids, or gases is quite insensible to pain, except when stoppage is complete or adjacent organs are being impinged on. When cæcal impaction occurs or the fæcal current is impeded, by a displacement of the colon in ventral or umbilical hernia, the patient is conscious of a sense of soreness over the site of stasis, with occasional attacks of severe colicky pains.

Sigmoid and rectal impaction in the female, unless caution be observed, is liable to be confounded with various genito-urinary disorders. Pathological conditions of the genital organs of women are so common that unless we scrutinize our cases carefully we may confound them with rectal disorders. And constipation is such a common habit with some women that when medical aid is summoned, unless one is closely questioned, she may neglect to speak of the stools entirely, and thus lead to mistaken conclusions on the part of the physician. A case of this description came under my care five years ago.

The woman had been suffering from the most intense abdominal pain for some days before, and had been so freely plied with morphine as to be well narcotized when I saw her. On examination it was elicited that she had had no evacuation of the bowels for two weeks, nor passage of water for more than twenty-four hours. An unsuspected, undiscovered, large scirrhous mass was found, which now wedged the rectum so tightly as to prevent the passage of anything outward; and fæcal distention so enormously pressed forward the whole large intestine that its outline could be distinctly defined through her attenuated abdominal walls. There can be scarcely a question that a considerable number of supposed ovarian and uterine maladies are but reflex symptoms, or dependent on distortion or compression of the pelvic organs by sigmoid or rectal compression.

Hernia, when involving the large intestine, may give rise to unequivocal symptoms of obstruction, their degree and intensity varying according to the anatomical site of the part involved. When the small intestine is the seat of strangulation, the symptoms are quite unequivocal; for this area of the alimentary canal is the centre of digestive activity, and is most abundantly supplied by the sympathetic system of nerves. But with the large intestine the manipulations of mechanical impediment are much more obscure and indefinite.

An instance of hernial occlusion of the transverse colon in the umbilical extrusion of a child of four years came under my care three years ago. The pa-

rents said that for nearly two weeks there had been no movement, when the navel swelling gradually enlarged and burst through the skin, the entire alvine mass escaping in this manner. In a section undertaken to close the fistulous opening, a spur of the colon was found engaged in the passage of escape. The interesting and important clinical feature in this case was that, during these two weeks, there had been no constitutional disturbance of any kind.

It is of great importance in all these cases of colic impaction coincident with hernia that we look closely for symptoms emanating from rupture, alone or as a complicating factor of obstruction.

The symptomatology of intussusception belongs to the surgery of infancy rather than to that of adults, and will be omitted. I have never met with a case of intussusception in the adult, nor are any such cases recorded in modern medical literature.

The Constitutional Disturbances attendant on impaction or complete obstruction of the large intestine, except when attributable to volvulus, ileus, or hernia, bear but little comparison with those witnessed in the upper segment of the intestinal tube. The onset is more chronic and the symptoms presented suggest autoinfection, absorption, and toxæmia rather than any violent disturbance of the nervous system. In non-organic impediment to the colon's contents, the causes in operation frequently are of long duration and do not seriously menace life, and therefore sudden profound systemic disturbance is an exceptional condition.

Diagnosis.—Differentiation in diagnosis in the various types of stenosis of the large intestine enables us not only to forecast events, but also to institute judicious treatment. A complete and detailed history of the case will throw much light on its probable character, although we must be guarded and not attach too much credence to certain of the patient's statements. For example, in some of the worst cases of impaction from rectal inertia, a patient may tell us that the passages are not only regular, but too free; in fact, that he cannot quite control them, a fairly safe sign that some description of mechanical obstruction exists. Nor can we rely on the statements regarding the completeness of an evacuation; for a patient may deceive himself and believe that he has emptied the rectum, while as yet a considerable residue remains behind. Our main reliance, then, must be on a physical examination. However repulsive this may seem, it should never be omitted in suspected cases; but it should be carried out methodically, with skill and deliberation. When hernia can be eliminated and when time permits it, it is well to begin by giving a mild purgative the day before. The patient should be placed on a firm table in good light.

The most common pathological state of the lower bowel leading to stenosis is malignant growth, generally of an epithelial type. If we can eliminate cancer in these cases, permanent means of relief are available in the majority. This dreadful malady works great havoc in the large intestine, as may be gathered from the latest statistics on this subject.

Sutton says that "ninety-eight per cent. of cancer of the bowel occurs in the large intestine, seventy-five per cent. in the rectum, ten per cent. in the sigmoid flexure, four per cent. in the splenic flexure, three per cent. in the hepatic flexure, two per cent. in the cæcum, and four per cent. in the intermediate parts." As Pilcher puts it, we may say that from six to eight per cent. of all carcinomata have their origin in the large intestine, the larger portion having their origin in the rectum or sigmoid flexure.[1]

Cancer of the large intestine has practically no symptomatology, until signs of either stenosis or hemorrhage appear, as this lesion here, as in other viscera, is quite devoid of pain in its earlier stages. Dysentery, ulceration, syphilis, or tuberculosis may each lead to a contraction of the intestinal lumen; but all of these have a fairly definite clinical history.

Mode of Examination.—We proceed to make our physical examination through two media: First, by the surface; and second, per rectum. In thin subjects we may derive valuable information by inspection, palpation, and percussion. Hernia may generally be readily detected when of fair volume, emerging through the ordinary portals; but when of diminutive volume, or appearing in unusual situations, as the obturator, pudendal, or other type, it may be readily overlooked, especially in fat subjects. Cæcal impaction may be recognized when of considerable volume, as may be that of any other area of the large intestine, except the sigmoid flexure, which, having a free mesentery and in the female being in close contact with the organs of generation, may be readily confounded with inflammatory or neoplastic diseases of them.

The sigmoid when greatly distended may, in some subjects not too fat, be readily mapped out by percussion. It is important in all these cases first to empty the bladder and determine the condition of contiguous organs. Below the sigmoid our examination is restricted to inspection and digital manipulation through the anus.

Anal Examinations may be made with the patient on the side or back. The range of examination here for the finger is limited, though by bimanual manipulation very much valuable information may be gathered. The rectum is the most common seat of all pathological conditions of the large intestine, and, fortunately, this pouch is the most readily explorable segment. In examinations of it we are dependent almost entirely on the sense of touch.

In the young healthy adult subject the rectum is quite empty, and the tip of the finger may be pressed up through it to a point just below the sacral prominence, or about the point where the peritoneum is reduplicated over it. After middle life, when degenerative changes set in, in both sexes notable alterations will be readily recognized in this part.

Hemorrhoidal disease, a pathological condition so common in man, has led to trophic changes of various degrees at the ano-rectal junction: in the male anteriorly we often find more or less enlargement of the prostate, and in women a backward inclination of the uterus. Besides, as age advances, the rectum has lost the power of complete expulsion of the fæces, and quantities of varying consistency will be found lodged therein. Except for lesions involving the mucous surfaces, the rectal speculum will afford us little aid in diagnosis.

Extensive dilatation of the sphincter ani is not required in mere digital examination of the rectum, as differential diagnosis must be reached entirely here by tactile sensation.

Rectal impaction from anal stenosis, paresis, or atony of the intestinal wall is without question a most prolific cause of many of the reflex neuroses, vesical irritation, etc. Many painful conditions of the female generative organs should be sought for by rectal examination, and relieved in every case that gives a history of chronic constipation. Many hastily assume that because a purgative promptly acts, there is no mechanical impediment in the lower bowel; but experience proves that though the fluid fæces make their way through, there often remain lodged in the large intestine large hardened scybala, to maintain an irritation and interfere with normal evacuations.

Conclusions.—Obstructions in the large intestine are of two kinds: viz., first, the active, acute, or complete; second, the passive, chronic, or incomplete.

[1] Dennis, "Surgery," vol. iv., p. 465.

The former are the most rare and dangerous, with few exceptions depending on hernia, paresis from inflammation, or occlusion by new growths of extrinsic origin. The latter derange the general health, though they seldom immediately imperil it. They are essentially dependent on habit, occupation, or senile changes; or occur secondarily in consequence of extrinsic influence.

They are more common in the female sex, in consequence of differences in the anatomy and functions of neighboring organs; and may give rise to such symptoms as may lead the unwary into suspecting uterine disorders.

By a methodical, systematic examination of cases of intestinal obstruction, we may generally be enabled to determine whether the large or small intestine is the seat of stenosis or occlusion, by certain well-defined symptoms; and when the large intestine is the seat of trouble, we may determine not only the area involved, but likewise whether such obstruction proceeds from causes of an extrinsic origin or from pressure conveyed through other sources; a practical knowledge of the etiology and clinical history of which will clear the way for safe and effective treatment.

Progress of Medical Science.

Relapsing Sore Tongue.—Mr. Jonathan Hutchinson recently observed a case of the above-named affection. There were large abraded patches upon the surface of the organ, and these resembled a severe attack of herpes. Herpes of the tongue occurred chiefly along the margin and tip; herpes of the tip was exceedingly common. Sometimes these attacks supervened with such frequency that the patients were scarcely ever free from them. The history of the present case was that the disease had persisted off and on for twenty years. At intervals the tongue would be quite sound, but after some months a relapse would occur. The present attack, which had lasted for four months, was the most severe which the patient could remember. On examination of her teeth, one tooth was seen in which an amalgam stopping had been used. Mr. Hutchinson here remarked that he entertained great prejudice against amalgam stoppings in teeth, especially in mouths which were sore. In such cases he always insisted upon the amalgam being removed and gold inserted in its place. Dentists, he stated, would not believe that any harm arose from amalgam stoppings, but he was satisfied that in certain conditions some chemic solution of the amalgam took place. Most often the tongue became sore opposite the tooth in which the amalgam was present. Moreover, he had often found that patients could tell by means of a slight metallic taste in their mouths which tooth it was in which the amalgam had been placed. Again, he had often seen cases of sore mouth in which all the symptoms had been relieved by replacing the amalgam with gold stopping. The pellicular condition of the patient's mouth was most interesting. In some respects the leucoplakia somewhat resembled that seen in smoker's tongue, but more inflammation was present than was usually observed in the latter condition. It was worthy of note that the filiform papillæ had disappeared over a large area. The patient, on being asked if any particular articles of diet caused irritation to her tongue, replied that anything sharp did so, and in this connection she instanced vinegar. She also avoided walnuts. Mr. Hutchinson was interested to find that she had herself discovered the irritating effect of walnuts. He pointed out that walnuts were especially harmful in these cases. The old, dry walnuts were possibly not much to be blamed in this connection, but the juice of the rind of the young moist walnuts was especially irritating. He had seen many cases of sore mouths arising from this cause. Again, such patients should avoid all effervescing waters, and sugar in combination with vegetable acids was very harmful. The remedy for these cases was arsenic.—*Medical Press.*

The Action of Fasting and of Meat and Vegetable Diets on the Duration of Elimination of Salts by the Kidneys.—The question of absorption and elimination of medicinal substances is one of the most important in therapeutics. It would be advantageous to know in what shape and manner the administered drugs are absorbed and later eliminated. The latest researches on the subject are those of Debogorie-Mokriewitsch, says the *Medical Review.* The author conducted his experiments with potassium iodide and sodium salicylate. The experiments were intended to determine the length of time of elimination by the kidneys of the two drugs, during a vegetable regimen, a flesh regimen, and during fasting. The experiments numbered one hundred and forty, and adult persons and dogs were the subjects of the investigations. The author gave the drugs to persons who were on a vegetable and animal diet respectively. He found that elimination was prolonged when the food was limited to vegetables. When he gave four grains of potassium iodide to the person on a vegetable diet he recognized the chemical reaction of the salt in the urine for fifty-one hours. The same amount was entirely eliminated in thirty-four hours by a person on a meat diet. The experiments with sodium salicylate gave the same results. Eight grains of the salt required twenty-seven hours for elimination under the vegetable regimen, while twenty-three hours was sufficient for the excretion under the meat diet. The experiments on dogs gave the same results, that the vegetable diet prolonged the time of elimination. The investigations conducted to determine the influence of fasting on elimination were interesting, and showed that the time of elimination was greatly prolonged. One grain of iodide of potassium was eliminated in twenty-six hours by a dog on a flesh diet, while the salt was detected for fifty hours in the urine of a fasting dog. Six grains of sodium salicylate were eliminated in twenty-nine hours by a dog fed on meat, while one from whom food was withheld required thirty-four hours for the complete excretion. The author drew the following conclusions from his experiments: 1. That there is a close relation between the time of elimination of medicinal substances and the quality and quantity of foods. 2. The length of elimination is shorter with a meat diet than with a vegetable diet. 3. An increase in alimentation with its subsequent increased renal activity hastens the elimination. 4. Fasting prolongs, to a great degree, the elimination.

A Case of Acromegaly with Goitre, and One with Exophthalmic Goitre.—Murray (*Edinburgh Medical Journal*, February, 1897, p. 170) has reported two interesting cases of acromegaly, one of which was attended by a large goitre and the other with exophthalmic goitre, pulmonary tuberculosis, and glycosuria. The one case occurred in an unmarried woman, thirty-seven years old, in whom the thyroid gland became enlarged at the age of twelve years, subsequently diminishing in size until it caused no inconvenience. Between twenty and twenty-five years of age, the patient was overworked as a teacher and suffered greatly at night from a dull aching pain in the left mastoid region. This pain gradually extended all over the head and became constant, while the thyroid gland again increased in size and became firmer in consistency. The pain in the head became so troublesome that the

patient was compelled to give up teaching at the age of twenty-five, and it persisted until the age of thirty-one. The patient complained of great loss of strength and energy. She presented the characteristic appearances of acromegaly, together with prominence of the eyes, narrowing of the palpebral fissure from drooping of the upper eyelid, enlargement of the thyroid gland, increased frequency of pulse, excessive perspiration, and symptoms and physical signs of pulmonary tuberculosis. Examination of the urine disclosed further the presence of sugar. A distinct fine tremor of the hands was visible when they were extended. A skiagraph of one of the hands showed the greater part of the enlargement to be due to an overgrowth of the soft tissues. The shafts of the phalanges were thickened, but the ends did not appear to be larger than normal. Neither the metacarpal bones nor the phalanges were increased in length. In the middle and terminal phalanges of each finger, the (proximal) epiphysis appeared separated from the shaft by a narrow line, indicating that complete osseous union had not taken place between the two. A skiagraph of the foot also showed an increase in the soft structures, but the bones exhibited no enlargement. The second case occurred in a woman, sixty-three years old, in whom the thyroid gland was noted to be enlarged following an attack of whooping-cough at the age of thirteen years. From this time the goitre gradually increased in size until the age of thirty. For four years there had been attacks of left facial spasm, at first occurring in paroxysms, but for two years being constant. The patient exhibited the characteristic appearances of acromegaly, and in addition had a cystic goitre arising from the isthmus of the thyroid gland, with also some enlargement of the lateral lobes of the gland.

Prophylaxis of the Infectious Diseases of Children.—Dr. A. G. Wollenmann says that the only successful prophylaxis for these diseases is the destruction of the germs. The principal thing is thoroughly to disinfect the surface of the entire body, where, generally, the most infectious matter is deposited. The skin must, at least thrice daily, be washed with potash soap. Ordinary potash soap is preferable to any other antiseptic soap, as the latter can in no way be applied in sufficiently concentrated form. The skin of children is very sensitive to antiseptics, and applying these three times a day may easily produce toxic symptoms. The surfaces of nose, mouth, and ears, as well as the face, must be thoroughly rubbed with soap and then washed in warm water. To wipe the parts, clean old linen should be used and then be burned. A mosquito net in tent shape may be put over the bed wherein the patient lies, to limit further dissemination of the infectious germs. On the netting, masses of these germs will adhere, hurled there through expiration and spasmodic cough. Bedclothes and clothing should be often changed. Sheets and clothing once used must be soaked in two-per-cent. carbolic-acid solution or in two-per-cent. chloride-of-calcium solution, for several hours in the sick-room. Later on, by washing and boiling, all germs will be destroyed. Absolutely nothing should be in the patient's room save the most necessary articles and utensils. The room must be kept perfectly clean, and should be thoroughly ventilated each day. Daily, the floor and walls should be mopped with clean water and soap. Cats and dogs must be kept out of the sick-room. After termination of the illness, the room is to be fumigated with sulphur (for every one thousand cubic feet, three pounds of sulphur is sublimed) and thoroughly aired for a number of days. A strict rule must be enforced that only nurses be allowed to enter the room. After leaving the room and before coming in contact with other persons, nurses should wash the face and hands perfectly with soap and water. Older children should not expectorate into handkerchiefs, but into suitable cuspidors containing disinfecting fluid. The attending physician must have strict supervision over the cleansing and disinfection. He should always take care for hygiene in the household, and in those families which have not sufficient seclusion for the healthy children he should, if possible, provide quarantine for the sick. Another very important point is the compulsion by law of notification of such diseases. Parent, physician, teacher, and the police ought, under penalty, be bound to report such diseases. By such means only can the sanitary inspector take the requisite measures energetically and effectually to suppress a threatened epidemic. Bed clothing, mattresses, woollen goods, garments, etc., should be cleaned in public disinfecting institutions. Kindergartens, schools, etc., should constantly be superintended by a physician. Children who are suspected of being in the prodromal stage of diphtheria, scarlatina, measles, or whooping-cough should be strictly kept away from these places. Likewise should be excluded healthy children whose brothers or sisters may be infected with any of these maladies. If we accomplish these points, which belong to rational prophylaxis, good results certainly cannot fail.—*Pediatrics.*

Gonorrhœa in Women from a Medico-Legal Standpoint.—Dr. Neisser discusses this important question with especial reference to the importance of the diagnosis, which, he affirms, cannot be positively made without the aid of the microscope. A secretion may be present which bears an exact resemblance, macroscopically, to gonorrhœal pus, but contains no cocci, or, in fact, any bacteria whatever (*American Journal of the Medical Sciences*). Moreover, it is impossible to determine the time at which infection occurred, since its course differs so widely in different subjects. When the cervical canal is affected, but not the urethra, symptoms may be absent. The writer denies the truth of the statement that obscure acute gonorrhœal infection in the female may cause a chronic discharge in the male; the gonococci always possess the same virulence, and when they come in contact with healthy mucous membrane produce an acute inflammation. This explains the violent gonorrhœal attacks in newly married women whose husbands regard themselves as entirely cured, and also the similar acute infection of men after intercourse with women whose physicians had discharged them as free from disease. In both instances the secretion is found to contain a few scattered cocci, which are found only after a long search. In the chronic cases the characteristic appearance of the gonococci within cells is often wanting, and the culture test is frequently unsatisfactory. In short, the microscopical diagnosis is often exceedingly difficult. Still, this is the only one which should be admitted as positive in a court of law. Dr. Simon has recorded the following interesting case. A man, aged thirty-seven years, was accused of having committed rape upon a little girl, five years of age, and of having infected her with gonorrhœa. An examination of the greenish pus which escaped from her vagina showed that it contained Neisser's cocci. The accused denied that he had had urethritis or any venereal trouble since an attack of clap fifteen years before, which had been promptly cured. Careful and repeated examinations of his urethra showed an entire absence of any abnormal secretion. A bacteriological examination of the urinary sediment demonstrated the presence of numerous epithelial cells containing bodies which somewhat resembled gonococci, but which, when subjected to staining by Gram's method, failed to respond to the ordinary test. Under these circumstances it was im-

possible for the expert to submit a positive opinion. Hence the inference that, when the question of the specific nature of an old urethral discharge is to be decided, too much reliance should not be placed on the bacteriological evidence. Even when cocci are demonstrated in the vaginal secretion, the origin of the infection, whether direct or accidental, may remain in doubt.

Types of Respiratory Movements.—As the outcome of a study of types of respiratory movements prosecuted in the hygiene laboratory of the Lawrence Scientific School at Boston, Fitz (*Journal of Experimental Medicine*, November, 1896, p. 677) concludes that children of the two sexes differ very little in the types of their respiratory movements; that between girls and women and boys and men there is little or no difference in respiratory type; that child-bearing does not permanently affect respiration; that the natural type of respiration for both sexes is one in which the movement is balanced equally or nearly so between chest and abdomen, the abdominal movement being somewhat in excess; that in typical unconstricted individuals the chest contributes about the same bulk of air as does the abdomen; that constricting dress causes preponderance of thoracic movement in ratio to its restriction of abdominal movement and to the sensitiveness of the nervous co-ordination.

Is Rheumatoid Arthritis a Microbial Disease?—According to the *Hospital*, the pathology of this disease has been brought to the front by the researches of Wohlmann and Bannatyne, which render probable a microbial origin for this disease. They found in twenty-four cases out of twenty-five one and the same organism, often in great numbers, which probably enters the system through some catarrh of the digestive or genito-urinary organs, notably through the tonsils, and affects several joints. Here it multiplies in the synovial membrane, ligaments, cartilages, and bone marrow, giving rise to erosion. It secretes a poison which acts on the nervous system, producing muscular atrophy, pigmentation, and tachycardia. They obtained the organism by aspirating with aseptic precautions the affected joints. Blaxall, who worked with them, recommends that a thin film of the fluid should be dried and fixed by passing several times through the flame. The glass is then dipped in dilute acetic acid, well washed and again dried, placed on a saucer of aniline methylene blue, and left in a dark moist chamber for from three to five days. It is then washed for some hours, rinsed in distilled water, dried, and mounted. Carbol fuchsin, diluted with one-third of distilled water, will give fair results in twenty-four hours, and requires a final washing in thirty per cent. of alcohol. The organism appears to be a bacillus which stains only at the two ends, and resembles at first sight a diplococcus. No chains or masses are to be seen, and under Gram's method it is decolorized. Rapid staining can be effected by mixing the synovial fluid with methylene-blue stain, drying and fixing, and then simply washing with water. Cultivations in beef broth show after the third day gold-dust-like particles, and on agar tubes a fine film is formed by the growth. The organism has also been obtained from the blood, and does not appear to be present in joints affected with other diseases. Injections into rabbits seemed to produce some affection of the joints, but further observations are needed on this point. The disease, according to these authors, occurs chiefly in women, most often in early adult life and at the climacteric, often following acute rheumatism and uterine disorders. It usually causes painful spindle-shaped swellings of the proximal interphalangeal joints of the ring and middle fingers on both hands together. Then follow in regular order affections of the wrists, the rest of the fingers, the cervical vertebræ, and the jaw, knees, elbows, ankles, and shoulder. There is at first no grating, but secondary osteo-arthritis may follow with erosion of cartilage, eburnation, and overgrowth of bone. The temperature is raised a degree or more in the evening. Besides the anæmia, muscular atrophy, and pigmentation, we may find fingers which "go dead," and even gangrene and ecchymoses occur. Tonic treatment with hot baths and guaiacol to the affected joints seem to give the best results.

A New Method of Localizing Brain Lesions.—At a late meeting of the Royal Academy of Medicine in Ireland, a report of which is published in the *Medical Press*, Mr. Robert Cox read a paper on "A New Method for Localizing Brain Lesions," and exhibited the necessary apparatus for its employment. He poined out that there was need of a more perfect method of locating the important areas of the cerebral cortex on the overlying surface of the scalp, seeing that most, if not all, the methods generally employed are either limited in their scope or complicated in their application, while many give rise to error by the use of a standard measure, the inch or the centimetre, for varying surfaces. He thought the method which he was about to describe would be found devoid of these objections. For its use two things were necessary—(*a*) an instrument which he had invented and called a cerebrographometer, and (*b*) a diagrammatic map of a hemisphere of the brain, prepared from readings made by the use of the same instrument on the cadaver and casts of the brain *in situ*. This map might be substituted, or augmented, by a list of indices made in the same way. The instrument consists entirely of the mechanical device technically known as "lazy tongs" formed into a circle, with two accessory loops attached to the circle by their ends in such a way that they arch over it at right angles to each other. One loop bears the numerals, beginning at each end with 1, and ending in the middle with 10; while the other loop has the letters from A to V in consecutive order from before backward, that bearing T forming the junction with the circle behind. The map is made on a gnomonic projection, with the radii or longitudinal lines marked by letters, and the semicircles or lines of latitude by numerals. In using the instrument it is necessary to extend it in all parts, and apply it to the head with the rivet forming the junction of the lettered loop with the circle in front on the glabella, and the rivet marked V at the other end to the occipital protuberance; then to press down the loop between these two points in the middle line, and close the circle round the head on such a plane that the numeral 10 will rest on the lettered band. The instrument is then in position, when, to find any given point—say Broca's lobe—it is only necessary to consult the map or list of indices for the bearings there given, as "C 4, left side," and place the 10 of the numbered loop on the C of the lettered loop, when the numeral 4 will lie over the part. Having thus shown the simplicity of the method, for the carrying out of which no recourse need be had to any science, and the almost automatic action of the cerebrographometer, he proceeded to explain its accuracy, showing that it was applicable to all-sized heads, and formed its own unit of measurement for each, thus eliminating the errors due to the use of a standard measure for a varying surface. The two fixed points taken, the glabella and the occipital protuberance, place the circle on that plane considered so important by Professor Fraser as bearing a fixed relation to all important parts of the brain. His opportunities of testing its accuracy were very few, but in those it gave excellent results, while, with regard to Rolando's fissure, perfection seemed to have been reached.

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CYSTITIS DUE TO THE BACILLUS COLI COMMUNIS.

CYSTITIS in children may be due to stone, new growths, tuberculosis, or to any cause that induces retention of urine. It may also be one expression of a general infectious process. The form that is characterized by alkaline and ammoniacal urine is sufficiently rare. French writers call attention to cases in which the urine gives normal reaction, though it contains rod-like micro-organisms mixed with the pus cells. To these Clado gives the name of septic vesical bacteria. Albarran calls them pyogenic bacteria. More extended investigation shows that the organism is the well-known bacillus coli communis, always present in the intestinal tract, and which may, under favoring conditions, enter the body and produce disease. Barlow, Schmidt, and others have shown that the entrance of the bacillus coli communis into the bladder produces a definite and characteristic cystitis.

This coli-bacillic cystitis is not infrequent in children, especially among girls. In 1894 Escherich reported seven cases in little girls, the ages of five ranging from seven to nine years, while the other two were respectively six and thirteen months old. The same symptoms existed in all—general condition good; frequent urination, with burning sensation during micturition; and the bacillus coli communis found in great numbers in the urine. Washing out the bladder with a weak solution of creolin and salol internally served to effect a complete cure.

Yet further clinical reports, according to Frumpp in a recent German journal,[1] show that coli-cystitis is not so light an affair as Escherich's observations would seem to indicate. Grave complications may arise and death supervene. Frumpp gives the results of twenty-nine cases under personal observation. Of these, eight were of boys, and twenty-one of girls. Twelve patients were two years old, the youngest was aged five weeks, and the oldest nine years. The disease appeared under two forms, mild and severe. In the first there were local symptoms only, the body was well nourished, and the course and termination of the disease were favorable in every way. Ten cases were of this nature. In three, vulvo-vaginitis also existed. In the severe form there is marked change in general nutrition, rapid emaciation, and at times strangury so pronounced that fifteen minutes are required for micturition, the urine being voided drop by drop and with great effort. Pain may be spontaneous or induced by pressure in the region of the bladder and occasionally in the kidneys. Hæmaturia, when it exists, is usually transient. During the entire course of coli-cystitis, there is always danger of an ascending inflammatory process, causing ureteritis, pyelitis, and nephritis, with a resulting uræmic poisoning. Then apathy appears, together with marked and increasing emaciation, somnolence, vomiting, and collapse. Two cases of Frumpp's resulted in an ascending inflammation that caused nephritis and death.

Urinalysis in the two forms of coli-cystitis differs in degree rather than kind. In benign cases the urine is cloudy, acid in reaction, and contains a minute quantity of albumin. Its color is usually normal, though it may be pinkish or opalescent. The odor is stale or slightly fetid. The microscope reveals isolated epithelial cells from the bladder, polynuclear leucocytes, together with masses of rod-shaped micro-organisms, usually separated from the cellular elements. In the severe or grave form of the disease there are considerable albumin and a disagreeable and fetid odor of the urine: leucocytes are abundant, sufficient in number to form a deposit equal to about one-third of the matter voided. This urine is rich in peptones, acid in reaction, contains numerous pus cells, epithelial cells, and casts.

Mild cases recover in from one to two weeks, some without treatment of any kind whatever. Severe cases vary in duration. The best results are obtained by washing out the bladder with a warm solution of lysol, and by giving salol in appropriate doses.

How does the bacillus coli communis get into the bladder? And does it always cause cystitis when there? Interesting observations on urine in disease reveal its presence where no cystitis exists. Escherich explains the greater frequency of coli-cystitis in girls upon purely anatomical grounds, assuming that infection may come from without and by means of direct contact of excrementitious products with the mucous surfaces of the vagina and urethra. Others think there may be a direct migration of the bacilli through the walls of the intestine into the bladder. Denys thinks this possible only when there is a lesion and hyperæmia of the intestine. Czerny, Escherich, and Frumpp have found the bacillus coli communis in the blood in cases of enteritis. Work on the cadaver has also demonstrated its presence in various organs of the body. A general coli-bacillus poisoning is always possible, for the virulence of this particular micro-organism, under favoring conditions, has not been exaggerated.

[1] Deutsch. med. Wochen., September 10, 1896.

THE HIPPOCRATIC OATH.

WE have been asked by a correspondent regarding the Hippocratic oath, taken by physicians upon graduation.

He states that he has inquired as to the substance of this oath of many physicians who have been unable to give him a satisfactory answer. He is under the

impression that this oath requires a physician to respond to any call made upon him for professional services, regardless as to whether those services will receive compensation or not. He holds that such a demand would be unjust under present conditions, especially in cities and large towns, where hospitals and city physicians are provided for the poorer classes; while in smaller towns the law provides that the poor shall receive medical attention at the expense of the public. He is satisfied that a large number of men take this oath as a matter of form, without any conception of what they have to observe. For the benefit of our correspondent, and those whom he has questioned, we give the following translation of the oath in full:

"I swear by Apollo the physician, and Æsculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and this stipulation—to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required; to look upon his offspring on the same footing as my own brothers, to teach them this art, if they should wish to learn it, without fee or stipulation; and by precept, lecture, and every mode of instruction, I will impart the knowledge of the Art to my sons, and those of my teachers, and to disciples bound by stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such council; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practise my Art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption, and, further, from the seduction of females or males, of freeman and slaves. Whatever in connection with my professional practice or not in connection with I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times. But, should I trespass and violate this Oath, may the reverse be my lot."

A reference to prevailing codes of ethics will show that no such requirements as our correspondent suggests are made. He is privileged to use his own judgment in accepting or rejecting any case, but, having accepted, he is expected to do his work conscientiously without regard to compensation.

It may be observed that the points raised are not touched upon in the "oath." The Hippocratic oath shows the high standard of honor, integrity, the spirit of brotherly love and philanthropy which it has been the aim of the profession to maintain since the beginning of the science of medicine. In taking this oath to-day we understand that the physician binds himself to preserve the dignity, purity, and honesty of the profession, that he shall ever be guided by sound judgment and high moral principles.

TUBERCULOSIS AND TYPHOID.

While much attention is being given to the dissemination of tuberculosis through milk supplies, and much is being done by the authorities to lessen the dangers from this source, comparatively little is said about the dangers of milk as a carrier of the germs of typhoid, scarlatina, and other diseases.

Some recent reports would seem to indicate that there is much on this side of the milk question which will repay investigation.

HEALTH BOARDS

Should be most careful in the way they place upon physicians what may be looked upon as needless burdens. In order that all good regulations should continue to receive the support and co-operation of the profession, no bad ones should be interpolated which might tend to bring discredit upon the whole by reason of their impracticability and burdensomeness.

News of the Week.

The American Medical Editors' Association.—The meeting of this association will be held in Philadelphia, under the presidency of Dr. H. A. Hare, June 1–4, 1897.

The Possession of Anæsthetics is Illegal.—Governor Black has signed a bill designed to restrict the use of "knock-out drops." The bill makes it a felony for a person other than a duly licensed physician to have an anæsthetic on his person with the intention of administering the same to another person, and makes the finding of the same on the person by any one presumptive evidence of guilt.

An Anticigarette Bill has been introduced into the legislature of this State and has been reported favorably by the committee on public health. The bill forbids the sale of cigarettes to minors, and provides that dealers in cigarettes shall pay a license fee. The bill also prohibits the sale of cigarettes within two hundred and fifty feet of a church or school.

Proposed Change in the Missouri Medical Law.—A bill has been introduced into the Missouri legislature which proposes to take the right to license physicians to practise medicine in that State out of the hands of the State board of health, and to place it in the hands of a board of medical examiners consisting of five members to be appointed by the governor.

The Spitting Nuisance.—It is reported that the city council of Springfield, Mass., has passed an ordinance prohibiting spitting upon the sidewalks. As we noted last week, a beginning has at last been

made in this city in the enforcement of the rule against spitting, the notices of which for so long afforded amusement to street-car conductors and elevated-road guards. The *Medical News* says that a well-known Chicago lawyer, of prominent social and political position, has been arrested for expectorating in a street car. He threatens to sue the company for $50,000 damages. *The Sanitarian* says that among the suggestions made at St. Louis, on account of the difficulty in the enforcement of the order of the health department against spitting on the floors of cars, one is that a few cars be run over the lines with the placard "spitters' cars" on their sides.

Philadelphia Polyclinic.—By the will of the late Sarah Phillips the sum of $10,000 is devised to the Philadelphia Polyclinic and College for Graduates in Medicine.

Philadelphia Pediatric Society.—A stated meeting of the Philadelphia Pediatric Society was held on March 9th, the president, Dr. J. P. Crozier Griffith, in the chair. Dr. D. J. Milton Miller related a case of extensive subconjunctival hemorrhage in a child suffering from whooping-cough, exhibiting a striking picture of the aggravated complication. Dr. Miller also read a paper on "Hyperpyrexia as a Fatal Termination in Entero-Colitis, with Remarks on the Use of Opium in This and Allied Affections." He pointed out the danger of using opiates to restrain the activity of the bowels when diarrhœa was a conservative process on the part of the organism to rid itself of noxious and toxic matters. Under these circumstances there is danger also in the use of milk and other fermentable food; so that good results may be looked for from total abstinence from food or from the use of albumin water, beef juice, and the like, for varying periods of time, and the employment of rectal irrigation. Dr. S. M. Hamill read a paper on "Glandular Fever," reporting cases and reviewing the literature. The discussion developed the fact that there is a marked and legitimate difference of opinion as to whether so-called glandular fever is a distinct entity or only a secondary manifestation of some primary and obscure infective process. Dr. J. H. Jopson reported a case of malignant endocarditis in a new-born child. Dr. A. E. Taylor reported a case of pulmonary thrombosis in a child the subject of congenital syphilis. Dr. Jos. Sailer also briefly reported a case of endocarditis in a young infant.

Aid for the Cuban Wounded.—A number of physicians, dentists, and pharmacists of Buffalo recently formed an association having for its object to provide the army of liberation in Cuba with the necessary remedies and surgical appliances for the wounded.

A New Rule Concerning Contagious Diseases.—The health board has adopted a new rule regarding contagious diseases among school children. The old rule has been to exclude from school all children living on a floor where there is a case of diphtheria, measles, or other contagious disease, but this has been found to be unnecessarily stringent. It has now been decided to insist even more strongly than before upon isolation of the sick, but to forbid attendance at school of only the other children of the same family, the children of other families living on the floor being permitted to go to school as usual. It is proposed also to have the board's inspectors visit daily children ill with contagious disease.

Dr. George E. Doty was the author of the article on "Diphtheria and Scarlet Fever," in the issue of February 20th, and not Dr. G. E. Daly, as printed.

Congress of American Physicians and Surgeons.—The fourth session of this congress will be held in Washington, May 4, 5, and 6, 1897, under the presidency of Dr. William H. Welch, of Baltimore. The following are the subjects for discussion at the general meetings: "The Gouty and Rheumatic Diatheses, and their Relations to Diseases of the Eye;" "Otology in its Relations to General Medicine;" "Internal Secretions considered in their Physiological, Pathological, and Clinical Aspects;" "Deformities of the Hip-Joint, especially Congenital Dislocations;" "The Classification of Acute General Peritonitis: the Prognosis and Treatment of the Different Varieties." The address of the president of the congress will be delivered on the evening of Wednesday, May 5th. The meetings will be held in the Columbia Theatre, corner of Twelfth and F Streets, N. W.

Dr. Nicholas Senn has been invited to deliver one of the general addresses before the Twelfth International Medical Congress at Moscow.

The Plague.—A telegram from Bombay, dated March 11th, states that the total number of cases of bubonic plague in that city, up to date, is 9,032, and 7,546 deaths have resulted. In the whole presidency, to date, there have been 14,856 cases of the plague reported, and 12,204 deaths have been recorded.

Cholera in India.—A serious outbreak of cholera at Rewa, in India, is reported. It is stated that one hundred and sixty deaths occurred in two days, and that energetic steps are being taken to check the progress of the disease.

Blindness in Northern Europe.—The ratio of blind persons to 100,000 inhabitants is in Denmark 53, Sweden 88, Norway 128, Finland 155, Russia 200. There is less blindness in cities than in the country, the proportion being in Norway 83 to 145.

Jefferson Medical College.—The Philadelphia chapter of the Alumni Association of Jefferson Medical College held a scientific meeting in the college building on March 9th, Dr. H. A. Wilson occupying the chair. Dr. A. H. Hulshizer, the president of the chapter, read a paper on headaches and their treatment. After the meeting a reception was held by Dr. D. Braden Kyle.

Wetnurses for Invalids.—A writer in *The Lancet* says that during an attack of dysentery he was advised to take milk and soda water, but found that milk warm from the cow was more beneficial. He asks if there is not some sucker arrangement to attach to a cow's udder by which milk can be drawn off and

sucked through a tube without being exposed to the air at all? If delicate growing children and invalids would take milk in this way, he thinks it would do them far more good than milk, especially boiled milk, which has been exposed to the air. He inquires whether wetnurses ever give their services to invalids, and wants to know, if not, why not.

The Jersey City Water Supply.—The company which has been supplying Jersey City with water has notified the authorities that it will have to limit its supply by reason of the prior claims of other cities using water from the same source. In that case Jersey City will have to go back to the Passaic River for a part of its supply, a river which a recent legislative committee has shown to be polluted far beyond the limit of safety for the users of its water.

The Atlantic County (N. J.) Medical Society.—The annual meeting of this society was held in Atlantic City on March 4th. Dr. W. E. Darnell read a paper on "The Clinical Significance of the Discharge in Infantile Diarrhœas." The election of officers resulted as follows: *President*, Dr. W. Blair Stewart; *Vice-President*, Dr. A. D. Cuskaden; *Secretary and Treasurer*, Dr. Walter Reynolds; *Reporter*, Dr. W. E. Darnell.

An Insanitary Court House.—The board of health of Newark, N. J., has been investigating complaints concerning the sanitary condition of the county court house. It has found the complaints well founded and has called the attention of the board of freeholders to the lack of good sanitary arrangements, and ordered that the place be put in sanitary condition within ten days or the alterations would be made at the expense of the county.

A New Symptom of Morphine Poisoning.—A prisoner in the Raymond Street jail, in Brooklyn, recently attempted suicide by morphine. In its account of the affair, the *Evening Post* said that the man was found in his cell by a keeper, in a half-conscious condition. The keeper tried to arouse him, and when he failed the matter was reported to the warden. The latter "immediately detected the odor of morphine," and so the diagnosis was made.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending March 13, 1897: March 9th.—Surgeon T. C. Craig detached from the marine rendezvous, New York, and ordered before retiring board, March 16th, then home and await orders; Assistant Surgeon R. G. Broderick detached from the *Constellation*, March 15th, and ordered to the New York navy yard, March 17th. March 10th.—James C. Pryor commissioned as assistant surgeon from February 27th. March 12th.—Surgeon H. E. Ames detached from the *Detroit* and ordered to the *Cincinnati;* Surgeon D. N. Bertolette detached from the *Minneapolis*, ordered home, and granted three months' leave; Surgeon N. H. Drake detached from the *Cincinnati* and ordered to the *Minneapolis;* Assistant Surgeon G. C. Hubbard detached from the *Cincinnati* and ordered to the *San Francisco.*

The Cocaine Habit.—It is proposed to prohibit the sale in Chicago of catarrh snuffs and balms and other quack remedies which contain cocaine. An ordinance to that effect has been introduced by one of the aldermen. It is said that over forty victims of the drug have been brought into the police courts in the past month.

The Russian Women's Medical Institute.—The Tsar has given a sum equivalent to $30,000 for the erection of dormitories for the students of the St. Petersburg Medical Institute for Women of the orthodox faith.

Dermatology and Syphilology at the Twelfth Annual International Medical Congress.—The following is the list of subjects selected by the committee on organization of the eighth section of the International Medical Congress, which meets in Moscow, August 7 to 14, 1897: Dermatology: Actinomycosis, primary tuberculosis of the skin, cutaneous sarcomatosis, acanthosis nigricans, pathogeny of alopecia areata, blennorrhagic eruptions, eruptions of malarial origin, hydrargyric eruptions, treatment of scleroderma, treatment of rhinoscleroma. Syphilology: When should we begin the treatment of syphilis with mercury? How long should the treatment of syphilis be continued? Is it necessary to treat syphilis from the moment of the appearance of syphilitic accidents, or to institute a provisional treatment without these accidents? The modification of the anatomical elements of the blood in syphilitics during the condylomatous period; The methods of treatment of syphilis by soluble and insoluble mercurial injections. It is hoped that there will be a creditable representation of American dermatologists and syphilographers at this meeting, and it is requested that all proposing to contribute to the scientific discussion shall send the titles of their papers to Dr. Prince A. Morrow, New York, the president of the section for the United States.

Obituary Notes.—Dr. Joseph F. Gallagher, of Freeland, Pa., died on March 3d, of pulmonary tuberculosis. He was born in Yorktown in 1872, and was graduated from the Jefferson Medical College in 1894. After graduation he became an assistant to Dr. Neale, of Upper Lehigh, remaining with him about a year, when he resigned to accept the position of assistant superintendent of Ashland Hospital. Sickness compelled him to resign this place a year ago. In his brief medical life he had shown great skill and coolness as an operator.—Dr. Sumner A. Mason died suddenly at his home in this city on March 12th. He was a graduate of the University of Pennsylvania in 1868.—Dr. E. P. Strunk, of Brewster's, N. Y., was killed by a train on the New England Railroad on March 12th. He was born in Poestenkill, N. Y., and was forty-seven years of age. He had practised medicine in Brewster's since his graduation, twenty-three years ago.—Dr. William C. Roller died suddenly at Hollidaysburg, Pa., on March 11th, at the age of fifty-nine years. He was for many years president of the Blair County Medical Society and at the time of his death president of the Hollidaysburg school board.

Ridiculous Old Fogyism.—The *Medical Press* gives an almost incredible instance of British conservatism run mad. "The sublime and the ridiculous," it says, "seem to be curiously illustrated in the regulations, written and unwritten, which belong to the Royal College of Physicians, London. But perhaps the most remarkable of all is that which relates to syphilis. It appears to be the case that no fellow or member of the college is permitted to publish anything on this subject. We understand that only recently a fellow of the college was severely taken to task by the president, for having so far offended against the traditions of the college as to publish an important communication upon the forbidden subject. The grounds of the objection were stated to be that syphilis was a surgical and not a medical disorder. We can scarcely refrain from saying, 'What a grandmotherly institution the College of Physicians, London, is.' It is really difficult to credit that the facts as above stated could be true at this period of the world's history, with the dawn of the twentieth century at hand. . . . Is the progress of medical science to be fettered and controlled by such narrow and illiberal-mindedness, based upon fatuous sentiment, as that which appears to pervade the noble—we had almost said ignoble—institution in Pall Mall east? Why should a fellow of the College of Physicians who has worked laboriously and well on the subject of syphilis be debarred by his college from publishing his it may be valuable records and so add to the quota of medical knowledge? Probably few in the profession will be able to understand that such things as we have here mentioned could be the case, but inquiry would soon satisfy them that we have not exaggerated the facts."

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on March 10th, one of the vice-presidents, Dr. Edward Jackson, in the chair. Dr. H. A. Hare read a paper on "Anæmia and Leukæmia," exhibiting a case of splenic leukæmia, one of pernicious anæmia apparently cured, and one of anomalous type with enlarged spleen, pronounced anæmia, and an increased proportion of lymphocytes, though without actual increase in the number of colorless corpuscles. He reported besides three other cases of pernicious anæmia. He indorsed the principle that when the hæmoglobin is disproportionately diminished, iron is the remedy indicated, while, on the other hand, when the number of erythrocytes is reduced, the better remedy is arsenic or mercuric chloride. Dr. Joseph Price made "A Report of a Mixed Group of Abdominal Sections, with Discussion of Methods." Dr. George Erety Shoemaker read a paper entitled "Recent Gynæcological Surgery at the Methodist Hospital—Forty-one Consecutive Abdominal Operations, with one Death, including Twelve Hysterectomies."

A Dispensary Patient.—The dispensary abuse has reached the stage of newspaper investigation. The *Mail and Express* has been conducting a quiet investigation of the worthiness of the applicants for dispensary relief, and says that discoveries of unique, almost grostesque, interest have been unearthed. The president of one of the largest municipal railroad corporations has been identified as a regular attendant at one of the dispensaries. A free patient at an uptown hospital is the owner of three houses on Third Avenue. Other patients have turned out to be people of excellent financial standing in towns and cities remote from New York.

Medico-Chirurgical College.—The board of trustees of the Medico-Chirurgical College of Philadelphia has elected the following faculty for its new dental department: D. D. Smith, D.D.S., M.D., dean of the faculty and professor of operative dentistry and dental pathology; Robert M. Mones, D.D.S., professor of dental prosthesis and dental metallurgy; R. Walter Starr, D.D.S., professor of orthodontia, dental materia medica, anæsthesia, and bridge work; John V. Shoemaker, M.D., LL.D., professor of materia medica and therapeutics; Ernest Laplace, M.D., LL.D., professor of surgery and special oral surgery; Isaac Ott, M.D., professor of physiology; G. H. Meeker, B.S., professor of chemistry. A professor of anatomy is yet to be selected.

An Enterprising Business Man.—In some interesting remarks upon the hospital business, and to illustrate the commercial tendency of medical practice, the editor of the *Cincinnati Lancet-Clinic* says there is a physician in that city who has a card with the names of eight different hospitals, with rates per week in each, the reader being cautioned, however, that this charge does not include professional services. It is added that the patients have the privilege of selecting their own hospital. The whole affair gives an impression that he is on the special staff of all of those institutions, but any reputable physician has precisely the same privilege in every one of the institutions named. This is a little bit of enterprising advertising, our contemporary says, that is a trifle new thereabouts, but we doubt not it will soon cease to be novel.

The Pathogenesis of Addison's Disease.—As the result of an experimental investigation, Boinet (*Revue de Médecine*, 1897, No. 2, p. 136) concludes that the theories that attribute the manifestations of Addison's disease on the one hand to failure in function of the suprarenal glands and on the other hand to disease of the abdominal sympathetic system of nerves represent each the truth in part, either alone being inadequate to explain the symptoms. In case of absence or of integrity of the capsules, the nervous theory must necessarily be invoked. Both clinical and experimental evidence, however, shows that pathologic or experimental destruction of the capsules acts not only through ascending and secondary degeneration of the sympathetic nerves and their ganglia, but also through the loss of function of the capsules. This suppression of function favors the retention in the blood, in the viscera, and in the muscles of toxic products that appear to play a certain rôle, either in the formation of pigment in the blood, or in the production and augmentation of asthenia.

A Medical Consul.—Dr. David Cerna has been appointed Mexican consul at Galveston, Texas.

Clinical Department.

STRANGULATED OVARIAN CYST COMPLICATING PREGNANCY.

By J. D. JONES, M.D.,

UTICA, N. Y.

Mrs. H., twenty-nine years of age, married. She menstruated last, June 17, 1896. She had always been well, and was not aware that there was anything the matter with her except that she was in the family way. She was a weaver by occupation and went to the mill to work as usual Monday morning, September 28th. Soon after beginning work, she was taken with cramps and was obliged to go home. The colicky pains continued severe all day, and I saw her first between five and six o'clock that same evening. She was then in great pain. Her pulse and temperature were normal. There was no vomiting. The bowels had moved daily, including the one on which she was taken ill. There was no tympanites or abdominal tenderness. She was given a full dose of morphine hypodermically.

The next morning the pain was much less and the bowels had moved again in response to an enema. On making a more careful examination of the abdomen at this visit, the pregnant uterus was felt rising out of the pelvis and a rather flat globular swelling could be felt in the left hypochondrium, tender on pressure and dull on percussion. The rest of the abdomen was not tender or distended. Tuesday night she began to vomit, or gulp rather, and her pulse and temperature rose a little. The tenderness was more diffuse and there was considerable tympanites.

Wednesday morning the symptoms of general peritonitis were well marked. At eleven o'clock Wednesday morning she was admitted to St Elizabeth's Hospital. Her temperature then was 99.2 F. and her pulse 130. No positive diagnosis was ventured. At two o'clock the same day, the abdomen was opened in the left hypochondrium, over the most prominent part of the swelling. There we found what no one who had seen the case suspected, an ovarian cyst black from strangulation, caused by rotation of its pedicle. A portion of the fluid was withdrawn with an aspirating needle, and the sac rotated so as to untwist the strangulated pedicle and ligated through very questionable tissue close to the left horn of the uterus. The stump was carefully surrounded with iodoform gauze, which was brought out through the lower angle of the abdominal wound. This method of dealing with the stump was thought to give a better chance of escaping infection of the interior of the uterus and disturbance of the pregnancy than would taking out a wedge-shaped piece from the left horn and suturing it. Five or six days after the operation an abscess formed in connection with the stump, and discharged through the drainage opening at the lower angle of the abdominal wound. Subsequently, as the uterus rose in the course of the pregnancy, it discharged through the upper end of the abdominal incision.

October 23d, or twenty-four days after the operation, she had a severe chill and her temperature rose to 104° F. It remained high till the morning of the 25th, when she miscarried. The fœtus was alive; it measured twelve inches in length and weighed seventeen and one-half ounces.

As the uterus receded into the pelvis, the abscess in the vicinity of the stump "resumed business in the old stand" at the lower angle of the abdominal wound. In a few days it closed permanently, however. She left the hospital November 11th, forty-two days after the operation, and immediately resumed her work as weaver. She is now in good flesh and feels perfectly well. I have not examined the wound since she left the hospital, but suspect from her statements that a hernia is forming at the seat of drainage at the lower angle of the wound.

This case is particularly interesting as showing the difficulty in making an exact diagnosis in abdominal lesions. Although the cyst was as large as the adult head, this woman was not aware of its presence. Its forced residence in the left hypochondrium added greatly to the obscurity of the diagnosis. The case also impressed on my mind the advisability of opening the abdomen in all cases of general peritonitis of obscure origin.

24 Genesee Street.

TWO PRACTICAL WRINKLES IN THROUGH-AND-THROUGH DRAINAGE.

By Drs. PAUL TUPPER and V. P. BLAIR,

ST. LOUIS, MO.

The following is applicable in any part where a through-and-through drainage tube is used.

The procedures were suggested and are particularly effective in overcoming certain difficulties in the maintenance of drainage in an empyema.

The first has reference to keeping the tube patulous by removing collections of pus and cutting off the granulations which grow down into the fenestræ of the tube. It consists of an ordinary drainage tube with the requisite number of fenestræ, through the full length of which (previous to insertion) a strong silk ligature has been passed. This silk is of a length of about four times that of the tube, and has fastened at about a tube's length from one end of it either a split shot, the size of the calibre of the tube, or a section of rubber tubing. If a section of tubing is used, and this is more satisfactory, it should be of pure gum and just large enough to pass through the tube with some friction. The tube is inserted in the wound in the

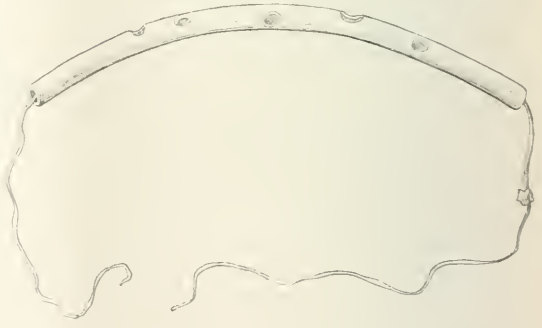

Fig. 1.

usual way and both ends are held with safety pins inserted in such a manner as not to infringe on the lumen. The two ends of the silk are knotted to form an endless string with the knot on the outside. When the tube becomes occluded, it is first moved in the sinus to cut off the granulations, and then the drag is pulled through the tube and everything in the form of pus is completely removed.

The second refers to the secondary or horsehair drainage. This consists of a strand of horsehair of the required thickness which has, at the proper distance from each other, two silk threads tied tightly

around the strand with one end of each cut short and the other left the length of the drain. The strand is then cut squarely off at each end, one-fourth of an inch beyond the knotted silk. Then the knot and end of strand are covered with sealing-wax which is shaped into a round probe and with the silk cord protruding from the tip. To insert the horsehair, the silk is attached to the silk of the drag and the probe end is

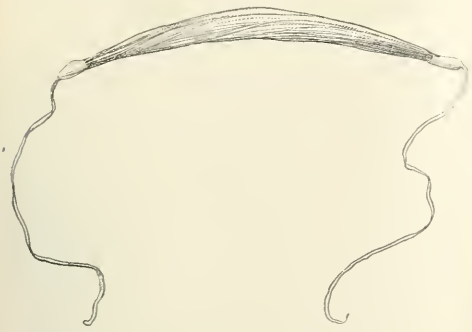

Fig. 2.

brought up snugly into the end of the tube. Then, as the tube is removed, the drain follows without giving extra pain. In case there is no cord in the tube, the silk of the drain can be threaded through a curved needle and the needle passed through the wall of the tube from within out. Then the end of the drain can be drawn up into the tube as before. After the drain is in place the two silk cords can be knotted. This will be found especially advantageous with children and nervous people; one quick jerk will remove the tube and locate the drain.

319 North Grand Avenue.

EXTREME DILATATION OF THE BLADDER COMPLICATING A RETROVERTED PREGNANT UTERUS.

By J. D. JONES, M.D.,

utica, n. y.

Lucy G., Italian, twenty-eight years of age, married, and the mother of two children. She had a miscarriage April 8, 1896. She menstruated in May. In June she did not come around. About the middle of July her abdomen began to enlarge rapidly. In August she was admitted to one of the hospitals in this city for the purpose of having a laparotomy performed, but before the day of operation she became disgruntled and left.

I saw her first the last week in August. She then presented a central, symmetrical enlargement of the abdomen of about the size and shape of an eight months' pregnancy. No fœtal heart could be heard and the enlargement appeared to contain fluid. By the vagina things were very dark. The cervix could be felt with extreme difficulty, pressed up tightly behind the symphysis. A firm tumor could be felt in the vagina and also through the rectum.

September 10th, she entered St. Elizabeth's hospital for examination. On depressing the posterior wall of the vagina, and making pressure on the tumor felt there, a stream of water was seen to gush from the urethra. A catheter was passed, and one hundred and sixteen ounces of urine were withdrawn from the bladder. This was, of course, attended with complete subsidence of the tumor. The retroverted pregnant uterus righted itself in three days. At first it took very nearly a gallon of boric-acid solution to distend the bladder. She had a sharp rise of temperature and was septic for a few days, and aphthæ formed in the vagina and over the vulva. The bladder was flushed daily with a saturated solution of boric acid and a self-retaining soft-rubber catheter connected with a basin of antiseptic fluid was worn continually. The bladder wall—contrary to what one would expect—recovered its contractility very rapidly, so that on the tenth day of her residence in the hospital it would hold only thirteen ounces of fluid on forced distention, and she could empty it voluntarily. The urgency of poverty made it necessary for her to return home on the eleventh day, but she has had no trouble since.

I saw her January 9, 1897, when I found her about eight months pregnant. I drew five ounces (three hours' accumulation) of normal urine from her bladder, and she said that she held and made her water as well as she ever did.

The cause of the trouble was probably that the uterus—becoming pregnant so soon after the miscarriage, before involution was complete, as she kept her bed only two or three days after that event—assumed a position of extreme retroversion and dragged the bladder with it, producing a kink in the urethra; or possibly the obstruction may have been produced by the pressure of the cervix against the urethra. As the bladder became more distended, the pressure on the fundus was increased and the vicious cycle aggravated.

I have deemed the case worthy of report on account of the extreme distention of the bladder and, contrary to expectation, the complete recovery of its contractility after such extreme and prolonged distention.

240 Genessee Street.

A CASE OF NOMA.[1]

By ALEXANDER MACKENZIE CAMPBELL, M.D.,

resident physician, children's free hospital, detroit, mich

Inasmuch as noma is a disease that is exceedingly rare in this country, it seemed to me a report of the following case might be not altogether uninteresting. So far is it from being a common disease, indeed, that some of our most experienced and distinguished clinicians have never observed it in America and only a few times has it been seen abroad. Upon reviewing the leading American and English medical journals, I find that only about a dozen cases have been reported therein during the last ten years. Allchin[2] says that during seven years in the East London Hospital for Children there were only five cases out of a total of 6,364 admitted, and during thirteen years at the Hospital for Sick Children there were only six cases out of a total of 13,000 admitted. According to Vogel, the older writers in medicine do not seem to have become acquainted with it. The first work upon the subject was by Battus, a Dutch physician at the commencement of the seventeenth century.

On July 18th, 1896, Josephine B——, aged nine years, was brought to the Children's Free Hospital in an emaciated adynamic condition, and in complete exhaustion. Upon examination it was found that she was suffering from valvular disease of the heart, a presystolic murmur being audible. Palpation and percussion revealed considerable dilatation. These conjectures were verified by post-mortem examination. The quantity of urine voided per day was diminished to a few ounces; its examination was negative. The lower extremities and eyelids were œdematous, and there was

[1] Read before the Detroit Medical and Library Association, November 23, 1896.

[2] Keating's "Cyclopædia of the Diseases of Children;" Pediatrics, October, 1896.

marked ascites. Nature had seemingly petered out in her attempt to compensate an irreparable insufficiency.

The following history was elicited. Josephine was born at full term, and was breast fed until the age of twelve months. She was never a rugged child, nor one who indulged in the romps and games common to that period of life when the average child knows no restraint. She had never been attacked by any of the exanthematous diseases excepting measles, which she contracted at the age of three years. During the last year she developed symptoms which indicated that the compensatory action of a diseased heart was on the decline. Seven weeks before coming to the hospital, she fractured her left ulna by falling a distance of ten feet. Her parents fixed that date as the one on which she received her death blow, and stated that she had never been the same after that injury and that she shortly afterward developed the condition described above. This child was one of eight, the rest of the family and the parents enjoying good health. No history of rheumatism, syphilis, or tuberculosis could be traced. Two of the grandparents lived to be over seventy, and the other two died at the age of fifty from "heart disease." Her surroundings had always been such as to retard recovery from any disease or injury. In her home poverty and filth strove for precedence, sunshine and fresh air were strangers. It is more than likely that her heart trouble was congenital.

On admission she was given a hydragogue cathartic, and a half-teaspoonful each of infusion of digitalis and gin every two hours. During her short stay she seemed to improve, but was taken home in a few days through some misunderstanding on the part of her parents. Ten days later she was brought back to the hospital, and her condition was alarming. In addition to the increasing heart trouble, she had developed a case of genuine noma. During her few days at home she complained of a dull pain in the left upper jaw, and asked to have one of her teeth extracted, which the mother did with ease by use of her thumb and forefinger. There had been no previous history of neuralgia. The second time she came under our observation, a part of the left cheek was swollen and of a livid, shiny, waxy appearance. A direct line was palpable which encircled the diseased zone. There was an offensive odor of gangrene. Profuse salivation was produced. An ichorous sanguinolent discharge from the mouth continued throughout the whole course of the disease. On examination, an ulcer was found upon the gum and inner surface of the cheek in close relation to Steno's duct. Treatment was immediately instituted. The child was isolated and the room carefully disinfected. The lesion was cauterized with silver nitrate, the mouth was washed out with a solution of sulphate of potassium, one drachm to the ounce. There was no response. The mouth was cleansed every hour with a saturated solution of boric acid and hydrogen dioxide, but the ulcer spread rapidly. The Paquelin cautery might have proven a valuable adjuvant, but was not used. It was strange, but characteristic of the affection, that the child suffered very little from pain, and during the first few days showed no constitutional symptoms except an intractable diarrhœa, which undoubtedly was caused by her swallowing some of the ichorous discharge from the mouth. Her suffering was by no means proportionate to the gravity of the disease. In a few days three of the teeth of the superior maxillary fell out, and the whole upper left gum became involved. Thus the erosive process continued. The lesion was of a dark ashy hue and its surface was corrugated. It grew deeper and wider, until a large cavity was formed on the inner side of the cheek. On its outside on the sixth morning appeared a bluish-black circular spot. It was about the size of a dime, and indicated that the process had made its way from mucous membrane to integument inclusive. This area continued to enlarge, and on the ninth morning we removed a conical-shaped sphacelated mass, which left a hideous-looking wound and exposed the side of the tongue and upper jaw. Once commenced, the destructive process continued unabated, and within a fortnight the small gangrenous ulcer had enlarged into a mass of broken-down tissue, the removal of which left a ragged circular opening which could not have been covered by a silver dollar. In this case the periosteum and bone of the upper jaw were slightly denuded. The mucous membrane in no other part of the body was affected, as has ocurred in a few instances. Although patients suffering from noma may have a temperature of 104° F., this child's did not exceed 100 F., at any time. The pulse was small, compressible, and rapid, and these characteristics were accentuated as dissolution impended. She died on August 11th, and within three weeks of the first appearance of the disease. Death was preceded by deep coma, and was doubtless caused by exhaustion. Noma usually proves fatal, having a mortality of over seventy-five per cent.

The etiology of this disease is as yet not fully determined. The excessive use of mercury was considered an important factor in the days when it was administered in large and frequent doses. It occurs more frequently in children than in adults, in females than in males. It is said never to have occurred in a nursling. Adults enjoy almost a similar freedom from it, however. Hanson[1] reports a case wherein a man aged fifty-five was attacked by noma and death resulted. The greatest number of cases occur in children between the ages of two and eight. It is said to be more common in damp countries, such as Holland, and "improper hygienic surroundings may determine its occurrence." It has attacked several members under one roof, and has broken out miles away from any place where it ever occurred before. It never becomes epidemic. In May and June, 1891, in the New York Foundling Asylum, an epidemic of measles occurred. One hundred and sixty-five children were affected and noma appeared in seven among that number. The misuse of mercury in treating these cases of measles was considered to have had much to do with causing the complication. In forty-six cases collected by Bouley and Caillault, measles was an antecedent cause in forty-one. Whooping-cough, pulmonary inflammations, typhoid fever, or the previous existence of a chronic disease may be an antecedent factor. A few observers contend that some neuropathic condition is the cause of this dire disease. Some bacteriologists consider it the destruction wrought by certain cocci placed under the most favorable conditions. Although bacilli have been found that have been considered the cause of the disease, as yet the characteristic micro-organism has not been singled out. Cultures from the affected tissue of the patient under consideration were made and sent to a competent bacteriologist of this city, with the result that conspicuous among some of the nearly seventy micro-organisms that may inhabit the mouth were staphylococci and streptococci. This case certainly occurred without any infection from without. Her low state of vitality and poor hygienic surroundings unquestionably afforded a strange proclivity to the disease. She being poorly nourished, anæmic, and cachectic, but little resistance was given to the invasion of the causative germs, and they found in her tissues a favorable nidus to prosecute their work of destruction.

As to the pathology of noma, Forchheimer says: "We find all the evidences of a phlegmonous gangrene.

[1] Centralblatt für Chirurgie, 1892; American Journal of the Medical Sciences.

Surrounding the destroyed tissue there is an infiltrated zone. The latter is a true necrobiotic process, all evidences of cellular tissue being destroyed, only a homogenous substance, in which are found micrococci, being left. Around this is found connective tissue, the connective corpuscles being in active cell division, while the blood-vessels are closed by thrombi and lower forms of life. Outside of this we find healthy tissue. In every case of noma these four zones can be distinguished."

According to William Pepper, the pathological lesion in noma is first a bleb which attacks the mucous membrane of the cheek and adjacent gum. It is rarely bilateral. The bleb is so speedily transformed into an ulcer that it usually escapes notice. The lesion is corrugated and of a dark grayish hue, with sloughing surface. Coincidently the cheek becomes infiltrated and swollen. The ulceration next becomes gangrenous and spreads in all directions, and may perforate the cheek in from a day to a fortnight. The teeth loosen and drop out, while the tongue, palate, lips, eyes, nose, and ears may become involved. He explains that the non-occurrence of hemorrhage from such a lesion is due to the formation of thrombi which occlude the vessels in the surrounding infiltrated area. There appeared in the MEDICAL RECORD (1885, vol. xxvii., page 37) an article entitled "Contribution to the Pathology of Noma," written by Dr. Willard H. Morse. He reported a case of noma in which he made frequent and thorough microscopic examinations of the blood during life, and found "minute colorless bodies, highly refractile, of apparent crystalline consistency, in active and irregular movement." At a period when the blood seemed to swarm with these bodies a copious hemorrhage occurred, after which they were not seen in such relative frequency. He observed that previous to a hemorrhage there was in the blood an excess of white elements, the ratio being one to three of the red. After death he injected young rabbits with some of the diseased blood, and in three days an examination of fresh blood showed a vast number of translucent corpuscles. A second rabbit was similarly treated on the following day. An autopsy revealed distinct peritonitis and consolidated bases of both lungs. The peritoneal exudation showed vast numbers of white corpuscles, like those found in the blood. A young rat killed twelve hours after inoculation manifested an abundance of motile bodies in warm-drawn blood. Fluid from the wound was injected into the veins of rabbits and cats. Death resulted in a few hours from peritonitis. Froriep describes bodies resembling yeast bodies which he found in noma. Schimmelbusch found a pure culture on the border of the sound tissue, which he succeeded in cultivating on artificial media. Inoculation of rabbits caused œdematous swelling of the conjunctiva and keratitis.

The treatment of noma should be commenced in the initial stages to accomplish the best results. The mouth should be cleansed thoroughly and frequently with antiseptics and disinfectants; the patient should be stimulated freely. Intestinal antiseptics should be given to control the colitis that so frequently accompanies this disease. Fuming nitric acid, hydrochloric acid, chromic acid, and carbolic acid have each been applied as caustics, and have been strongly recommended by European physicians. Rotch, in his "Pediatrics" (page 790), says: "When the diagnosis has been definitely made, it is wiser not to temporize with applications of nitrate of silver and other drugs, but at once to place the case in the hands of a surgeon and have the entire area of the invaded tissues excised. It is also well after the gangrenous process has been removed by the knife to destroy an area of healthy tissue by means of the Paquelin thermo-cautery or by the galvano-cautery. There should be no delay in operating upon these cases, as great destruction of the tissues may take place in even a few hours. After the operation the tissues should be inspected frequently to see whether there is any return of the gangrenous tissue, and if found these spots should be removed immediately. As the disease is very apt to return, plastic operations to obviate deformity should not be undertaken very early after operation. In treating these cases surgically, it must be remembered that the child is in a very debilitated condition, and that if it is suffering from any special disease treatment directed to that disease is indicated; also that stimulants are required to prevent the already weakened child from dying from exhaustion following the operation."

Forchheimer, in the "American Text-Book of Diseases of Children," says: "It seems that the best and most active method of destroying this tissue is to be found in the use of the thermo-cautery of Paquelin or the galvano-cautery, and lately several cases have been reported in which success has followed these applications, although it is far too early to draw positive conclusions. As soon as the gangrenous nature of the disease has been established, the operation must be performed. A loss of time, even of hours, means considerable loss of tissue. The wound is to be treated according to surgical rules, and the plastic operations should be put off as long as possible, because in the first place they do not offer much chance of success when done early, and in the second place noma sometimes recurs as the result of these operations. In conclusion it must be stated that whatever has been done and will be done, the results must be bad, because the process is one developed in a patient very much reduced, in whom the least complication is likely to prove fatal."

In this case a radical operation would have been hazardous and was not considered expedient. Realizing in the case of my patient the condition of her already overwrought heart, her low vitality as a result thereof, it could not but appear that the flickering flame of life would have been the sooner extinguished through the exigencies incident to an operation.

SECONDARY HEMORRHAGE SUBSEQUENT TO TONSILLOTOMY.

By JOHN W. S. McCULLOUGH, M.D.,

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In the MEDICAL RECORD of August 29th last, Dr. F. A. Bottome, of New York, reports an interesting case of secondary hemorrhage following amputation of the tonsils, wherein the hemorrhage began sixty-six hours after operation. This, with the exception of St. Yves' case, which is an exceptional one, appears from the literature at my command to be the only one recorded in which the hemorrhage occurred at such a length of time following operation.

It is, no doubt, the experience of every operator in this class of work to encounter, sooner or later, this troublesome complication. Previous to my meeting with the case I am about to relate, I have not, in a list of about two hundred and seventy cases of operation for removal of the tonsils, seen a hemorrhage which was other than trifling, and I had almost come to regard it as unknown. I have changed my mind, however, and beg to relate shortly the history of a case of secondary hemorrhage following amputation of a tonsil, which occurred at a seventy-four hours' interval.

Mrs. L——, aged forty-nine, had her right tonsil and a small portion of the left one removed about three months ago. The hemorrhage was very small. She told me that the left one occasionally "swelled up," so I advised her to have the operation upon it re-

peated, in case it gave her any annoyance. At 12 noon of Tuesday, February 9th, she returned, and I found the gland in a state of acute inflammation (quinsy). I removed the pus-laden tonsil, and there was a trifling hemorrhage. On the following Friday evening she sent for me, and said that at 2 P.M. of that day she had spat up some blood, which continued to come more freely throughout the course of the afternoon. When I saw her there was free oozing from the cut surface. The clots were removed and the oozing part was cauterized with trichloracetic acid. This sufficed to stop the bleeding for a time, but it was again provoked by the patient's coughing. Astringents and caustics of various kinds were successively tried, without permanent avail, each fresh attack of coughing serving to induce the oozing. The patient had by this time lost about one and one-half quarts of blood, and, not being at all robust, was becoming very weak. I enjoined her not to speak at all, to avoid coughing as much as possible, and gave ice to suck. This very soon checked the bleeding, and was, perhaps, aided by my patient having an attack of vomiting, whereby she discharged a quantity of blood clots from the stomach, and at once collapsed for a few minutes. She rallied nicely, and without any further trouble recovered. The case was an alarming one, and I was seriously considering the possibility of having to ligate the carotid, when fortunately I thought of using ice.

I have been thinking of the possible cause in this case, and have come to the conclusion that it was undoubtedly the destructive action of the pus remaining in the wound. In future, when I amputate a purulent tonsil, I shall take the precaution of cauterizing the cut surface. In all my cases the Mathieu guillotine was the instrument used.

FOWL SERUM IN PNEUMONIA.

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The fact that fowls are exempt from croupous pneumonia, and that they are not even inoculable with the germs, led me to a series of experiments in treating pneumonia with chicken and turkey blood. The experiments have now lasted a year, and, while my methods were crude and my cases few and unrecorded, I have had the pleasure of passing twelve months without losing a case of pneumonia. This may have been good luck, but I am inspired with faith enough to announce fowl serum as either a specific for pneumonia or else better than a rabbit's foot for luck.

My first case was of double pneumonia in a man, sixty years old, a very severe and distressing type. The patient lived eight miles from my office, and I saw him only twice. I employed the usual drugs, and, in addition, ordered two ounces of fresh chicken blood stirred into a half-teacup of hot water every four hours. Much to my surprise the man recovered, though anasarca was persistent for a month after recovery, showing how much the heart had been affected. Since then, case after case has done well under the treatment, and now the anxious mother whose son has pneumonia sighs more for her chickens than for her boy.

My excuse for publishing my conclusions before waiting for more extensive proof is twofold. First, to induce hospital experiments along the same line; and second, to induce some enterprising manufacturer to put a reliable fowl serum on the market. While the blood is not unpalatable—in fact, the patients learn to like it—the results from the injection of serum of a tested strength would evidently be more satisfactory and could be gauged intelligently. Then there is so little blood in a chicken, or even in a turkey, that the administration of the blood by the mouth is very expensive: and no one in country practice can experiment minutely with a case several miles away. The hospital ward, an undoubted case of lobar pneumonia, a good article of fowl serum, and the temperature chart would tell the rest.

So many die every year from this dread disease that I shall watch the columns of the medical press anxiously for the results of experimentation with fowl serum.

INTESTINAL OBSTRUCTION FROM FAULTY POSITION OF THE VERMIFORM APPENDIX.

By J. W. WRIGHT, M.D.,

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In Dennis' "System of Surgery," vol. iv., Dr. M. H. Richardson records three cases of intestinal obstruction due to faulty position of the vermiform appendix. I desire to add a fourth case of the same character.

A young woman, aged twenty-eight, after exercise on swinging-rings in the gymnasium, was seized with pains in the intestines, paroxysmal in character, and obstinate constipation November 13, 1896.

No relief being obtained from cathartics and enemas, I made an abdominal section in the median line. November 17th, and found a condition almost identical with that of Dr. Richardson. I ligated the appendix at its origin and distal end and removed it, reducing the strangulated ileum.

A small opening into the intestine, caused by traction on the appendix, was closed by a few Lembert sutures, and, the whole being replaced and flushed with sterilized water, the abdominal wound was closed. The patient recovered and resumed her duties as school teacher.

A CASE OF DILATATION OF THE STOMACH.

By A. S. HOTALING, M.D.,

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Dilatation of the stomach is not uncommon, but a case of marked dilatation complicated by a contraction at the pyloric end, due to the cicatrization of an old ulcer, running its course almost to the termination without symptoms, is so unusual that it seems of interest to report the case. It is also of importance from the fact that at one time carcinoma of the stomach was diagnosed, owing to the seeming presence of nodules at the pyloric end which on palpation simulated a cancerous growth, but which simulation later on autopsy was found to be due to well-marked depression on the left lobe of the liver, corresponding to the ribs and due to pressure by them.

Mrs. L——, widow, multipara, aged sixty-three years, native of Ireland, was admitted to the medical ward, September 14, 1895.

Previous history: Her parents, so far as she knew, died of old age. Her children were all living. Except for the diseases incident to childhood, she had always been healthy until a few months prior to her admittance to the hospital.

On entrance she complained of paroxysmal pains in the chest, hacking cough, especially at night, dyspnœa, anorexia, night sweats, evening elevation of temperature with morning remissions, attacks of diarrhœa, and hæmoptysis. She was emaciated and very anæmic. The blood count at various times showed the red blood corpuscles ranging in number from 1,800,000 to 2,000,000 to the cubic millimetre. The leucocytes were about normal in number. Phthisis pulmonalis

was suspected, but a thorough physical examination at intervals revealed only a somewhat contracted hyperresonant chest, prolonged harsh expiratory murmur, and occasionally a few bubbling râles on the left side. The right lung and heart were normal. Numerous examinations of the sputum failed to show the bacilli of tuberculosis. The urine was normal.

At this time there were no marked indications of stomach trouble, and though the patient was seen by various members of the visiting staff, no diagnosis was made excepting emphysema and senility. Her symptoms did not ameliorate under treatment, and emaciation, cough, dyspnœa, and anorexia increased. Purgatives were always necessary for an action of the bowels. Blood was never noticed in the stools.

She remained in this condition until about two months previous to her death. At that time she began to complain of pain in the epigastric region, dull in character, ill-defined, and continuous, but which was not usually exaggerated on taking food. The epigastric region was occasionally tense, always tender on pressure. The tongue was furred, the stools were irregular, with eructations of gas and frequent severe headache. At times there were attacks of vomiting. The ejected matter, coffee-ground in character, was never large in amount, and the vomiting was not occasioned by food irritation. The ejected matter was never characteristic of gastrectasis, but was significant of carcinoma. Physical examination revealed a thin relaxed abdominal wall, with some bulging in the right hypochondriac region. Occasionally a peristaltic wave could be detected, especially on mechanical irritation. Percussion after one litre of water was administered showed the lower border of the stomach to be seven centimetres below the umbilicus. Owing to the marked asthenic condition of the patient, no attempt was made to distend the stomach artificially, and it may be stated here that this fact accounts for our not making an examination of the stomach contents. The patient's condition contraindicated any attempt to pass a stomach tube. On palpation, we found what we thought to be a mass of cancerous nodules at the pyloric end of the stomach, movable and slightly tender to the touch. The thin abdominal walls permitted palpation freely, and there seemed to be no ground for an error in diagnosis.

At this point the views expressed by Ewald[1] are of interest. "To distinguish a deformity on the lower border of the liver, especially in the left lobe, such as frequently results from tight lacing in women, or a true tumor of the liver, pancreas, or spleen, from a new growth in the stomach, may at times be very difficult, at other times impossible. The reverse may also occur: a carcinoma of the stomach may be regarded as belonging to the left lobe of the liver."

On auscultation, consecutive shocks by the hand produced the characteristic splashing sound heard in gastrectasis. The typical yellow hue of cancer cachexia was well marked. To reiterate, the patient, sixty-three years of age, presented the following symptoms significant of carcinoma of the stomach: belching, furred tongue, anorexia, pain increased on pressure, dull and continuous; periodical vomiting of decomposed blood, small in quantity; constipation, marked cachexia, tumor readily palpated and movable, complicated with signs of dilatation of the stomach. The diagnosis of carcinoma of the pyloric end of the stomach complicated with gastrectasis was made.

The patient gradually failed, and two weeks prior to her death would eat only when forced to do so by her nurse. Death occurred November 10, 1896.

Post-mortem, November 11th. All organs very anæmic. Stomach: length of lesser curvature, 21 cm.; length of greater curvature, 43 cm.; capacity, 1,800 c.c. The mucous membrane was congested. The walls of the stomach were not thickened, being unattended by hypertrophy. The lesion was situated on the posterior wall of the pyloric portion near the lesser curvature; it was oval in shape, five centimetres in diameter, and penetrated into the muscular layer. Its edges were thick and indurated, and the floor was smooth and pigmented. The pylorus had participated in the contraction following cicatrization, and its opening measured but six millimetres.

Portions of the ulcer were removed and hardened in Müller's solution. Microscopic examination showed the mucus membrane markedly infiltrated with leucocytes, the peptic cells being replaced by cylindrical epithelium. The submucous membrane was thickened with small-cell infiltration and new connective-tissue growth. The ulcer was completely limited from the surrounding mucous membrane by small-cell infiltration.

Liver: weight, 1,170 grams. The left lobe presented several depressions on its surface corresponding to the ribs. Macroscopically it presented the appearance of fatty degeneration.

Left lung: lower lobe emphysematous.

Other organs normal.

I am indebted to Dr. Julius Friedenwald, in whose service the case occurred, for his advice and interest in publishing this history.

[1] "Diseases of the Stomach," translation from second edition, Manges, p. 198.

HYSTERICAL AMBLYOPIA.[1]

By FRANK S. MILBURY, M.D.,

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Hysterical amblyopia takes various forms, usually only a diminution in the acuity of vision, but sometimes complete blindness, even to loss of perception of light, defective central vision, with concentric contraction of the field, or with central scotoma. Color vision is often affected. Ophthalmoscopic appearances are normal. Little or nothing is known about the pathology of this affection.

In testing the vision with lenses, ophthalmoscope, or measuring the field, the nervous system becomes quickly exhausted, and the longer the examination continues the narrower the field becomes. A strange thing is that people thus affected move about with perfect security, which makes it difficult to ascertain whether there is simulation or not, unless there are other neurotic symptoms; but my experience has led me to the belief that it is found generally in persons of robust health in every particular. However, by careful investigation simulation may be eliminated.

Hysterical amblyopia is chiefly found in young girls; rarely in males. The prognosis is good, as in nearly all cases complete restitution takes place, but in some the affection may last for months or even years. Strychnine, iron, galvanism, etc., are among the agents used; but I think it is conceded that they have but little influence, except mentally, as in the so-called "faith cure."

In the last five years I have had in my private practice three such cases, in none of which was there any occasion to simulate.

Case I.—Young lady, aged twenty-two, from a Canadian city, was brought to my office by her father, in June, 1892. She had a letter to me from her family physician, stating that she had been completely blind for seven years, that her general health was perfect, that she had been treated by the best oculists of Paris and London, with no beneficial results, and that

[1] Read before the Long Island Medical Society of Brooklyn, January 5, 1897.

now she was taking a long sea voyage to South America, with the hope of benefit, and he incidentally asked her to call upon me, but not expecting that anything could be accomplished. As she was to be in Brooklyn several weeks, I concluded to examine the case and see what could be done. Her father told me that it had been diagnosed as hysterical blindness. I found no perception of light whatever and ophthalmoscopic appearances normal. I placed her on strychnine, iron, and galvanism. Hypnotism was tried by myself and others, but with negative effect.

In July the journey was continued, they going to Buenos Ayres, round the Horn, up the coast to San Francisco, and by rail to New York, arriving here in February, 1893, no better and more discouraged than ever, if that were possible. Something, I don't know what, induced me to look in her mouth; but there I found a badly broken-down second superior left bicuspid. Intentionally I enthusiastically exclaimed that I had found the cause of all her trouble. She doubtingly asked me "What?" and I told her that the disease of the tooth was in such a way connected with the eye as to produce pressure and thus caused blindness, and if removed would end her infirmity. As will be presumed, her faith was weak indeed, and it took many days and much talk to convince her that I was right. However, eventually she was convinced, and wanted it out at once; but I delayed several days for the purpose of having the fact fully impressed upon her mind. I had explained my scheme to the father, and he also built a big castle in the air in fear and trembling. At last it was concluded to extract the offending tooth. She wanted gas, but I told her that would in a measure destroy the effect, as the more it hurt her the better she would see. So out it came, and complete restoration of vision followed and remained normal until her death, which occurred in August, 1896, of typhoid fever, more than two years after the tooth was removed, and probably would have always remained so. It is somewhat strange that other means employed had not had the same effect. I wish it understood that the tooth had nothing to do with the loss of sight, and the extraction was merely a form of suggestion, which in her case worked all right, whereas in another similar case it might have had no effect.

Case II.—Boy, aged sixteen, very robust, suddenly developed blindness by playing baseball in a very bright sunlight. He immediately came under my care. The symptoms and the history appeared to point at once to hysterical blindness. The fundus showed no changes. Light and darkness were distinguishable, but that was all. Suggestion was tried, but with no benefit; then galvanism, injections of strychnine, etc., with the same negative results. Hypnotism was suggested to me by one of our leading neurologists, and tried by me. I got complete control of the patient in less than ten minutes. The fact that he would sleep and that his sight would be perfect when he awakened was kept prominently before him, and such proved to be the case. A few days later I examined his eyes carefully, but could find no refractive error. Two years have now passed by, and he remains all right.

Case III.—Edith J——, eight years of age, came to me on April 17, 1895, complaining of severe headaches and tired and smarting eyes. Her general condition was excellent. She had been seen by two ophthalmologists, the last prescribing — 0.75 D.S. over each eye. My examination found vision, R. and L., $\frac{6}{60}$ with + 0.25 D.S. = $\frac{6}{6}$ +; no astigmatism: exophoria, 1°; R. hyperphoria, 1°. Under atropine: vision, $\frac{6}{6}$ with + 2.00 D.S. = $\frac{6}{6}$ +, indicating a ciliary spasm. I prescribed for constant use + 0.75 D.S., continuing the mydriatic a short time. After return of accommodation I found vision with glasses still $\frac{6}{6}$ +. I saw her occasionally, and upon questioning found vision normal and no headache or asthenopia. I saw her last on January 28, 1896, when vision was $\frac{6}{6}$. On March 8, 1896, I was again consulted, this time the child stating that she could not read and that the headaches were intense. On testing then and many times subsequently I found it true, and that she was not simulating. She had sufficient sight to move around, but for no practical purpose, as she could not distinguish even large objects. I could get no improvement with glasses, and concluded that it was a severe case of ciliary spasm. So I atropinized, and even then could get no improvement. There being no retinal or nerve trouble, I concluded that I had a clear case of hysterical amblyopia. I at once tried hypnotism, but, she being a very self-willed child, I could not control her. I then resorted to the usual remedies, but with negative results. After a lapse of two months I suggested consultation, and my patient's father desired to have the opinion of Dr. Knapp. I gave him a minute history of the case, and he went over it very carefully, confirming my diagnosis that it was a case of hysterical amblyopia, and advised the usual remedies, with plenty of out-door exercise. His instructions were followed, but vision remained the same.

July 2d, the father wished the opinion of Dr. Webster, of New York. His was the same as that of Dr. Knapp and myself, and that in course of time she would recover, but perhaps it might be years. He suggested hypnotism, which I had already tried. I concluded to make another effort, and this time succeeded in getting her soundly to sleep in about seven minutes, all the time impressing upon her mind that she would see perfectly and have no more headaches. This proved to be true, and she still remains perfectly well. She was then under atropine, and with + 2.00 D.S. vision was full $\frac{6}{6}$. I prescribed these, allowing the mydriatic gradually to pass away. She is now wearing them with comfort. I think, as a general thing, in hypnosis nothing may be accomplished unless the hypnotic effect is profound.

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A CASE OF TUBO-UTERINE PREGNANCY.

By JOHN VASSALLI, M.D.,

Baltimore, Md.

Mrs. S——, forty-two years old, slender, of medium stature, has given birth to six living children and has had one miscarriage. On giving birth to her eighth child, adhesion of the placenta was observed, together with an enormous enlargement of the right tube, producing the effect of the presence of a second child lying with its back toward the right side, or in what is usually known as the second position. Upon detaching the placenta, the patient being under an anæsthetic, it became evident that the afterbirth was adherent, about one-fourth of its extent, to the inside of the right tube. The opening of the tube was about two inches in diameter, with hard and swollen edges, while the inner surface of the tube felt rough and uneven. It was strongly infiltrated, having a thickness of about two inches on the right (outer) side, while toward the inner side the growth was less thick. After removal of the placenta and irrigation with ice-cold solution of bichloride of mercury, 1–1,000, a rapid contraction of the womb took place. The tubal swelling remained perceptible to the same extent, but diminished daily, until on the sixth day it had entirely disappeared. The patient had no increase in temperature, and has now entirely recovered.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting, March 8, 1897.

W. W. Van Arsdale, M.D., Chairman.

Tuberculous Peritonitis; Operation; Recovery.—Dr. A. L. Fisk presented a man, over thirty years of age who had entered the hospital in November, 1896, with a history of gradually increasing size of the abdomen, some pain, and recently loss of flesh and strength. There was elevation of temperature, with evening rise to 103° F. Concluding that there was tuberculous trouble, Dr. Fisk opened the abdomen in the median line below the umbilicus, found the peritoneum thickened and studded with tubercles, the coils of intestine matted together, some fluid. Part of the wound healed by granulation. The temperature had returned to normal; the abdomen felt normal; the man had gained in flesh and strength.

Eucaine Anæsthesia in Herniotomy.—Dr. Howard Lilienthal presented a man, aged fifty-five, who had long had an irreducible hernia. It became strangulated, and he operated (owing to disease of the heart) under local anæsthesia by eucaine, aided by a little morphine. A further point of interest was the fact that the man left the hospital in two weeks with a clean scar, showing the advantage of closing the wound in the manner which he had practised in this and some other cases, by doing a Bassini operation with silkworm gut as suture up to the point of reaching the superficial fascia, but leaving this and the skin ununited, to heal by granulation.

Dislocation of Outer End of Clavicle.—Dr. Fisk presented an aged man, with dislocation of the outer end of the clavicle, which had occurred last July. The condition was rather rare, this being the first case which had come under his observation.

In the discussion on this case, Dr. Curtis said he had seen only about half a dozen cases of dislocation backward of the outer end of the clavicle, but none with the end of the clavicle so far backward. Usually the patients preferred to have nothing done. He supposed the clavicle could be wired to the scapula at its proper articulation.

Dr. John Erdman said he had seen a number of cases at Bellevue and other hospitals, not a few of them being recent cases, and good results had been obtained by reducing the dislocation and applying plaster splint.

Dr. Fisk said the great difficulty was in keeping the clavicle reduced, and some of the measures which had been suggested might, if successful in one direction, result injuriously in another—producing stiffness.

Dr. Van Arsdale had kept one case reduced by a tight figure-of-eight bandage.

Massage in the Treatment of Fractures.—Dr. George Woolsey read the paper. Until very recently less advance had been made in the treatment of fractures than in any other field of surgical practice. Comparatively recently the ambulatory treatment had received much attention. He had tried it in a number of cases, especially in fractures of the leg, and with considerable satisfaction. Under it the general condition of the body was maintained, and it was especially useful in the aged and alcoholic, in that it shortened their stay abed. It prevented stiffness of joints, allowed the patient to go to business, and cleared the hospital wards. It did not shorten the period of healing. Keeping the patient abed, as was done under the rest-and-fixation treatment, had an ill effect upon the health and weakened the muscles. These objections were overcome by massage treatment. Dr. Woolsey, in presenting the claims for this method, quoted freely from Championnière, its champion. Among the effects of massage were the relief of pain, diminution of swelling: secondary œdema, which under other treatment often came on after five or six weeks, was conspicuous by its absence: the muscles were kept from atrophy, the skin remained soft: the callus was stronger, the general health was maintained. When there was great mobility, immobilization could be applied until consolidation began; then massage should be commenced. In other cases massage could begin at once, and if a splint was applied it could be removed during massage once daily. Massage should be practised in the direction of the return blood current, superficially with the whole hand, or deeply with the thumb and finger, with light movements which would relieve, not cause, pain and reduce the swelling. The best lubricant was olive oil. The duration of the *séances* was fifteen minutes. The treatment was more especially indicated in fractures near joints. Dr. Woolsey had begun treatment by massage rather cautiously a year ago, and had not allowed his patients to get up quite so early as do French and German surgeons. Most of his cases had been Pott's fracture, some of Colles', etc. One writer had had considerable experience with combined ambulatory and massage treatment, and considered it ideal. Dr. Woolsey's own results from massage had been so perfect that he had come to make it the routine treatment in fractures near joints. Bony union was obtained by the end of the third week. The patient was allowed to get up from the nineteenth to the twenty-fifth day, and within two or three days was able to walk about without a cane. The average stay in the hospital had been twenty-one days. Massage treatment was recommended by the author in fractures near joints, to be applied daily for fifteen minutes until consolidation occurred, say the first ten days. In fracture near the middle of the limb, he would immobilize and then let the patient go about on crutches—the ambulatory treatment; and carry out the same treatment in fracture of the neck of the femur in the aged.

Dr. Howard Lilienthal said he had employed the massage treatment in three cases of fracture of the patella, with excellent result. All the patients were kept walking after the tenth day.

Dr. A. E. Gallant testified to the excellent results of massage in the treatment of sprains, and he had no doubt it would be equally efficacious in reducing swelling and pain in fractures. Under the teaching of Dr. Van Arsdale he had learned to employ it from the moment that sprain occurred, commencing far above the sprain, rubbing the limb gently at first and toward the body, gradually reaching the injured joint and rubbing along the grooves instead of on the bones.

Strangulated Hernia in a Child of Four Months: Operation; Recovery.—Dr. Charles N. Dowd read a brief paper on strangulated hernia in infants, and reported a case in a child aged four months. There had been no evidence of hernia the previous day. He saw the child after strangulation had existed six hours. The tumor was as large as a goose's egg. Taxis having already been tried under ether, he performed Bassini's operation at once. An interesting feature of the operation was the excellent way in which the baby endured the ordeal, which lasted three-quarters of an hour. Healing was primary, and that side of the abdomen seemed at present as strong as the other. Strangulated hernia in babies was very rare. In his opinion there should be only one light effort at taxis, and that failing, radical operation ought to be per

formed. He had collected thirteen cases placed on record since 1894, all of which had resulted in recovery.

Dr. B. F. Curtis mentioned a fatal case of strangulated hernia in a baby. A part of the bowel looked almost gangrenous, and it was not returned to the abdomen for some hours, but was wrapped in towels wet with hot salt solution. Peritonitis caused death.

Case of Septicæmia; Recovery after Use of Streptococcus Antitoxin.—Dr. Howard Lilienthal reported the case. Before it was brought to the hospital it had been treated as one of supposed rheumatism of the thigh, and later the doctor had made a diagnosis of some bone affection. There was no clear history of septic infection, but the clinical course throughout was one of intense septic infection, with for days more or less coma, icterus, great pain, *cri encéphalique*, partial suppression of urine, fever, etc. The femur was diseased; the periosteum was easily lifted; there was no pus in the bony canal, but an abnormal amount of fat. The knee-joint, not being positively involved, was not interfered with. The wound was packed with gauze containing little iodoform. Some days later an abscess cavity was opened in the thigh, and streptococci were found. When Dr. Gerster saw the patient he advised against further operative interference, as the patient seemed moribund and would probably die on the operating-table. Having seen good results from streptococcus antitoxin in two other cases, he decided to try it in this, with the result that after some days the child showed decided improvement and went on to final recovery. Several doses of the antitoxin, Gibier's, were administered, usually eight cubic centimetres. Dr. Lilienthal said it was possible the patient would have recovered without the injections, but he thought not.

Dr. Richards reported a case of puerperal septicæmia in a patient attended by a midwife, and later seen in consultation with him by Dr. Mundé and others; prognosis very bad. Having previously cleansed out uterus, he decided to try streptococcus antitoxin. The the patient made no improvement under one brand, but showed rapid improvement and recovered under another.

Dr. A. G. Gerster fully corroborated all that Dr. Lilienthal had said with regard to his case. He regarded the recovery as little short of marvellous. The extreme rigidity and dilatation of the pupil, the unconsciousness, and peculiar cry led him to suspect encephalitis. Under the encouragement of this experience, he had been led to employ streptococcus antitoxin in several cases at Mt. Sinai. The first was the case of a boy with very acute infectious osteo-myelitis of the femur. On chiselling into the bone, it was found literally honeycombed, and in former days, when he was a student under Rokitanski, would have been treated by amputation of the limb. General sepsis was manifest from the development of subcutaneous abscesses in different parts of the body. The pus was found to contain the yellow staphylococcus. Albumin appeared in the urine. On using streptococcus antitoxin the patient began to improve at once, and was soon in condition admitting of amputation, which previously had been rejected by the parents. The boy recovered. The next case was one in which there were distention of the gall bladder, peritonitis, general sepsis. Dr. Van Arsdale had operated for him. Streptococcus antitoxin was used, and the patient recovered. In another case, one of appendicitis, peritonitis, and general sepsis, the antitoxin was used; the patient recovered. In a case of puerperal sepsis, the large joints involved being distended with fluid, the patient was sent to the hospital, with the expectation that she would die; but after the antitoxin was given, she began to improve and was still improving. Dr. Gerster then related a case of sepsis in which the serum failed and the patient died. While the favorable cases seemed to point to the value of the streptococcus antitoxin, still we should not come to too hasty a conclusion, for we knew that now and then patients recovered from general sepsis without such treatment, when recovery seemed impossible.

Amputation at Shoulder for Sarcoma of the Arm.—Dr. Fisk presented a woman, sixty-seven years of age, whom he had presented at the meeting in December with *x*-ray photograph showing a tumor of the humerus, the diagnosis at that time between possible fracture with callus and sarcoma not being positive. Some tissue removed under exploratory incision was proven on microscopical examination to be sarcoma, and he amputated at the shoulder. The wound healed primarily.

Dr. Torek presented a specimen of sarcoma of the arm in a boy, which had led him to perform amputation at the shoulder, with entirely satisfactory result. The interest in the case was the fact that there had been fracture, and the probability was that the sarcoma had developed afterward, although it was possible that in this case as in many others the disease had been present before, and without it fracture would not have occurred. He mentioned the case of a woman who had sarcoma of the arm, fractured the limb while lying abed, and he amputated at the shoulder. In the case of the boy the first specimen of tissue removed was pronounced by the pathologist to be only granulation tissue, but the subsequent development of the tumor made it positive that there was sarcoma, and led to amputation.

When Shall We Operate for Cholelithiasis?—Dr. Carl Beck read a part of his paper with this title. There was no doubt that many patients with cholelithiasis were relieved by a course at Carlsbad, and it was interesting to read Kocher's account of the relief which he had himself thus obtained from symptoms for which he had often operated upon other patients. In summing up, Dr. Beck said it was not easy to arrive at a distinct understanding regarding operative and non-operative cases. Yet we already had a certain basis for the selection of cases in which medicinal treatment should be given a thorough trial, and by exercising due discretion the cases would become fewer in which relief would be thus obtained after the surgeon had said positively that an operation alone could save the patient. Certain dangers, relating to perforation, etc., had to be borne in mind as liable to occur in any case. While, then, in certain cases the operation was clearly indicated, in others much judgment was required in answering the question in the best interests of the patient.

Dr. John Erdman quoted, as expressing his own views, the five indications given by Gersuny, essentially as follows: Danger of rupture by overdistention of the gall bladder, either by the stones or accumulation of fluid; danger of sepsis, or beginning sepsis with empyema of gall bladder; frequent attacks of colic; frequent recurring attacks of jaundice; frequent recurring attacks of pain, which laid the patient up.

Swellings of the Neck.—Swellings of the whole neck are common; their causes are numerous; they may follow injuries, inflammations, tumors, operations. Their common feature is a great danger from the propagation to the aryteno-epiglottic folds, causing obstruction of the larynx and pressure symptoms, specially dyspnœa, which it is often impossible to relieve because of the difficulty of reaching the trachea. If an attempt is deemed justifiable, the operator should be provided with an extra long tracheal cannula.—Souchon.

Therapeutic Hints.

Gallic Acid.—Dr. Freer has found this a valuable hæmostatic and remedy for purpura, intestinal hemorrhage, etc. He gives from five to twenty grains at bedtime or oftener.

Yellow Fever.—Tincture of eucalyptus in large quantities attenuates the severer symptoms. Thirty to forty grains can be given in twenty-four hours. Frequent enemas of water, containing thirty grains to the quart, are advised.—*Tribuna Medica*, No. 10, 1896.

Tasteless Dextro-Quinine.—

℞ Dextro-quininæ ..... ʒ i. to ʒ ij.
Pulv. aromat. ..... ʒ ij.
Pulv. ext. glycyrrh. ..... ʒ ij.
Ammonii carbonat. ..... gr. xv.
M. ft. pulv.

Formic Aldehyde is recommended by Dr. Salter (*British Medical Journal*, September 12, 1896) as an application in trichophytosis capitis, because of its penetrating qualities. Either formaldehyde of English manufacture or Schering's formaline in forty-per-cent. solution was employed. It may cause swelling of the face.

Pills of quinine that have been made for some weeks or months, sugar-coated pills, old gelatin-coated pills, and quinine in capsules should be avoided, because of the uncertainty as to their solution.

Malaria.—In patients suffering from gastric catarrh or the gastro-hepatic symptoms of lithæmia, it is often desirable to precede the specific treatment of malaria by a short course of broken doses of calomel, and it may be necessary to give quinine by suppository or subcutaneously.—Daland.

Nervous Insomnia.—

℞ Formamidate of chloral ..... 10 gm.
Tincture of ginger ..... 10 "
Distilled peppermint water ..... 150 "
M. S. A dessertspoonful at night.

—Boas.

Pertussis.—Inhalations of ozone, two to four times daily, for from ten to fifteen minutes each time.—Labbé *and* Oudin.

Phthisis.—Creosote is recognized as the most efficient agent we possess for the treatment of tuberculosis, but being caustic it can be given only in small doses. This objection does not hold for "creosotal" and carbonate of guaiacol. The creosote in it is in such combination that doses formerly believed impossible can be administered; hence their administration constitutes a most important advance in the treatment of tuberculosis. As creosote is not better borne in any other form, "creosotal" and carbonate of guaiacol are to be preferred in all respects in the treatment of phthisical cases.—Dujardin-Beaumetz, *Dict. de Thérap.*

Bone Marrow in glycerin extract was given in doses of from one-half to one and one-half drachms, three times daily after food, up to four ounces weekly, in a case of pronounced osteomalacia, by Dr. T. M. Alliston.—*Edinburgh Medical Journal*, May, 1896.

For Rapid-Dispensing Salicylate-of-Sodium Mixture.—

℞ Salicylic acid ..... ʒ ij.
Sodium bicarbonate ..... ʒ ix. gr. xv.
Tincture of cardamom ..... ʒ i.
Glycerin ..... ʒ ij.
Water enough to make ..... ʒ xvi.

In an open-mouthed vessel of the capacity of four pints, stir the acid with sufficient water to form a pasty mass. Then add the bicarbonate and stir vigorously until the effervescence has begun to cease. After the foam has settled, strain the solution, add the glycerin and cardamom, which have been previously mixed, and filter the product through a plug of absorbent cotton, finally adding enough water to make the preparation measure sixteen ounces.—H. B. Mason, *The Druggists' Circular and Chemical Gazette*, February, 1897.

Pruritus Pudendorum.—Apply each night, after a disinfecting vaginal injection, compresses wet with a hot solution of tannic acid (tablespoonful to the quart).—Heidenhain.

Test for Tincture of Iodine.—Having observed vomiting after injection of tincture of iodine into the uterine cavity, Dr. Blondel (*Gaz. des Hôp.*, February 4th) attributed it to the presence of hydriodic acid. The presence of this acid, which is apt to develop in tincture which has become old, is detected by the fact that the iodine is no longer precipitated by the addition of water.

Chorea.—Arsenic in large and progressive doses. One centigram from the first day, increased each day half a centigram up to four centigrams, in plenty of water or mucilaginous menstruum. Repose in bed: milk diet. Having reached a daily dose of four centigrams, run down the scale in the same way and stop. Cure in eight days.—Comby, *La Méd. Normandie*, February 1st.

Carrot Juice, in dose of fifty to one hundred and fifty grams, slightly salted, is recommended in impetigo of infancy, and it is thought may be of use in tuberculosis.—Artault.

Insufflations into the nasal fossæ five times daily of

℞ Powdered benzoin,
Bismuth salicylate ..... āā 10
Quinine sulphate 2

produce rapid improvement in pertussis.—Moizard.

Boric Acid in four-per-cent. strength, used in quantities of two litres as douche, caused vomiting, pains, fever, albuminuria, borin in the urine. Recovery.—Forneaux, *Jour. des Sci. Méd. de Lille*, July 18, 1896.

Puerperal Eclampsia and Milk Diet.—I see that Professor Lusk advocates a milk diet for pregnant women, and am just here reminded that the milk diet becomes a veritable hobby with many people, which may be excusable in the great centres of population where milk is a luxury, but half the women in this great State of Ohio would rather take the risks of a siege of eclampsia than to be tortured for three months upon a milk diet. But our study of the etiology indicates the necessity of a diet restricted in quantity generally, in the absence of a knowledge of the specific poison or its composition; and, when the usual prodromal symptoms put in an appearance, a diet of any kind should be interdicted until the natural and usual medical means of eliminations have had time to rid the system of its baneful products.—W. S. Philips, *Columbus Medical Journal*, January 19, 1897.

Potassium Iodide is badly tolerated in some instances of hepatic disease. The sodium salt may prepare such patients, as well as those in whom depressing effects result from the potassium iodide, for the subsequent favorable use of the latter.—Briquet.

Arsenite of Sodium is said to be the best form in which to administer the drug hypodermatically, not producing toxic effects so quickly as when arsenic is given by the mouth.

Anaphrodisia may be produced by the prolonged use of arsenical preparations.—Charcot.

Pain following burning accidents is said to be quickly relieved by immersing the part in water in which a few spoonfuls of saltpetre have been dissolved.

Hæmoptysis in Infants.—

℞ Pulv. aluminis ..... 0.05 cgm.
Mist. sulphuricæ acidæ (eau de Rabel).... 20 gtt.
Ext. krameriæ fld. ..... 2 gm.
Syr. rosæ..... 60 gm.
Aquæ dest..... 160 gm.
S. From a teaspoonful to a dessertspoonful every half-hour.

—Cadet de Gassicourt.

Phthisis.—In the attacks of coughing:

℞ Bromoform..... 30 gtt.
Alcohol..... 10 gm.
Syr. ipecac..... 30 gm.
Aq. laurocerasi ..... 20 gm.
Syr. opii (Fr. cod.).. .....150 gm.
S. Three or four soupspoonfuls in twenty-four hours.

—*Gaz. des Hôp.*

Thyroid Medication in Infancy.—Tablets containing thirty-five centigrams of the active substance may be given to infants, one-half to one tablet being the daily dose during the first week in infants below the age of two years. After this, one or two tablets daily may be given. During treatment, loss of flesh, tachycardia without palpitations, and increased thirst and diuresis are among the symptoms noted. In parenchymatous goitre the remedy produced rapid regression of the tumor, the maximum decrease in size being manifest at the end of the third week of administration.—Dobrowsky, *Vratch*, No. 27, 1896.

Bronchitis.—

℞ Acidi benzoici..... 0.3 dgm.
Tannin..... 0.15 cgm.
For one powder—four such daily.

—Maragliano.

Benzo-Iodhydrin, a solid, fatty, crystalline body, containing iodine, chlorine, and benzoic acid, has been employed by Barth as a substitute for the iodide of potassium. It produces no iodism, and does not exert the same influence upon blood pressure producing congestions. It, however, cannot replace the latter drug in the treatment of syphilis. It appears indicated whenever the myocardium is affected, favoring a considerable determination of blood to that organ. In degeneration of the myocardium and coronary sclerosis, the action is favorable. All affections associated with arterial hypertension, arterio-sclerosis, atheroma, etc., justify the use of this remedy.—*Journal des Praticiens*, January 2d.

Iodide of Potassium Pills.—The following procedure is recommended by Duyk for the preparation of iodide pills which will keep for some time: Iodide of potassium, gram 7.70, is triturated with gum benzoin, gram 2.30, and converted into a pill mass with the aid of a few drops of alcohol. This is divided into one hundred pills, of ten centigrams each. According to the author, these are readily dissolved in the fluid of the stomach. Another plan, suggested by Lang, is to triturate twenty grams of the iodide with ten grams of sugar of milk, to which six grams of lanolin is then added, to make one hundred pills. It is claimed that the iodide in this form is but little irritating.—*Le Scalpel.*

Digitalis in Pneumonia.—Barth doubts whether the enormous doses given by Petrescu are free from risk, and whether the artificial lowering of temperature by them is of real value: forty-five grains a day of the powdered leaves should be the maximum dose.

Uterine Disease.—Irregular menstruation with retroflexion, parametritis, etc., was benefited by liquid ovarin, which is a glycerin extract of ovaries of young cows, containing one gram of ovarian tissue in half a gram of glycerin, injected into the buttocks daily in doses of half a gram to one gram. Compressed tabloids, containing 0.25 or 0.30 centigram of dried gland, proved quite as efficacious as the injections, when two or three a day were given, and were adopted finally in place of the injections. The treatment can be continued for a month or more, and is always well borne.—Muret, *Rev. Méd. de la Suisse Rom.*

Gumma of the Ciliary Region.—Treatment consisted of the administration of one-fourth of a grain of calomel combined with opium every three hours. When the gums began to show signs of approaching salivation, the dose was reduced to half a grain of calomel *per diem*. A fortnight later the iodide of potassium was commenced, in addition to the calomel. Locally, belladonna fomentations and atropine drops were employed throughout the first few weeks. In the course of a month, however, when it was found that the tension was remaining high and that the bulging of the staphylomata was increasing, eserine was used in place of atropine, and a compress and roller bandage were firmly applied. This soon reduced the tension, and the staphylomata ceased to enlarge.—Highet, *British Medical Journal*, November 7, 1896.

Seasickness.—

℞ Chloroformi puri,
Tinct. nucis vomicæ ....āā 10 gtt.
Tinct. lavandulæ comp ..... 4 gm.
Aquæ..... 35 gm.
M. S. Teaspoonful every hour until cessation of vomiting.

—Barber.

Epilepsy, with Maniacal Excitation.—

℞ Potass. brom.. ..... 70 gm.
Pilocarpinæ nitrat.. ..... 0.035 mgm.
Syr. aurantii cort. amar. ..... 400 gm.
Aquæ ..... 600 gm.

Each teaspoonful contains half a milligram of pilocarpine, under whose influence the maniacal excitation disappears.—Voisin.

Septic Endocarditis.—

℞ Quin. hydrochlor. ..... 5 gm.
Hg. bichlorid!.... ..... 0.20 cgm.
Pulv. althææ.... ..... q.s.
For 20 pills. S. One three times daily.

Oxyuris Vermicularis.—The threadworm of children is treated by Comby as follows:

Santonin..... 0.15 cgm
Calomel ..... 0.15 cgm.

One such powder is given each morning before food for three consecutive days, and for the three following days at bedtime an intra-anal application of the following ointment:

Glycerole of starch ..... 20 gm.
Neopolitan ointment.. ..... 10 gm.

Cancer of Stomach.—In the vomiting of this affection Robin prescribes from five to eight drops of the following solution, to be taken from five to ten minutes before each meal:

℞ Picrotoxin,
Hydrochlorate of morphine ..... āā 0.05 cgm.
Neutral sulphate of atropine..... 0.01 cgm.
Aq. laurocerasi ..... 10 gm.

Tabes.—For the gastric crises, oxalate of cerium, from five to fifteen centigrams, four times daily. Pain, thirst, nausea, and insomnia gradually disappear, and vomiting is reduced to a minimum.—Ostankoff.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

COMING AGITATIONS—VENEREAL DISEASE AND REGULATIONS — VACCINATION — VORACIOUS HUNGER AND THIRST—TRAUMATIC NEURASTHENIA—THE CYSTOSCOPE AS A GUIDE TO RENAL DISEASE—GYNÆCOLOGY IN RELATION TO SURGERY.

LONDON, February 26, 1897.

We are threatened with another agitation on the contagious diseases acts. As I stated last week, the fact that there is a large increase in venereal disease among our troops in India is now admitted, and some sensational statements have been circulated. In the House of Commons the government has since stated that the report of the departmental committee on the subject will be ready "in a few days." Its issue will doubtless be the signal for heated discussion. Meantime, Major-General Dashwood has read a paper at the United Service Institution, in which he embodied some startling statistics on the health of the troops in India and the colonies. In the discussion that ensued several medical and combatant officers joined, and no little animation was manifested. Admiral Kennedy said that on one occasion his attention was called to the health of his own ship, and he found that out of thirty-eight cases of illness no less than thirty-six were venereal. One medical officer with thirty years' service in India, and another with still longer experience, advocated some sort of regulation as necessary, and they were supported by others who had witnessed the working of the acts and testified to their value. On the other side were ranged several well-known opponents of restriction, who maintained that a return to the acts would be impossible, and evinced a determination to oppose such action tooth and nail.

It was proposed to form a committee to agitate in favor of restriction, but the suggestion was not adopted, in the hope that this meeting and the coming report would suffice to induce the government to take some action. There seems to be a notion entertained by a large number that the present ministry is inclined to such action. If so, it had better move quickly, or it will find its opponents actively organizing against it, and the public will soon forget the disclosures which have produced an impression that "something ought to be done."

Vaccination is another subject that threatens us again. Before the Statistical Society Mr. Noel Humphreys and before the Epidemiological Society Dr. McVail have read able papers, and the Society of Medical Officers of Health have considered the report of the royal commission. This report came in for shrewd criticism in each of these societies, and the only part giving any satisfaction was the recommendation to promote revaccination. This seems now the point on which to insist, as the one on which our legislators will be most ready to act. But it need not be supposed that the "antis" will awake to reason, when Gloucester has taught them nothing.

Time and space being restricted, I was obliged to omit in my notice of the last Clinical Society's meeting an account of Mr. Stephen Paget's paper on "Voracious Hunger and Thirst after Injury or Disease of the Brain." But the facts collected by Mr. Paget are of a very interesting kind, and the association he has observed between morbid sensations of appetite and brain lesions may lead to further light in a rather dark field of inquiry. He thought his facts pointed to the existence of special centres of hunger and thirst close to the centres of speech, probably in the anterior extremity of the temporo-sphenoidal lobe, near the uncinate gyrus.

Mr. Paget had collected fourteen cases, one having occurred in his own practice, in which a lesion in this part had been followed by intense hunger and thirst. Eleven of the cases were of injury: three of disease. Eight of the fourteen subjects had voracious appetite for solid food, without much thirst; three had intense thirst without hunger; the other three suffered from both hunger and thirst. In none was the primary lesion fatal, so the centres were not situated near the vital centres. Three had aphasia. It was therefore probable that the centres were near to those of speech, and perhaps they were connected with the olfactory centre. The inordinate desire for food and drink lasted, as a rule, for many weeks or months, and then came to an end. It was not connected with mental derangement or traumatic diabetes. No harm came from indulging the desire.

In the course of the discussion three other cases were mentioned, in each of which there was abscess of the temporo-sphenoidal lobe. In one subject who died the whole lobe was found to be an abscess cavity, in which no centres could remain. It was further suggested that the symptoms might be due to shock of the whole brain, voracity being common after an epileptic fit, though it soon passed off, while loss of memory is also found for a short time after a fit, but may last a long time after severe injury.

The president, Dr. Buzzard, could not call to mind such striking examples. Physicians are likely not to see what they do not look for, but now they would be looking out for the symptoms and would probably find them. He thought there was ground for locating the centres of hunger and thirst as proposed. The phenomena would probably be produced through the vagus and its cerebral roots, and those roots may be in the temporo-sphenoidal lobe, for their exact site is not known. Ravenous hunger sometimes immediately follows the gastric crises of Charcot's disease.

On Monday an interesting paper on "Traumatic Neurasthenia" was read at the Medical Society meeting, by Mr. Victor Horsley. He thinks these cases do not essentially differ from those of neurasthenia brought on by worry or overwork. In acute cases there is a neurotic temperature, the rise being considerable, and in one case it reached 111° F. The patient is hindered from intellectual work from inability to concentrate his attention. General paresis or localized paralyses are observed, or there may be spasms and muscular twitchings, or again paræsthesia or anæsthesia. Superficial and deep reflexes are alike diminished, and eventually absent. Frequent micturition is troublesome. The urine is pale and the solid ingredients are lessened, but this is only proportionate to the increased secretion of fluid. Palpitation is not uncommon. Asthenopia, indicating the commencement of impairment of vision, is frequent, but other disturbances of the senses are rare, though subjective tactile sensations may sometimes be complained of. As all the symptoms can be explained on the assumption of some general disturbance of the central nervous system, it was suggested that in legal cases the medical witnesses on both sides should meet in consultation before going into court—a suggestion, I may remark, made on every suitable occasion during the last few years, but which has hitherto been unproductive.

Mr. H. Fenwick read notes of twenty-one cases, in which the cystoscope had been found of great value in detecting malignant or tuberculous disease of the kidney, and so serving as a guide to nephrectomy. The great advantage of an early diagnosis is undeniable, and was illustrated by Mr. Fenwick.

Mr. Lockwood admitted the value of the cystoscope in diagnosis, and said the instrument is coming into

use among general surgeons just as did the ophthalmoscope, and he had himself found it useful in several cases, of which he gave some account.

The new president of the Gynæcological Society is Mr. Mayo Robson, and he has followed up his predecessor's address in one which is equally favorable to the antiseptic system, though from a different point of view. His topic was naturally gynæcology in its relation to surgery. Referring to the "time when that most successful operation, ovariotomy, was considered ruthless slaughter," he said the change was so great in so short a time that we might almost call it the "renaissance of gynæcology," and the chief reason of the great reformation and all-round improvement of surgery he attributed to the "genius of our fellow-countryman, Lord Lister, whom all the world delights to honor."

OUR PARIS LETTER.

(From our Special Correspondent.)

HEALTH OF PARIS—LA GRIPPE—PREMATURE-BURIAL SCARE—THE INTERNATIONAL SANITARY CONFERENCE—CONTAMINATED MEAT, ETC.

PARIS, March 3, 1897.

THE health of Paris at this season of the year is about the average in others, excepting those years when we have had epidemics of grippe. There are, it is true, many cases of grippe just now; in fact, the tendency to increase in the number of such cases began the latter part of December. These cases, however, are mostly of light character, complicated sometimes with bronchitis confined to the larger bronchial tubes; rarely with capillary bronchitis or pneumonia. The latter, when we have it in Paris, is altogether less mortal than in the United States. The forms of grippe that we have at present are three in number, viz., the gastric form, the nervous form, and the catarrhal form. The latter is by far the most common. The diagnosis of grippe is not always easy, and in those obscure cases in which we have, so to speak, to feel our way, if antipyrin be prescribed the patient will generally respond at once to the treatment and there will be no further difficulty in the subsequent management of the case. As a rule, ten grains four times a day will be found sufficient: this treatment we supplement in Paris, when there is even moderate fever, with four grains of the bromhydrate of quinine morning and evening. The diet should be strengthening; also wine and stimulants be allowed—that is, more especially in the catarrhal and the gastric forms, but caution must be observed in their use in the nervous forms of grippe. Antipyrin, quinine, and the bromides are our sheet anchors in this form of grippe. Antipyrin must always be given in every form of grippe. After many years' experience with this drug, we have never known it to produce the deleterious effects sometimes attributed to its exhibition; in pure grippe never. In two cases, however, of neurasthenia and in the doses mentioned above, which are moderate ones, it did produce a slight mental and physical depression, which passed off as soon as the antipyrin was stopped.

Paris has just been through what may be appropriately termed the burial-alive scare. Owing to unfortunate publications in some of the daily newspapers of grewsome stories about people turning in coffins, laceration, etc., the Parisians became alarmed and much exercised on the subject of premature burial. The scare also made itself felt to some extent in England and the United States as well. We took the trouble to ascertain the views of all the leading physicians and authorities in the matter, residing and practising in Paris. Among those consulted were, first, the four leading American physicians — Drs. Good, Clarke, Halsted Boyland, and Austin. These gentlemen were unanimous in their opinions. None of them had ever known or heard of a duly authenticated case of burial alive, and considered the accounts of such occurrences totally unworthy of credence or even serious attention.

Such also was the opinion of most of the French experts, and among them Professors Brouardel, Proust, Potain, Dieulafoy, Drs. Labadie-Lagrave, Huchard, and Duguet.

Dr. Vibert, legal expert to the courts of Paris, was of the same opinion.

The outcome of it all was that the public became reassured and the subject has been dropped for about ten years to come, when, experts say, we may expect a revival of it, as it is fortunately only in decades that people become possessed of the idea that there is danger of being buried alive.

Professors Brouardel and Proust have left Paris for the International Sanitary Conference, now in session at Venice. The United States' technical delegate to this conference is Dr. H. D. Geddings, surgeon in the navy and well known by his works in the field of bacteriology. The object of the conference is to devise the best means of preventing the bubonic pest, now raging with a high mortality in Bombay, from entering into Europe. The last Dresden and Paris conferences were held with reference to the importation of Asiatic cholera, and the present one is to see if the measures then adopted cannot now be applied to the bubonic pest. Another of the objects of the present conference is to stop the pilgrimage to Mecca—a fruitful source of spreading both cholera and plague. This has been done.

The question of infection by contaminated meat has been very forcibly brought to notice again. Professor Pouchet's report on the subject to the Society of Legal Medicine is well worthy of attention. He says the medico-legal examinations of contaminated meat remain generally negative, and it is only the bacteriological examination that can give real data regarding the nature of an epidemic. It appears that in several communes in the Departement du Nord there were quite recently some fifty persons ill and one death from a disease attributed by the local doctor to contaminated pork.

Dr. Pouchet examined samples of this meat; also the dejections of two patients. Although he found a total absence of any toxic substance—vegetable, animal, or mineral—he was nevertheless able to isolate a special bacterium, that upon a microscopical examination and cultures proved to be none other than the specific bacillus of infectious porcine pneumo-enteritis. This bacillus was not found, it is true, in the fæcal matters; nevertheless, Dr. Pouchet noted the presence of the bacterium coli, whose virulence had become much increased. The matter was cleared up at once, when it was known that just at that moment hog cholera was prevalent in the communes where these cases had occurred. A raiser and dealer had not long before sold fifty-seven hogs, of which forty-seven had died of the disease. In the second place, the meat, too much damaged to sell, instead of having been burned or buried with quicklime thrown upon it, as should have been done, had been simply buried level with the ground; finally, no precaution whatever had been taken to separate the healthy from the diseased animals. Such a thing could not have occurred in or near Paris, or any large city, and it only shows that in districts remote from them the sanitary precautions are not well and efficiently carried out.

THE DISPENSARY ABUSE.

To the Editor of the Medical Record

Sir: Having read your articles on hospital and dispensary abuses, also reports on the same of the New York County Medical Association, 23d ult., I would offer a few suggestions which can be put into immediate practical use toward lessening the evil while awaiting the development of some scheme of greater utility and value.

1st. It is an acknowledged fact that all physicians seeking or holding dispensary appointments at the present time aim to become acquainted among the ailing community in which they reside, and financially to benefit by the doubtful prestige which official connection with public institutions imparts in the public mind.

2d. The executive authorities in those institutions amiably recognize this weakness, and while they fix their eyes on some far distant realization of spiritual renovation, whose absence they are destined so constantly to bewail, stand firm in declaring that the advertising privileges accorded fully remunerate physicians for any and all services rendered.

3d. These advertising privileges consist of permission to have inscribed or printed on a patient's card or passport, the attending physician's name, address, office hours, connection with institution, etc.

4th. Now, if the various medical societies and physicians will make the effort to help themselves, they will command greater attention when seeking help from others; and I would suggest their enjoining any practitioner who desires to remain in good standing from having his or her name, address, office hours, or other personal information of like character written or printed on such cards or passports, as supplied to dispensary patients.

5th. By destroying this advertising dodge, the value of such appointment will be decreased among a certain order, and with the number of applications for such vacancies limited, those desiring such experience for its clinical worth will be able to compete without lowering their manhood and professional dignity by the dubious methods that now obtain.

6th. When there are no advertising favors to be obtained and traded for professional work, physicians may then refuse to attend patients who can afford to pay for services. Physicians will then add dignity to themselves and their profession, destroy all questionable insinuations regarding their motives, and induce a more prosperous era for the profession at large, when they attend the deserving poor and avoid publicity.

"Let those who applaud take warning
And keep this motto in sight—
No question is ever settled
Until it is settled right."

Martin W. Curran, M.D.

FOREIGN BODIES IN THE AIR PASSAGES.

To the Editor of the Medical Record.

Sir: In the issue of the Medical Record of February 20th I notice an article on "Foreign Bodies in the Air Passages," by Dr. Fulton. In reply to his query, "Where had the foreign bodies been?" I would suggest the following: 1st. It is hardly probable that they had remained for the length of time spoken of in the œsophagus. 2d. It is less probable that they were in the trachea. The probability is that by the act of coughing they were forced into the posterior nares, where they remained until by some accident they became detached and dropped into the pharynx, whence they were expelled. Every one has noticed in cases of this kind—that is, to use the popular expression, "food going the wrong way"—that the offending substance is for the most part expelled through the nose. If it is liquid food, it causes but momentary trouble; if more solid, however, it requires a "blowing of the nose" to relieve it. In the case of a bent shingle nail it is easy to assume that its shape and size prevented it passing through, and in a child any discomfort arising from it would be overlooked.

Luke Fleming, M.D.

Tarrytown, N. Y.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 13, 1897:

	Cases.	Deaths
Tuberculosis	214	128
Typhoid fever	8	2
Scarlet fever	172	13
Cerebro-spinal meningitis	3	6
Measles	189	9
Diphtheria	199	30
Laryngeal diphtheria (croup)	19	8
Chicken-pox	22	0

Health Department and West Side German Dispensary.—The following resolutions were adopted by the medical board of the West Side German Dispensary, March 20, 1897:

"*Whereas*, On January 11, 1897, representations have been submitted to the health commissioners of New York by two officials in the health department, which are inaccurate and misleading in several important particulars and which call for an unnecessary and dangerous extension of the powers of the health department, as follows:

"1st. That the statement embodied in the first paragraph of the above report, namely, 'that it is now the universal conviction that tuberculosis is a communicable disease,' is not entirely correct and is not the opinion of many distinguished clinicians.

"2d. That, inasmuch as the patients suffering from the various manifestations of tuberculosis who are treated at their homes by their family physicians, as well as those treated at dispensaries and hospitals, are under intelligent and judicious control, the time has not come for interference with such treatment by any department of this city.

"3d. That to grant the health board officials further powers than they now possess in regard to the removal of those subjects of tuberculosis whom they may regard as dangerous sources of infection would be an interference that would be alike humiliating to the physician and intolerable to the patient and his family.

"4th. That there is no proof that more patients affected with tuberculosis need hospital care than was formerly the case; that, even if such proof were forthcoming, there is no good reason why a special hospital for consumptives should be instituted; that the department of charities is amply provided with power to enlarge their present facilities and provide medical attendants of far greater experience than the members of the health board; that the health board possesses no remedies whatsoever, either prophylactic or curative, that are not within the reach of every practitioner of medicine.

"5th. That the convictions of the health department have little weight as against the opinion of the majority of the profession in regard to the dangers of conta-

gion from tuberculosis; that the same may be said of the gratuitous and unsupported allegation that 'the interests of the patient are more easily fostered, the risks of fresh contagion diminished, and the chances of recovery enhanced in hospitals for consumptives': and that an amendment to the sanitary code, declaring that tuberculosis be officially considered a communicable disease would meet with the united and uncompromising resistance of the laity and the profession, as an arbitrary and unnecessary invasion of their rights and liberties.

"6th. 'That all institutions in this city that admit and treat cases of pulmonary tuberculosis be subjected to a regular and systemtic inspection by officials of the health board,' etc., is an uncalled-for slur on the profession, the members of which are entirely capable of providing proper hygienic safeguards without the unasked-for assistance of the board of health.

"7th. That neither the number of cases of tuberculosis reported nor the tabulated deaths from tuberculosis give any index of the prevalence of the disease; for since the health department has undertaken to exercise surveillance over it, thereby interfering with practice both public and private, and imposing unnecessary hardships upon those affected, the great majority of physicians now, in more than fifty per cent. of their cases, make no report to the board of health. In several large dispensaries, a committee of this body, appointed for that purpose, found that tuberculous cases were not reported. The apparent diminution in the death rate from tuberculosis is due to the facts that such reports tend to place a stigma upon the family, and may invalidate insurance. Therefore be it

"*Resolved*, That a vigorous protest be submitted to the board of health commissioners against this unnecessary harmful encroachment upon the domain of medical practice; and that it is recommended that in the future all far-reaching medical and sanitary measures be submitted to the Academy of Medicine and the county societies before adoption, so as to secure the necessary sanction of the medical profession: and, finally, that a copy of these resolutions be transmitted to the Academy of Medicine, the County Medical Society and Association, to his honor the mayor, and to the president of the board of health.

"THOMAS H. MANLEY, M.D.,
"LOUIS FISCHER, M.D.,
"*Committee.*"

Bacillus Smegmatis.—For the differentiation of bacillus smegmatis and the tubercle bacillus in urine, Grethe recommends staining with concentrated alcoholic solution of methlyene blue after first staining in the ordinary manner with carbol-fuchsin. The tubercle bacilli remain red, while the smegma bacilli and all other forms are stained blue.

Boric-Acid Solution.—To make a more than water-saturated solution, which will not separate when cold, triturate half an ounce of the acid with one ounce of glycerin in a mortar until a homogeneous mass is formed; then add in divided portion thirteen ounces of water at 90° F., continuing the trituration until complete solution is effected.—H. B. MASON. *Pharmacist of Clinton Prison.*

Lithia Waters.—Dr. Charles Harrington, of the Harvard school, has made public the result of his analysis of three popular lithia waters advertised as powerful solvents of vesical calculi and as cures for a number of generally considered incurable diseases. No. 1 showed no trace of lithium salts. No. 2, advertised to contain fourteen grains of lithium salts per gallon, was found absolutely free from lithia. No. 3 contained a minute trace of lithium (advertised to contain over eight grains of the carbonate). The cost is about twenty cents per quart and the medicinal properties nil. The good results come from the quantity of water consumed, mended habits, etc.—*Boston Medical and Surgical Journal.*

The Pronunciation of "Enema."—There have been several letters recently sent to the *British Medical Journal* discussing the quantity of the penultimate in the word "enema." It is hoped that the following story will throw some light on the subject: A physician was attending a distinguished scholar and cleric of this city. The patient was advised among other things to take an enema (with a long "e"). "But, doctor," said the cleric, whose classical ear had been offended, "what about the quantity— the quantity, you know?" "Oh, the quantity," said the surgeon: "well, about two pints or so."

A Crying Tic.—A fourteen-year-old daughter of John Wilson, of Augusta, Ky., is reported to have been crying all her life. Whether she plays, sleeps, or goes visiting, the cry is always the same, sounding as if it came from one in great grief. The child insists that she is unconscious of producing the sounds voluntarily.

Tetanus Traumaticus.—Injection of two-per-cent. carbolic-acid solution in dose of a Pravaz syringeful every two hours and hot baths at 40° C. prolonged for two or three hours effected cure after three weeks' treatment.—CERVELLINI, *La Sem. Méd.*, No. 51. 1896.

The Hypodermic Syringe.—I will risk the assertion that some physicians do not yet know that after use, if the syringe is placed under water with the piston withdrawn and the piston is then forced down again, a sufficient quantity of water will be pumped in above the piston to keep the instrument in working order for many days at least.— PARCELLS.

Psittacose was thought to be the diagnosis in three cases in a family in which several parrots had died soon after being purchased. Widal's test was applied to the blood and showed that the disease had been typhoid, though the course had been irregular—one patient being convalescent after the tenth day.—BLANQUINQUE, *Jour. des Prat.*, February 13th.

His Best Patients.—The late Dr. John Merriman, of Kensington, used to say that the poor were "his best patients, because he took no money from them, and God paid for them."

Ostrea Edulis is an edible dear to the American heart in whatever form it may be "served up." The *Wiener klinische Wochenschrift*, therefore, undertakes a serious task when it attempts to frighten us with a story of fatal poisoning from eating oysters, referring the cause to ptomains.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

HYPNOTISM AND ITS APPLICATION TO PRACTICAL MEDICINE. By Dr. Otto G. Wetterstrand. Translated by Dr. H. G. Petersen. 8vo, 160 pages. G. P. Putnam's Sons, New York.

CLINICAL LECTURES ON MENTAL DISEASES. By Dr. T. S. Clouston. Fourth Edition. 8vo, 736 pages. Illustrated. Lea Brothers & Co., New York. Price, $4.75.

THE YEAR-BOOK OF TREATMENT FOR 1897. 8vo, 480 pages. Illustrated. Lea Brothers & Co., New York. Cloth, $1.50.

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Original Articles.

THE PRESENT STATUS OF CREOSOTE IN THE TREATMENT OF PULMONARY TUBERCULOSIS, WITH AN ANALYTICAL REVIEW OF FORTY-FIVE RECENT CASES.[1]

BY JAMES K. CROOK, A.M., M.D.,

LECTURER ON CLINICAL MEDICINE AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THE first real impetus to the modern use of creosote in consumption was created by the report of Bouchard and Gimbert a little less than twenty years ago.[2] The publication of so favorable an account of the drug by these distinguished authors speedily led to its widely extended use, and it has since been employed in all parts of the civilized world. It would seem that the vast amount of clinical experience which has accrued during this period would be ample to give to this substance some fixed status in practical therapeutics. Leaving aside the widely published and generally favorable reports of the earlier writers, Sommerbrodt, Von Brunn, Robinson, and numerous others, it is the author's desire in the brief scope of this paper to examine the claims of creosote in the light of the progress of the past five years. During this time an immense number of contributions pertaining to this substance, its combinations, and its derivatives have appeared in medical periodicals. Many of these, however, are of a purely chemical or physiological nature, or treat of some local or peculiar action of these preparations, and consequently have no part in our present consideration of the subject. It is our wish at this time to investigate the complex body—creosote itself—and solely with reference to its therapeutical effects in pulmonary tuberculosis. A considerable number of practical papers have recently appeared, many of them from American contributors.

Albert Albu[3] reports on the use of creosote for more than five years in the Moabit Hospital, Berlin. The drug was used in a great number of cases in the form and doses recommended by Sommerbrodt. Albu concludes that creosote possesses no specific action whatever in consumption, but he looks upon it as a useful symptomatic remedy in phthisis, perhaps the best we now have, it being valuable as an expectorant in some cases, as a stomachic in others, and as a tonic in still others. In a series of experimental investigations, Albu found that no change in the virulence of the sputum manifested itself in persons who used creosote, even in full doses.

F. P. Kinnicutt,[4] after a personal investigation of the merits of creosote, concludes as follows: that both creosote and guaiacol can be given in very large doses and with entire tolerance and without injurious effects: that such dosage apparently possesses no advantage over a much smaller one, and that it has no greater effect upon hectic and upon night sweats: that subcutaneous injections possess no advantage over administration by the mouth, and that whatever influence creosote may exert in pulmonary tuberculosis can be effected in a comparatively small dosage. Kinnicutt's researches go further to show that creosote possesses but feeble, if, any antibacillary power within the body, and that its good effects are brought about by promoting the general bodily nutrition. The drug did not cause albuminuria in any of Kinnicutt's cases, but in one patient who already had nephritis the amount of albumin was slightly increased. S. Solis-Cohen[5] believes that creosote, being a complex product, like opium or digitalis, is not entirely represented by any of its constituents. He believes that in small doses it assists digestion and prevents and checks diarrhœa. In large doses it reduces the temperature, and, as shown by the altered condition of the discharges, tends to correct the septic processes in excavations and bronchiectasis, besides serving to bring about recession in the general and local morbid phenomena. He does not attempt to elucidate the method of its action. Beverley Robinson, whose experience with creosote has probably been more extensive than that of any other American practitioner, contributes an additional article[6] on the action of the drug in phthisis. Dr. Robinson rarely gives creosote in larger doses than twenty or twenty-five drops in the twenty-four hours. As a result of his further experience he is more than ever convinced that we have in creosote a remedy of great potency in pulmonary tuberculosis. Robinson also publishes personal communications from E. L. Trudeau and W. C. Glasgow, strongly endorsing the remedy.

George H. Penrose[7] gives his experience with the remedy in the United States Soldiers' Home in Washington, D. C., where every facility is offered for the study of phthisis in its different stages. He administers creosote in the form of an emulsion with cod-liver oil and acacia, containing two minims to the drachm. In some cases he has increased the drug to forty, fifty, and even sixty minims daily. He states that while no cases were cured absolutely, many of them were improved to a marked degree. H. S. Stark[8] believes that creosote owes its virtues to its antifermentative influence in the alimentary canal. It thus favors nutrition and assimilation by increasing the appetite, promoting absorption, and enhancing digestion. By virtue of this action the body weight increases, while the subjective symptoms, cough, expectoration, and the hectic phenomena gradually disappear. Stark also uses the remedy as a prophylactic in conditions in which consumption seems to be threatened. He rarely uses it in larger doses than twenty minims in twenty-four hours, an average dose being four minims three times a day. He concludes that creosote is no longer to be regarded as a temporary innovation or a fad, but a

[1] Read before the section on general medicine of the Second Pan-American Medical Congress, City of Mexico, November 15, 1896.

[2] "Des resultats obtenu par la créosote vraie dans le traitement de la phthisie pulmonaire," par MM. les docteurs Bouchard et Gimbert, Bull. de Thérap., xciii., p. 289. Also, Gazette Hebdom., 1877, Nos. 31, 32, and 33.

[3] Berl. klin. Woch., No. 51, p. 1,300.

[4] Middleton-Goldsmith Lecture for 1892, MEDICAL RECORD, May 21, 1892.

[5] Hare's "Text-Book of Practical Therapeutics," 1892, p. 560.

[6] MEDICAL RECORD, February 27, 1892.

[7] MEDICAL RECORD, April 9, 1892.

[8] Therapeutic Gazette, 1892, p. 800.

drug that has come to stay as an antituberculous remedy.

J. T. Whittaker,[1] in the course of a thoughtful review of this subject, states that as creosote does not control the fever of tuberculosis, even when given to saturation, it is no radical or direct cure for tuberculosis. But if it can cure indirectly, or if it will only arrest the disease, or relieve complications, it will hold its place until something radical is found. He admits that the drug exerts no apparent destructive influence on the bacillus tuberculosis in the body, but pertinently asks whether it may not be poisonous to the associated micro-organisms, many varieties of which, as we know, exist in tuberculous sputum. Whittaker offers no satisfactory answer to these questions, but concludes: (1) that creosote is harmless in its administration; (2) that it has no direct influence on the bacillus; and (3) that its virtue, which is undeniable in most cases, is exerted chiefly but not entirely upon nutrition. Fürbringer[2] states that he has not given creosote for the last one or two years on account of want of success with it. In half the cases no influence was observed from its administration, and in one-fourth it appeared to act injuriously; the remedy hurt the stomach and the patients lost appetite and became miserable. J. Burney Yeo[3] records himself as being highly in favor of creosote and guaiacol in the treatment of phthisis pulmonalis. F. M. Warner[4] notes the following marks of improvement under the creosote *régime* in phthisis: "The general condition rapidly improves. In some cases the appetite increases, the cough becomes less during the daytime, and after a while also at night. Hæmoptysis ceases. If the sputum has been tinged with blood, this condition disappears. The weight of the patient always increases at first, then it is apt to remain stationary. In exceptional cases it may lessen and then a gradual increase takes place." Illustrative cases are presented to substantiate these statements. Warner is in favor of saturating the system as speedily as possible. Although the daily dosage reached over one hundred minims in some cases, in none were any bad effects from creosote observed. There was no change whatever noted in the urine from either large or small doses. A few patients with an idiosyncrasy might get up a transient nausea, with vomiting and diarrhœa or headache and vertigo. Warner's opinion of creosote is altogether favorable. Delafield[5] states that creosote exerts a real effect on the bronchitis (of tuberculosis), but unfortunately it is apt to disorder the stomach. He therefore prefers to use it by inhalation or enema. A. J. Garland,[6] of New Zealand, in a brief communication reports excellent results from the use of creosote, especially when aided by the advantages of a high elevation. H. C. Wood[7] states that, while creosote is a valuable remedy in phthisis, in his own experience it is not a specific, and will rarely or never bring about a cure.

R. W. Wilcox[8] is an advocate of creosote in preference to its derivative, guaiacol. He does not find the latter substance so useful as creosote when given in doses equivalent to its percentage of creosote or even in equal doses drop for drop. Wilcox has abandoned capsules on account of their nauseousness and recommends the enteric pill of a well-known manufacturing house. He endorses the carbonate of creosote on account of its easy administration and assimilation. At the meeting of the American Climatological Association for 1894[9] the subject of the creosote treatment of tuberculosis was brought up for discussion. The use of the drug was endorsed by most of the speakers. Dr. A. L. Loomis, of New York, being the only opponent to its employment. M. Burlureaux[2] concludes that creosote is a more important diagnostic agent than tuberculin. He has found that when patients cannot tolerate the drug, even in very small doses, they are usually beyond hope, but when they can support large doses their chances are good for complete cure. Intolerance for creosote, he claims, is the test of depreciation of the organism and deterioration of the vital powers. J. R. Conway[3] looks upon creosote as possessing a positive curative influence. He states that in his experience of upward of four hundred cases he has not been disappointed with the effects of the drug in one. He administers it in the form of capsules combined with cod-liver oil, and pushes it to the point of saturation. He states that the treatment should continue for at least two years, no matter how well the patient may appear to be. J. Wessinger[4] uses creosote with gratifying success. He recommends it especially in the form of the carbonate and of oleocreosote. J. V. Shoemaker says:[5] "In the treatment of tuberculosis creosote is perhaps the most valuable remedy that we possess." W. H. Dukeman[6] is an advocate of creosote in the treatment of pulmonary tuberculosis, and gives his preference to the carbonate. Joseph Lafage[7] is highly pleased with the action of creosote in pulmonary affections. He looks upon the substance as possessing an elective action upon the lungs, directly combating their diseases and especially the causes thereof. It should, therefore, in his opinion be regarded as a specific medicament. In a more recent contribution[8] Burlureaux reaffirms his faith in creosote and reiterates his opinion as to its prognostic value. He believes, however, that the best results are obtained by the subcutaneous use of the drug. For this purpose the ordinary creosote of commerce is redistilled at 207° C. (404.6° F.). It is then mixed with from fourteen to twenty parts of sterilized olive oil and injected, subcutaneously if the dose is large, into a muscle if only a small dose is required. Burlureaux administers to children from one to five years of age one to seven minims of creosote daily, to an adult from fifteen minims to a drachm daily. He has in some instances given as much as four drachms in the twenty-four hours in this way. He has thus treated two hundred and sixty-two patients, over two hundred of whom were much improved in health.

The author believes the foregoing extracts fairly cover the field marked out for this paper. It will be seen that the clinical evidence of the past five years is almost invariably unanimous in favor of creosote as a remedy in pulmonary tuberculosis. The reputation of the drug is therefore not on the wane, and it is apparently more strongly intrenched as an antiphthisical remedy than at any previous period.

The writer's personal experience with creosote has extended over the past seven years. During this time he has treated many hundred cases with the drug at the clinic of the out-patient department of Bellevue Hospital and the general medical clinic of the Post-Graduate School, as well as a considerable number in private practice. On April 20, 1895, he presented a paper on the subject[9] to the New York Post-Graduate

[1] Therapeutic Gazette, 1892, p. 209.
[2] Quoted by Whittaker.
[3] "Manual of Treatment," 1893.
[4] New York Medical Journal, March 11, 1893.
[5] Pepper's "Text-Book of Practice," 1894, p. 575.
[6] British Medical Journal, 1894, No. 1, p. 34.
[7] "Therapeutics, its Principles and Practice," 1894, p. 681.
[8] MEDICAL RECORD, March 10, 1894.
[1] MEDICAL RECORD, July 28, 1894.
[2] Lyon Médicale, 1894.
[3] New York Medical Journal, No. 61, 1895.
[4] *Ibid.*, No. 62, October 5, 1895.
[5] "Materia Medica and Therapeutics," 1894, p. 374.
[6] Medical News, December 14, 1895.
[7] La Medecine Moderne, 1895, p. 750.
[8] Gazette Hebdom. de Med. et de Chirur., July 1, 1895.
[9] "Observations on Creosote and its Derivatives," the Post-Graduate, New York, September, 1895.

Clinical Society, in which the ground was taken that creosote exerted very little influence over the course of pulmonary phthisis, but that it possessed a certain beneficial effect as a stomachic tonic, and in some cases as a pulmonary disinfectant. It must be admitted, however, that prior to that time it was the author's custom to administer the drug in small quantities, six to ten minims daily being an average dose, while the maximum rarely extended to twenty minims.

Since the reading of this paper the author has pushed his inquiries in this direction and has used creosote in as large doses as it seemed safe to administer. During this period forty-cases of pulmonary tuberculosis have been treated with the drug and kept under observation for a period ranging from three weeks to twenty-seven months. The results of treatment were carefully noted, and the chief facts relating to the cases will be found in the subjoined table.[1]

No.	Name.	Age.	Sex.	Stage of Disease when Creosote Begun.	Time Under Treatment.	Time Under Creosote.	Maximum Daily Dose of Creosote.	Results of Treatment.	Remarks.
1	J. M.	49	F.	First	1 year.	8 months.	36 ♏	No benefit observed; patient now failing.	Patient's condition was much deteriorated while under creosote, by loss of son.
2	L. G.	21	F.	Second	2½ years.	2 years.	64 ♏	Apparent cure; disappearance of symptoms and signs.	Patient at this time weighs 2 pounds more than ever; has slight clearing of throat but no cough.
3	M. D.	28	F.	Third. cavity ..	6 weeks.	6 weeks.	18 ♏	Slight improvement in cough at first; afterward exacerbation of symptoms.	
4	J. J.	40	M.	First.	1 year.	10 months.	40 ♏	No apparent change in any way.	
5	F. K.	18	F.	Beginning of second.	4 months.	5 weeks.	12 ♏	Cough somewhat diminished; expectoration improved in character.	Patient disappeared from observation while under creosote.
6	M. L.	28	F.	First.	2 months.	1 month.	12 ♏	Disappearance of cough and all symptoms of phthisis.	
7	J. D.	36	M.	Third. large cavity.	18 months.	5 months.	40 ♏	No improvement; patient moribund when last seen.	
8	C. A.	43	M.	Hemorrhagic phthisis 3 years; second.	1 year.	1 year.	44 ♏	Patient has intervals of improvement and deterioration. On the whole a little better than when treatment began.	Creosote exerts no influence whatever on hemorrhages; had 7 separate attacks in 1 day while taking 36 ♏.
9	M. J. P.	40	M.	Second	11 months.	10 months.	48 ♏	Disappearance of signs and most of symptoms.	Patient has regained normal weight and strength; slight dulness at right apex; a little cough without expectoration.
10	P. H.	42	M.	First.....	11 months.	11 months	36 ♏	Disappearance of symptoms and signs.....	Patient in good health and able to attend to his duties, but weighs 15 pounds less than formerly.
11	M. R.	33	F.	First	1 month.	3 weeks.	12½ ♏	No appreciable change.	
12	Y. L.	59	M.	First.....	1 month.	3 weeks.	18 ♏	No visible effects from creosote.	
13	J. K.	35	M.	Second	2½ years.	5 months.	40 ♏	No apparent benefit; patient failing.	
14	J. B.	21	M.	First	3 weeks.	2 weeks.	12 ♏	Negative results.	
15	J. G.	50	M.	Second	10 months.	7 months.	48 ♏	Disease advanced to third stage; no benefit from creosote; patient now confined to room in dying condition.	Patient had exceedingly irritable stomach, which condition was not prejudiced by creosote.
16	L. C.	25	F.	Second	5 weeks.	4 weeks.	15 ♏	Negative results.	
17	W. H. L.	35	M.	First	10 months.	2 months.	24 ♏	Apparent cure; total disappearance of all symptoms and signs.	
18	H. D.	33	F.	Second	2 months.	2 months.	28 ♏	Gain of 7 pounds in weight, also improvement in other symptoms.	Patieot was still improving when last seen; was a victim of flatulent dyspepsia, which creosote seemed to improve.
19	S. K.	32	M.	Second	7 weeks.	7 weeks.	20 ♏	No apparent change.	
20	B. C.	23	F.	Hemorrhagic phthisis; second.	6 weeks.	6 weeks.	18 ♏	Improvement in cough but hemorrhages continued.	
21	M. O.	36	M.	Second	5 weeks.	3 weeks.	18 ♏	No visible results.	
22	K. P.	22	F.	Second	2 months.	2 months.	28 ♏	Patient gained 9 pounds in weight but lost 2 ponnds afterward; general result good.	Night sweats increased but all other symptoms ameliorated; some gastric irritability but creosote well borne.
23	A. G.	32	F.	First	2 months.	7 weeks.	24 ♏	Slight improvement in general condition; no material chaoge.	
24	M. F.	35	F.	Second	4 weeks.	4 weeks.	18 ♏	No changes noted in disease.	
25	J. G.	40	M.	Third, cavity ..	3 weeks.	3 weeks.	12 ♏	Negative results.	
26	L. B.	20	F.	Second	5 weeks.	2 weeks.	12 ♏	Creosote caused cramps and indigestion and was discontinued.	Had to resort to sedative remedies to overcome gastric and intestinal irritability.
27	J. R.	35	M.	Second	4 years.	7 weeks.	12 ♏	Patient not visibly improved by creosote; died June, 1896.	Odor of drug excited extreme aversion on part of patient; could not be persuaded to continue it.
28	M. R.	17	F.	Second, phthisis; Florida.	9 weeks.	5 weeks.	15 ♏	Disease pursued a steady downward course; patient died after 9 weeks of treatment.	
29	J. F.	60	M.	Second	3 months.	3 months.	36 ♏	Excellent; disappearance of symptoms and physical signs and return of weight to normal.	Patient still has an occasinnal coughing effort without expectoration.
30	L. C.	27	M.	First	8 months.	3 months.	16 ♏	Some improvement; a little better at end of 3 months' creosote treatment than at beginning.	Creosote disagreed at beginning of hot weather and had to be discontinued.
31	J. C.	38	M.	Second	3 months.	7 weeks.	25 ♏	No improvement; disease rapidly passed to stage of excavation.	Patient was in extremis when last seen.
32	A. B.	22	M.	Second	7 months.	5 months.	33 ♏	Very good at first; patient gained 11 pounds in weight in 3 months, then began to fail rapidly.	Disease passed into third stage and patient died in June, 1896.
33	L. Y.	32	M.	First	4 months.	4 months.	27 ♏	Patient did badly at first; creosote disagreed; then commenced to improve slowly.	Patient is now taking 27 ♏ of creosote daily with apparent good results.
34	A. S.	26	F.	First	8 months.	3 months.	24 ♏	No improvement under creosote and it was discontinued.	
35	M. K.	23	F.	Second	4 years.	5 months.	16 ♏	Creosote did not check disease, although it progressed very slowly while under its use.	Patient now has large cavity in right lung and is near the end.
36	J. O'D.	34	M.	Third.....	3 months.	3 weeks.	12 ♏	Disease progressed rapidly; patient died August, 1896.	
37	L. O'D.	26	F.	First	6 months.	4 weeks.	12 ♏	No change was observed while taking creosote.	
38	L. B.	36	F.	Second	4 months.	8 weeks.	20 ♏	Now under treatment; disease progressing slowly in the wrong direction.	
39	B. M.	19	M.	First	3 months.	5 weeks.	20 ♏	Patient, now under treatment, is showing some improvement.	
40	T. B.	38	M.	Laryngeal phthisis 1 year; pulmonary 5 months.	2 months.	4 weeks.	12 ♏	Patient has shown a little improvement.	
41	E. W.	35	M.	Third, cavity..	10 weeks.	5 weeks.	24 ♏	Intervals of improvement.	
42	W. A.	25	F.	Second	3 months	.....	12 ♏	No appreciable change can be noted.	
43	R. D.	22	F.	First	10 weeks.	.....	12 ♏	Excellent; patient gaining weight and strength and symptoms disappearing.	
44	C. P.	28	M.	Beginning of second.	5 weeks.	5 weeks.	20 ♏	A little improvement.	
45	W. O'B.	29	M.	Third. cavity ..	2 months.	5 weeks.	16 ♏	Patient sank steadily and died within two months.	Patient's condition exceedingly bad at beginning of treatment.

[1] Reference was made to some of these cases in a paper presented to the New York State Medical Society, January, 1894. MEDICAL RECORD, 1894.

It should be stated that the term "stage" in the table refers to the condition of the disease as represented by the physical signs. The first stage embraces those cases showing the signs of incipient pulmonary catarrh; the second includes those in which more or less consolidation had occurred, while the third stage indicates the cases in which excavation or the formation of cavities was present. All the cases presented the customary histories and subjective symptoms of consumption. Analyzing these cases with reference to the effects produced by creosote, we obtain the following results: Five cases were apparently cured, *i.e.*, there was a complete disappearance of all the symptoms and physical signs of phthisis. Five cases showed marked signs of improvement; eight received some degree of benefit. In thirteen cases no changes whatever were observed in the progress of the disease. Eight subjects died or were moribund when last seen, while the remainder passed from observation before any definite idea of the action of creosote could be formed. None of this latter class was improved up to the time of the disappearance of the patient. Speaking broadly then, we may say that of the forty-five cases under observation, eighteen, or forty per cent. of the number, were improved, while twenty-seven, or sixty per cent., received no benefit. Concerning the five patients apparently cured, the following facts from the table are of interest:

Case I. (No. 2 in table).—Female, aged twenty-one years; was in the second stage of phthisis when first seen. Under observation two years and three months, under creosote two years; reached a maximum dose of sixty-four minims of creosote daily. Average dose, thirty-six minims daily. This patient is still under observation and is apparently in excellent health. She is now taking twenty-four minims of creosote daily as a precautionary measure.

Case II. (No. 6 in table).—Female, aged twenty-eight years; in the first stage when coming under treatment. Kept under observation two months, the last month being under an average daily dose of twelve minims of creosote. There was a quick disappearance of the symptoms and physical signs, and when last seen the patient expressed herself as being as well as ever.

Case III. (No. 10 in table).—Male, aged forty-three years; in the first stage when coming under observation. Under treatment eleven months, all the time under creosote, reaching a maximum of thirty-six minims daily, which was maintained during most of this period. All symptoms and signs disappeared after four months of treatment. Patient is still seen occasionally. He is at work and in good health.

Case IV. (No. 17 in table).—Male, aged thirty-five years, in the first stage when applying for treatment. Under observation ten months, under creosote two months. Maximum dose of creosote twenty-four minims daily. This patient made a good recovery and remained perfectly well for a period of six months. A few days since (October 19, 1896), he applied for treatment for a "cold," which he claimed to have contracted as a result of exposure shortly before. He evidently had a mild attack of bronchitis of the larger tubes, with no indication of a return of the phthisical manifestations.

Case V. (No. 29 in table).—Male, aged sixty years. Had well-marked consolidation when coming under treatment. Under creosote three months; speedily reached the maximum dose of thirty-six minims, which was continued for six weeks. This patient was in a bad condition when first seen. He was suffering from frequent hemorrhages, night sweats, and loss of appetite, and had already lost twenty-four pounds in weight. His improvement was marked and rapid. In three months he regained every pound of his lost weight: the cough, hemorrhages, and night sweats ceased, and the physical signs were reduced to a slight hardening of the percussion quality and some diminution of the breathing sounds over the affected area. The patient was deemed to be entirely well.

It should be stated that some of these cases received cod-liver oil, hypophosphites, iron, etc., from time to time while under treatment, yet creosote was the main reliance and to it were attributed the good results.

Of the five cases receiving marked benefit, two were in the first stage and three in the second stage at the time of the first application for treatment. These cases made excellent progress, and it is believed that at least two of them may eventually be added to the list of cured. Of the eight cases showing a slight but appreciable improvement, we find that four were in the second stage, three in the first, and one in the third stage when first seen. Of the eight who died or were in a dying condition when last seen, four were in the second and four in the third stage of phthisis when coming under treatment. These facts would seem to indicate that the best results from creosote as well as from other forms of treatment may be expected when the treatment is begun early in the disease and that little can be accomplished after the later stages are reached. It was found that the remedy was exceedingly well tolerated even when the larger doses of forty to sixty minims daily were given. No renal symptoms were developed in any case. Yet it was the author's experience that it was seldom necessary to carry the average daily dosage beyond thirty or thirty-five minims, the best results being apparent in most instances when the smaller of these doses was given.

There are numerous methods of administering creosote and the author has no new formula to add to the already very large list. On this question each case must be a law unto itself. In many instances it will be found advisable, or even necessary to vary the method of exhibition. For example, some persons take it exceedingly well combined with cod-liver oil in the form of capsules. If these become nauseous or repulsive, pills may be tried. There are several excellent pills on the market which, according to the author's personal investigation, are easily taken, easily digested, and easily assimilated. As many as fifteen pills daily have been given with gratifying results, each pill representing from one to four minims of creosote. Some patients take without difficulty as much as five or six drops at a dose by merely agitating it in a two or three ounce bottle with a drachm or two of whiskey and an ounce or two of water. Then there are numerous mixtures of creosote with alcohol, gentian, cinchona, rectified spirits, sherry wine, etc.

The clinical results obtained by the author with creosote cannot be classed as brilliant. They do not compare with Sommerbrodt's record of twenty-seven per cent. of recoveries in five thousand cases,[1] nor with Conway's,[2] of over four hundred cases without a disappointment. But they corroborate the general verdict that a certain proportion of phthisical cases is susceptible of arrest and cure, even after a considerable degree of progress has been made by the disease. Any drug that can be shown positively and unmistakably to possess this power, even in a single case of this fatal malady, is deserving of the most reverential consideration by the profession. The author has no hesitation in stating that with an experience of several thousand cases of phthisis, in which perhaps every remedy supposed to be useful in this affection has been tried, he has found none which exerted the influence shown by creosote. Nor does the writer believe that any other remedy or combination of remedies will

[1] Centralb. f. Therap., x., 225. Also, Therapeut. Monatsh., iii.
[2] Loc. cit.

produce a favorable influence and appreciable improvement in forty per cent. of cases.

The foregoing review of the literature of creosote, together with his personal experience with the remedy, leads the author to formulate the following conclusions:

1st. Although the human race continues to sicken and die of pulmonary tuberculosis, it is the consentaneous voice of the medical profession, as shown by reports gathered from all parts of the world, that we have in creosote a remedy capable of arresting a certain percentage of cases.

2d. This drug should therefore be administered carefully, systematically, and continuously in every case of consumption, provided it is well tolerated and there is no contraindication or idiosyncrasy as to its action.

STAB WOUND OF THE HEART AND PERICARDIUM—SUTURE OF THE PERICARDIUM—RECOVERY—PATIENT ALIVE THREE YEARS AFTERWARD.

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The following case is deemed of sufficient importance to be reported three and a half years after its occurrence. The writer's illness about the time of the patient's recovery and a change of duties to his present position have prevented previous publication.

James Cornish, an expressman, aged twenty-four years, during an altercation received a stab wound through the fifth costal cartilage, injuring the internal mammary vessels and wounding the pericardium and heart. The kind of knife and length of blade could not be determined from the patient.

He was admitted to Provident Hospital, Chicago, July 9, 1893, at 7:30 P.M., with a stab wound about one inch long, three-fourths of an inch to the left of the sternum, through and in the long axis of the fifth cartilage. A probe recognized only a superficial wound, but during the night there were such persistent

hemorrhage, pain over the cardiac area, short, sharp, shrill cough, and such pronounced symptoms of shock that a re-examination the following morning showed that the knife had penetrated the fifth costal cartilage in its long axis, at least far enough to wound the internal mammary artery and veins. When the knife had been withdrawn the elastic cartilage closed behind it, pre-

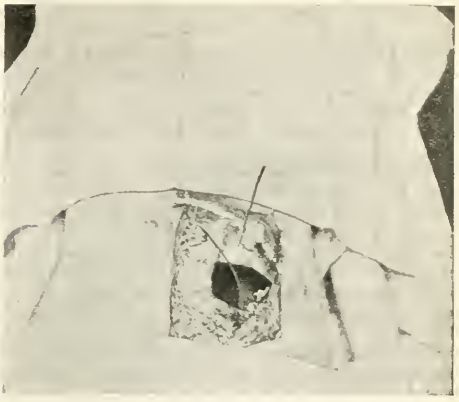

Fig. 2.—Experiment on Cadaver, Showing Ligation of Internal Mammary Vessels.

venting the introduction of the probe the night previous. It was found later on that it was impossible to introduce a piece of cardboard or paper into or through this slit made by the knife.

The accompanying sketch shows the method pursued in ligating the internal mammary vessels as well as the dissection made in approaching the pericardium. In some examinations made afterward to study the relations of the pleura to the sternum and cartilages, it was found that a knife blade introduced through the fifth costal cartilage three-fourths of an inch to the left of the sternum would sever the internal mammary artery and pierce both layers of the pleura; the opening on withdrawing the knife would, however, reclose, valve-like, preventing the entrance of air into the thoracic cavity. The lung would remain in contact with the thorax. On resecting the cartilages and permitting air to enter, the lung collapsed somewhat and receded some distance from the anterior chest wall. The heart also gravitated backward, so that the distance of the pericardium from the anterior chest wall was greater than before the air had entered the cavity. To reach the pericardium, therefore, during life by an incision large enough to enable one to operate, would unavoidably permit the entrance of air, and the depth of the pericardium and heart from the surface by reason of this opening would increase the difficulties of operation. These difficulties were encountered in dealing with this case. It was shown during these investigations that it was impossible to reach the pericardium without piercing both layers of the pleura. This left pleural cavity slowly filled with bloody serum, which was not infected with pus organisms. This was proven by the removal of eighty ounces of bloody serum three weeks afterward without any serious disturbance, local or constitutional. To this absence of infection is probably attributed the successful progress and termination of the case.

Operation.—On the morning following admission there were present Drs. George H. Hall, Howard C. Chislett, E. E. Barr, William E. Morgan, and William Fullar. The original wound was lengthened to the right as far as the middle of the sternum. A second incision was made from the centre of the first and carried over the middle of the cartilage and fifth rib, about six inches in length. The sternum, cartilage,

and about one inch of the fifth rib were exposed. The cartilage of the fifth rib was separated at its junction with the sternum and at a point two and one-half inches from the sternum and one-fourth of an inch from its attachment to the rib. The inferior attachments of the incised piece were separated, leaving the superior ones in place. The incised piece was reflected upward, making an opening about two inches long and one and one-half inches wide, bringing the internal mammary vessels into view. These vessels were ligated above and below with small catgut. This large opening permitted easy ligation and manipulation. To secure additional room an incision was made in the fifth intercostal space. The heart and lung being depressed backward, a small punctured wound of the heart, about one-tenth of an inch in length and about one-half of an inch to the right of the right coronary artery, between two of its lateral branches, was seen. The wound in the pericardium was about one and a quarter inches in length. There was no hemorrhage from the heart or pericardium. The edges of the pericardium were held by long smooth forceps, and a continuous suture of fine catgut was made. Before the pericardial wound was closed it was irrigated with normal salt solution. The temperature was 100° F. Catgut was used in closing the intercostal and subcartilaginous wounds and silkworm gut in the cartilages and skin. A few silkworm-gut sutures were left long in the external wound, so as to permit easy removal, in case it should be necessary, on account of infection or hemorrhage. A dry dressing was applied.

As proven by the result there was no cardiac, pericardiac, pleural, or wound infection. The accumulation of bloody serum in the pleural space was the natural result of an extensive operation, gravity drainage in the direction of the least resistance. It seemed a wise provision that the fluid did drain into this space where it could do the least harm and where was the easiest place to get at it and remove it. Draining into this space kept the wound dry, a most favorable condition for primary healing.[1]

History following operation. First twenty-four hours: Highest temperature, 103° F.; pulse, 130, thin and weak; some pain in the region of the wound; slept six hours without anodynes.

Second twenty-four hours: Highest temperature, 102° F.; pulse, 134, weak and thready; slept four hours; paroxysms of coughing followed by hiccough lasting three hours; some pain in the region of the diaphragm.

Third twenty-four hours: Highest temperature, 103° F.; pulse, 118; slept eight hours; vomited at intervals; some pain in the wound.

On the evening of the fourth day the temperature was 99° F.; pulse, 96. From this time until the fifteenth day the temperature was below 100° F.; no notable symptoms were manifested. Daily observations were made of the heart and pericardium.

On the seventh day he complained somewhat of pain in the right thorax; result of examination of this side negative. On the left side flatness extended up to the third intercostal space in the axillary line. Vocal sounds, respiratory sounds, and vocal fremitus were absent. The lower intercostal spaces bulged; the left side measured one and one-fourth inches more than the right side; the cardiac area was increased; the heart sounds were muffled and distant. Diagnosis of probable pericarditis with effusion (purulent) was ventured. Positive diagnosis of effusion into the left pleural cavity was made on this date. The question arose as to whether there was an accumulation of fluid in the pericardium, but this could not be proven until the fluid in the pleural cavity was removed.

The patient continued to improve until July 27th, when Dr. Stanley P. Black, attending physician to Provident Hospital, saw him and left the following statement on the chart:

"July 28, 1893.—Dulness over the left side, anteriorly and laterally, as high as the third intercostal space. Cardiac area enlarged over lower portion.

"Auscultation: Heart tone muffled; no friction sounds; lungs, left and right, high pitched; prolonged expiration, more marked on the left side. Inferiorly at left side at extreme edge of lung a few fine crepitant râles on deep inspiration; posteriorly, lower edge of lung, friction sound.

"Conclusion: Pericarditis with effusion. Pleuritis sinister minimal."

Operation was done, August 2, 1893, for the removal of fluid from the pleural space, by incision in seventh intercostal space two inches long, parallel to the ribs. Eighty ounces of bloody serum were removed. Infection of the pleural cavity was prevented by allowing the fluid to flow under several thicknesses of wet sterile gauze. The gauze was kept wet by a stream of water playing on it. If the pressure from within is greater than the atmospheric pressure, this is all that is ever necessary to prevent the invasion of infection in emptying a cavity. Adhesive straps were applied to this side of the chest from the armpit to the eleventh rib. Following this operation there was nothing worthy of note. The patient left the hospital well, August 30th.

The writer saw him at work in the Union Stock Yards, Chicago, two years afterward. Dr. E. E. Barr saw him in December, 1896, more than three years afterward, and reports him well.

"Experiments have been made on the lower animals to determine the feasibility and usefulness of sutures of the heart and pericardium. Philippov[1] experimented on dogs and rabbits with various results. Del Vecchio[2] experimented on dogs and concluded that suture of heart and pericardium was practicable in the human subject."

"Ferrarresi[3] reports the case of a woman who was stabbed, the left internal mammary artery being severed at the level of the fourth cartilage. He resected from the third to the fifth cartilages to reach the internal injury, and, as in his opinion the woman's condition did not warrant suturing the heart, he sterilized tampons, lightly compressing the heart and stopping the bleeding. She recovered. He seems to prefer the tampon to the suture."

"As showing the curability of heart wounds, Turner[4] reports the case of a young man who received a horizontal incised wound over the left fifth cartilage, the cartilages being slit one and three-fourths inches; the red blood spurted and air hissed out in each heart-beat or respiration; the pleura rapidly filled with blood."

The man lived four and one-half months, the first discharge of blood changing to sero-sanguineous fluid and then to purulent; the left pleura became a pus cavity. This cavity was opened and discharged by resecting the fifth rib posteriorly. The man at once improved but eventually died, as stated, and of "extracerebral apoplexy." The necropsy showed the left lung collapsed, pleura adherent to pericardium; the pericardial and cardiac wounds were cicatrized; the wound in the heart was three-fourths of an inch long, horizontal, and penetrated into the intraventricular septum five-eighths of an inch; the left coronary artery had been divided.

[1] The white squares seen at either end of the wound mark the limit of the incision.

[1] Russ. Med., St. Petersburg, 1886, iv., p. 187.
[2] Rif. Med., April, 1895.
[3] Gazz. Med. di Roma, 1896, xxii., p. 29.
[4] Brit. Med. Jour., 1896, ii., p. 1,440.

Dr. Elkton, in an instructive article in a German medico-legal journal, emphasizes the fact that with all the modern methods of examination it is extremely difficult to diagnose wounds of the pericardium and heart. "There are no pathognomonic symptoms; the diagnosis must be arrived at from analysis of all the symptoms." [1]

Moullin, page 862, under wounds of the heart, mentions that on "one occasion I attempted to close the wound in the pericardium with suture," and ends without saying why he did not proceed further.

In the great number of wounds of the heart and pericardium the aseptic tampon has been the means of controlling hemorrhage and preventing infection, in all successful cases.

The Index Catalogue and Medicus of the National Medical Library, surgeon-general's office, Washington, D.C., do not give a single title descriptive of suture of the pericardium or heart in the human subject. This being the fact, this case is the first successful or unsuccessful case of suture of the pericardium that has ever been recorded.

By the courtesy of Dr. D. S. Lamb, pathologist of the Army Medical Museum, I was enabled to examine all of the specimens of pericardial and heart wounds in the museum. In none was there any history of operation.

THE TREATMENT OF TRIGEMINAL NEURALGIA.[2]

By WILLIAM M. LESZYNSKY, M.D.,

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WHILE deliberating upon the selection of a suitable topic which might be of interest to the general practitioner, I was consulted by a young woman who had been a sufferer from trigeminal neuralgia for a number of years, and had obtained very little or no benefit from the medical treatment she had received.

The observation of this case (which will be referred to later) hastened my decision. I shall therefore ask your attention to "The Treatment of Trigeminal Neuralgia," which I trust will prove of sufficient interest to merit your careful consideration. At the outset I should like to have it clearly understood that, as this paper is based upon the results of personal clinical experience, I shall endeavor in the limited time allotted to me to confine my remarks almost exclusively to the methods that have proved most serviceable and satisfactory in my hands. Much that I might say to you must be left unsaid, as this is neither the time nor place to indulge in a lengthy dissertation or a tedious narration of the views of others.

Trigeminal neuralgia is of comparatively frequent occurrence in the routine work of the general practitioner. It also comes within the scope of the ophthalmologist, laryngologist, and dental surgeon. The neurologist generally sees these patients after the disease has existed for a long time, and occasionally when complications are present.

The term "neuralgia," which means simply "nerve pain," should be restricted to the cases in which the malady consists only in functional disturbance. While the usual type of this affection may be looked upon as idiopathic in the vast majority of instances, the more severe form, known as tic douloureux or epileptiform neuralgia (which generally occurs after forty years of age, and in old people), may be considered as degenerative. In order to avoid repetition, I shall discuss them as one condition, although the latter is probably dependent upon changes in the nerve itself. It is obviously unnecessary to enter into a detailed description of the symptomatology, with which you are all more or less familiar, or may read at leisure.

Of all the peripheral nerves, the trigeminus or its branches is most frequently the seat of neuralgia. We are thus reminded that it is the largest cranial nerve, that it is a nerve of special sense, of common sensation and motion, and that it is the great sensory nerve of the head and the motor nerve of the muscles of mastication.

The diagnosis of trigeminal neuralgia rests mainly upon the following points (Erb):

1. That the pain is limited to a definite nerve path, either trunk, branch, or area of distribution, and that it is usually confined to one side.

2. That the pain is, without any obvious reason, either intermitting or at least distinctly remitting in character.

3. That the pain presents very peculiar characters, and is extraordinarily acute.

4. That there are certain spots in the course of the nerve or in the area of its distribution which are very sensitive to pressure.

5. That the pain is associated with sensorimotor, and vasomotor, and secretory phenomena.

6. That the pain is unaccompanied by any inflammatory or local symptom.

Each division of the nerve or its branches may be independently affected, or all branches may be involved simultaneously.

Certain diseases seem at times to possess a predilection for certain branches. Thus, the supraorbital nerve is affected more frequently after infections such as grippe or malaria; the superior maxillary nerve from defective teeth, particularly the molars. In neuralgia of the auriculo-temporal branches, the pain is sometimes limited to a narrow stripe extending over the vertex from ear to ear, and is often occasioned by syphilis. An irritative process in the pons, involving the sensory root of the nerve, may be the cause of severe trigeminal pain. The diagnosis of such a lesion can be made only in the presence of associated symptoms of cerebral disease.

Neuralgia of a persistent character, affecting particularly the first branch, may be due to errors of refraction or other ocular defects, intra-nasal disease, or disease in the frontal sinus, or it may result from exposure to cold.

In this connection I must briefly mention a very important clinical fact not referred to in text-books. It is that the severe pain over the eye and forehead, occurring in acute inflammatory glaucoma has at times been mistaken for neuralgia, the patient treated accordingly, and the error discovered too late to save the eye from irreparable damage.

It will thus be seen that when investigating the cause of the neuralgia, our chief aim should be to ascertain as far as possible whether it arises from an affection of the nerve alone, or from an abnormal condition of the tissues or organs in immediate relation with the nerve in any part of its course, or from a morbid state of the blood and secretions generally.

The latter element is of paramount importance, and in many cases (in addition to a neuropathic heredity, which is often a predisposing factor) is the underlying constitutional cause.

It may be an autotoxæmia, resulting from constipation or other disturbances in the gastro-intestinal tract, a gouty or rheumatic diathesis, a previous syphilitic infection, or existent diabetes, or chronic renal disease, etc. Syphilis may also set up a gummatous periostitis in the narrow canals, making pressure on the nerve as well as interfering with its circulation. Overwork,

[1] Int. Journal of Surgery, August, 1893.

[2] Read before the Harlem Medical Association, February 3, 1897, and the Practitioners' Club of Newark, N. J., March 1, 1897.

constant mental strain, anxiety and worry, sexual or other excesses, or anything else which reduces the vitality and nutrition are more or less potent in the causation of this painful affection.

The future welfare of the patient and the early control of the disease rests mainly with the general practitioner, who sees these cases in the earliest period of their development. A patient thus complaining of facial pain should be carefully examined, and the source of the trouble eliminated as soon as practicable. This is possible in almost every case. It behooves you as medical practitioners to be very thorough in your examination, especially of patients in the middle period of life. Even when the pain is slight, it should not be neglected and looked upon as trivial. The paroxysms of pain involving the lower branches of the nerve are at times accompanied by tonic spasm of the facial muscles, and quite regularly by vasomotor and secretory disturbances. Such a painful condition, if it persists, interferes with the various functions of the body, and nutrition becomes materially reduced, partly on account of the pain excited by mastication, and partly by the prevention of sleep. It also occasionally leads to mental disturbance, such as depression or even melancholia. Only those who have witnessed the excruciating and uncontrollable agony manifested during a paroxysm of tic douloureux, when the disease is fully developed, will appreciate the gravity of the affection. It is not at all surprising that such patients have sometimes been driven to suicide.

At first our attention should be directed to the mitigation of the pain, this being the urgent and obtrusive symptom. The cause must then be sought and removed if feasible, and the physical and mental condition studied, with a view toward improving the general health.

When we consider that the neuralgia is generally the result of constitutional causes, which have disturbed the stability of the nuclei or nerve centres, or interfered with the nutrition of the nerve, we can readily comprehend the futility of basing our entire management of the case upon symptomatic treatment of the pain alone. And yet this is of common occurrence.

I have observed the inflexible rule, never to institute systematic treatment until the teeth are pronounced in good condition by a competent dentist. Apparently healthy teeth may have exostoses or other disease at the roots, and thus be the cause of the pain. The practice, or rather malpractice, of extracting healthy teeth is only mentioned to be condemned. Experience has taught me that very few of these patients who consult the neurologist have escaped this unwarranted mutilation. The stereotyped statement familiar to our ears is: "I have had a number of (or all) teeth extracted, but the pain continues just the same." On the other hand, old and middle-aged people who have had diseased teeth extracted, are sometimes attacked by a very severe neuralgia of the toothless alveolar processes. It has been assumed that this is caused by pressure on the torn nerve filaments by the newly formed bony tissue.

One of the most essential therapeutic measures is rest of the muscles of mastication and articulation, and quite often complete bodily rest in bed. This can usually be accomplished by forbidding conversation and the use of solid food. The latter may be replaced by fluid or semifluid food, such as milk, eggs, meat juice, beef pulp, etc. Rest and nourishment are equally as important in neuralgia as in other affections of the nervous system. In the beginning of treatment it has been my custom to instruct the patient to have the food either poured into the mouth and swallowed while recumbent, or to draw it into the mouth through a glass tube. In some cases even this procedure is too painful. In two instances the patients were successfully fed by means of a nasal tube for nearly two weeks.

One of these was a druggist, forty-eight years of age, who consulted me about five years ago. He had long been a sufferer from trigeminal neuralgia, which had gradually developed into a genuine tic douloureux. When I first saw him, the paroxysms recurred every ten or fifteen minutes during the day, and every half-hour at night. It was impossible for him to chew his food, and he therefore bolted it. The slightest touch upon the face by the finger, the contact of the handkerchief in blowing the nose, or of food in the mouth, would at once excite an attack. The nasal mucous membrane was so sensitive that a soft nasopharyngeal tube could not be inserted without a preliminary application of cocaine. Food and medicines were thus administered for nearly two weeks, with the most remarkable benefit. Under the use of aconitia, in conjunction with rest and good feeding, the attacks rapidly diminished in frequency and severity, and at the end of a week the paroxysms occurred only every hour, and subsequently every three or four hours, until at the end of six weeks he was practically well. It is hardly necessary to mention that such active measures are not required in all cases, but that the means for relief must be adapted to suit the individual.

Relapse is not at all infrequent, and may result from various exciting causes, or be due to the sudden or ill-advised discontinuance of all medical treatment. Hence the subsequent management of these cases requires serious consideration.

Such patients should be kept under medical supervision and direction for a long time after all pain has subsided. It is well to bear in mind that remissions occasionally occur spontaneously, and sometimes a neuralgia that has occurred at intervals for many years gradually ceases as age advances.

The drugs that have been utilized and recommended for the pain are legion, and I will not attempt to enumerate them. While some have survived the tests of careful clinical investigation, the majority have fallen by the wayside and will ultimately pass into oblivion. Among those that have proved indispensable in my experience are morphine, opium, aconitia, the various coal-tar derivatives, cocaine, and nitroglycerin. Quinine, arsenic, and the fluid extract of ergot are all exceedingly useful and remarkably beneficial in neuralgia of a periodic character. There are other drugs and remedial agents that are curative in neuralgia of other parts, but as they are not applicable in this class of cases I have refrained from mentioning them. Neuralgia of the supraorbital branch of malarial origin promptly subsides under the administration of quinine or Warburg's tincture. At least ten or fifteen grains of quinine should be given morning and evening for five or six days. Smaller doses are generally useless. This is preceded by a cathartic dose of calomel, and followed by the use of Fowler's solution of arsenic three times a day, in doses of from three to five drops well-diluted. This should be continued for a few months, unless there is some contraindication. Permit me to mention the following as one of many similar illustrative cases.

Mrs. M. H——, forty years of age, married, has nine children. For the last fifteen years she has had frequent attacks of neuralgia at varying intervals, and always affecting either the right or left supraorbital region. She never vomits. She was seen by me for the first time on January 5th. During the preceding ten weeks and up to the present, there has been severe continuous pain, affecting the left supraorbital region. The attack begins daily at 7 A.M., gradually subsides by noontime, and then disappears, only to return

promptly the next morning. She sleeps well: has never had attacks of "chills and fever." Bowels have been active, as she has taken Rochelle salts daily for many weeks. The pain is getting worse.

On examination the pulse is feeble but regular, and the temperature normal. There is exquisite tenderness over the left supraorbital nerve, and slight tenderness over the right. Examination otherwise negative.

I ordered ten grains of quinine, to be taken night and morning. After the first dose the pain did not appear until noon of the following day and lasted only a few hours. She has had no pain since, but is still under observation. At the end of the first week the dose was reduced to five grains. The blood was not examined.

Opium or morphine is usually the drug *par excellence* for the relief of pain. In neuralgia the judicious use of morphine is preferable, but it should not be employed until other means have failed, excepting to tide over a period of acute suffering, while other measures are being adopted. There are several serious objections to its use, however—the disturbance of the digestive organs and the probability of the "morphine habit" being engendered.

When other methods of treatment have been unsuccessful after a fair trial, I have not hesitated under suitable conditions to order its subcutaneous administration in sufficient dose to insure absolute freedom from pain. The patient should be kept in bed under constant observation, and the general nutrition improved as rapidly as possible.

One of my patients, a woman, fifty years of age, free from evidence of organic disease and a sufferer from this malady, had tried all forms of medical treatment, including aconitia, galvanism, etc., for nearly four years, with comparatively little benefit. She weighed one hundred and eighteen pounds, and her general nutrition was poor. She was kept in bed for over six weeks. During the first three or four days she required six injections daily (given in the arm or thigh), each containing one-sixth of a grain. She was not aware that morphine was being administered. This was gradually diminished, until at the end of four weeks she was receiving but two injections daily, and two weeks later it was discontinued. The pain decreased as her nutrition improved. At the end of three months she weighed one hundred and thirty-five pounds, and made a complete recovery. I saw her a number of times subsequently for about a year, but there had been no return of the pain.

The morphine may often with advantage be injected at the seat of the pain. We need feel no apprehension regarding the "morphine habit" in old people who suffer from tic douloureux, and have obtained no relief by other means. It seems to me that under such circumstances the "morphine habit," if it relieves the patient's pain, is an acceptable substitute for the "pain habit."

The various coal-tar products, such as acetanilid, phenacetin, exalgin, and antikamnia, are more or less useful in mitigating or stopping the pain, but should be utilized only as a temporary expedient, as their continued employment is likely to depresss the vitality by causing anæmia.

The only form of aconitine that has proved exceptionally valuable in my hands is the crystallized aconitia of Duquesnel. This is a very powerful drug, and should be used with caution. Merck's aconitine is less reliable and much feebler in its action, and, on the whole, unsatisfactory as compared with Duquesnel's preparation. In cases that have resisted other forms of treatment, this drug is remarkably efficacious. At first one-three-hundredth of a grain should be given two or three times a day, in order to ascertain if any idiosyncrasy exists.

Women seem to be more susceptible to its influence than men. It may then be given in doses of one-two-hundredths of a grain every three or four hours, preferably when the stomach is empty, and increased according to indications. It is desirable that some of the physiological effects be obtained, such as numbness of the tongue and fingertips. The difference in the action of these two preparations was forcibly brought to my attention a few years ago.

The patient was a bookkeeper, forty-five years of age. I prescribed Duquesnel's aconitia in pills containing one-two-hundredth of a grain, and while taking this dose every three hours he felt very much better. Later, as it became necessary to increase the dose, pills of one-one-hundredth of a grain were ordered, four of which were to be taken daily. Having followed my instructions, he returned in four weeks, asking for a new prescription, so that he could more conveniently get the medicine in his own neighborhood. In order to be more certain that he should receive the genuine preparation, I wrote for pills of one-two-hundredth of a grain, and directed him to take two at a dose. He did not begin the latter until the following morning. At noon I was hastily summoned, and found him in bed, profoundly collapsed and apparently about to expire, with alarming symptoms of aconite poisoning. He had taken one dose at 7 A.M., and another at 11 A.M. With difficulty his life was saved. Upon investigation I discovered that the first druggist had substituted one-one-hundredth of a grain pills of Merck's aconitine, and these the patient had been taking for nearly four weeks, without any improvement in his condition. The last druggist had furnished what was ordered, and thus his system was at once overwhelmed by the doses of one-one-hundredth of a grain of Duquesnel's aconitia. Further comment on the subsequent events in this case is obviously unnecessary.

Cocaine has been injected into the tissue of the alveolar process, and also into the face, but its toxic effects are occasionally so rapid and alarming that I have discarded its use in this manner. In certain individuals it seems to possess some special danger when injected about the head. In some patients the pain is temporarily relieved by the use of cocaine introduced into the tissues of the face by aid of the galvanic current. This procedure is known as anodal diffusion or electric cataphoresis.

A small electrode, connected with the positive pole of the battery, is either dipped into a solution of cocaine, or a small disc of white filter paper saturated with the desired dose is attached to the electrode and applied over the seat of pain. The skin should previously be washed with a little alcohol or chloroform, in order to remove any sebaceous matter. The current is then used in the manner described in the paragraph on the use of the galvanic current. A special electrode has been constructed for this purpose, and other drugs have also been similarly used.

Nitroglycerin, either in solution or in the form of tablets, has often been serviceable, particularly in patients who are over forty years of age, without regard to any marked evidence of increased arterial tension, as indicated by the radial pulse. When the latter condition is present, it is always valuable as an adjunct in the management of these cases, due recognition being given to the cause of the increased blood pressure.

In intractable cases that have resisted other forms of medication, the injection of sulphate or muriate of strychnine into the tissue of the face on the affected side has met with considerable success in a few instances. A daily injection is given, the dose at first being one-thirtieth of a grain. This is gradually augmented to about one-fifth of a grain, or until intolerable physiological symptoms are produced. One of my

patients recently received one-sixth to one-fifth of a grain daily for a week, which resulted in temporary relief, but was discontinued on account of rigidity and cramp in the cervical and calf muscles. This form of treatment should always be accompanied by rest and the administration of abundance of nutritious food.

Iodide of potassium in increasing doses, in conjunction with the administration of aconitia, has been the means of relieving and also curing quite a number of otherwise intractable cases. Just as large doses of quinine are sometimes effectual in non-malarial cases, so iodide of potassium has proved remedial in the absence of all evidence of syphilis.

I have often found galvanism exceedingly serviceable in diminishing or abolishing the pain, especially in early cases. The current strength may range from five to ten milliampères, and the *séance* last from five to ten minutes daily, or twice a day if indicated. It is essential that a rheostat and meter be included in the circuit. The current should be very slowly increased from zero to the amount desired, and allowed to flow at the same degree without interruption, until the time for cessation, when it should be gradually decreased until zero is reached, before the electrodes are removed from the skin. I have been accustomed to apply the positive pole over the painful area. The induction current from a static battery, applied directly to the face, has in two or three cases produced considerable amelioration.

If a local cause of the pain is discovered and seems removable, this should be accomplished without unnecessary delay. Consequently it often becomes imperative to seek the counsel and assistance of the ophthalmologist, laryngologist, or dental surgeon, whose special qualifications make their services of inestimable value, both to the attending physician and the patient.

The importance of studying the habits and constitutional condition has already been referred to, but is deserving of emphasis. Whatever is ascertained must receive the careful and methodical attention that its nature demands. I shall not dwell any further upon this matter, as such details in general management may usually be left to the good judgment and discretion of the practitioner. In this connection let me call to your notice the case which prompted the writing of this paper.

Miss J. L——, twenty-seven years of age, consulted me for the first time on the 20th of last October. Four years ago she began to have pain in the right side of the face, with intervals of abatement for three or four weeks. Within the last two years and up to the present time, it has been constant. The pain is limited to the distribution of the second and third branches of the right trigeminus, extending to the tip of the tongue and the chin. Paroxysms occur every ten or fifteen minutes, and are accompanied by a profuse flow of saliva, which terminates the attack. The pain is excited and increased by talking, eating, blowing the nose, etc. It also occurs during the night and disturbs sleep. She complains of constipation and flatulent dyspepsia. Menses are regular. Although six teeth have been extracted from the right lower jaw, the pain has persisted. There is no history of rheumatism, syphilis, etc., traumatism, or exposure to cold, to account for the origin of her trouble. She had been advised to have the nerves removed by surgical operation.

Upon examination the paroxysm is produced when pressure is made over the toothless alveolar processes. There are no other painful points. The tongue, which is protruded well, is tremulous, thickly coated, and a few superficial ulcers are seen on the border of the right side. The breath is very offensive. Stomatitis, which has existed for many months, is quite pronounced. The gums are tender and soft, and bleed readily upon the slightest touch, the condition being very suggestive of a scorbutic gingivitis. The saliva shows a distinctly acid reaction. Pupils and ocular fundi normal. Pulse, 76 and regular, but somewhat weak. Heart's action and other organs normal. Examination of urine negative.

The mouth was cleansed and a one-per-cent. solution of nitrate of silver applied daily. An alkaline, antiseptic mouth wash was used every half-hour, and absolute cleanliness enjoined. Subsequently peroxide of hydrogen was applied, and later an astringent solution. She was instructed to avoid unnecessary talking and to have fluid diet only, consisting of milk, eggs, meat juice and pulp, and the juice of two lemons daily. She also received maltine with cascara sagrada, and later this was changed to one drachm of phosphate of sodium in solution on arising. The galvanic current was applied daily. After three days she slept well every night, and at the end of a week she had only occasional pain during the day. The tongue gradually cleared and the stomatitis subsided. She is still under observation, and is very much improved.

This case, it seems to me, clearly illustrates the advantage of careful and systematic treatment. Such prompt relief without the use of anodyne drugs is not at all unusual, when local measures are supplemented by judicious management of the general health. This young woman had previously obtained no relief from symptomatic remedies, and her physician had consequently advised surgical intervention.

Just here let me say a few words regarding the recklessness and unwarranted haste in advising surgical operation upon the nerve. I regret to admit that within a few weeks several cases have come to my notice, and many others in recent years, in which, the patient demanding relief and the physician either becoming impatient or discouraged, surgical measures have been recommended, although the duration of the affection was but six or eight weeks.

There seems to be a deeply rooted opinion that in all cases that have resisted the canonical forms of medicinal treatment, recourse must be had either to operation upon the deep branches of the nerve, or excision of Meckel's or the Gasserian ganglion, or to the systematic use of morphine to make life endurable. Before advising or consenting to surgical operation, I must feel satisfied that suitable thorough and persistent treatment has proved ineffectual under competent observers. As there is possibility, nay, even great probability of relief in most cases of tic douloureux and chronic trigeminal neuralgia without surgical operation, the latter should be seriously considered only as a *dernier ressort* or after all available resources have been exhausted.

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Diagnosis of Carcinoma of the Breast in Its Early Stages.—Dr. A. Marmaduke Shiel, in a clinical lecture on this subject, emphasizes the following points: (1) The age; the most likely age is between forty and forty-five. (2) The character of the pain, which is neuralgic, not throbbing, and is not accompanied by heat or redness. (3) The onset is insidious. (4) The contour is rarely globular: usually it is obtuse or irregular. (5) The hardness is stony, and is one of the most striking and reliable characteristics of scirrhus. (6) The growth does not move in the breast substance, but moves with it. (7) Retraction of the nipple is an important symptom, but it may be absent. (8) The dimpling of and the pig-skin-like condition of the skin are of the utmost value. (9) The presence of enlarged glands is important, but their absence is not proof that the disease is innocent.—*International Medical Magazine.*

RESULTS OF (CHEMICAL) ELECTROLYSIS VERSUS DIVULSION OR CUTTING IN THE TREATMENT OF URETHRAL STRICTURES.[1]

By ROBERT NEWMAN, M.D.,

NEW YORK.

The writer has practised with success electrolysis in the treatment of urethral strictures just thirty years; he reported his first cases in 1872, and established his improved method with appropriate electrodes in 1874. Among his first followers was Dr. John Butler, of this city, who, like many others, used a too strong electric current. The same gentleman constructed a new instrument for electrolysis, which acted partly like a divulsion, and soon was given up by him. Dr. Butler has described his instrument in the *American Journal of Electrology and Neurology*, New York, vol. i., No. 2, October, 1879, p. 95. On examination the instrument will be found almost identical with that of Fort, of which he says himself: "I invented and have been using the electrolyzer for the last fifteen years, or, in other words, since 1881."[2] Butler's instrument consists of a hollow tube, entirely insulated, having a slot, in which are concealed one or two wires, which can be made to separate or protrude, so as to form an ellipse, by turning the nut from left to right. This ellipse, owing to the great flexibility of the wires, adapts itself to the shape of the stricture. There is a groove and eyelet in the tip *b*, to allow the use of a filiform guide. He had some made short and straight for operating on the dependent portion of the urethra; and still others with one active wire, the one not intended to be used being insulated.

Now let us examine Dr. Fort's electrolyzer. It differs from Butler's instrument only in the projecting platinum blade near the tip, which is fixed permanently and cannot be regulated to adapt itself to the size of the stricture. The same projection is used for every stricture, no matter whether the calibre is small or large. Neither instrument can be used in strictures of small size, as it is necessary for the tip to enter the stricture—which tip is about like a No. 12, French scale. As the size of the instrument at its projecting blade is equal to a No. 23 French, the operation must necessarily make an enlargement from at least No. 12 to No. 23—which is a difference of eleven numbers. This objection, however, can be obviated by having instruments of different sizes. Dr. Fort says, in the same article quoted above: "The operation, as a rule, lasts from twenty to thirty seconds." In a former paper, he states that a galvanic battery is used with a current of at least ten milliampères, but omits to say what the strongest current he may use is. Now the question arises, Can a current of ten milliampères for thirty seconds enlarge a stricture eleven numbers, or even less, by electrolysis, or is the enlargement due to the force used, thereby being a divulsion? To ascertain what electrolysis really does, two experiments were made.

Experiment I.—A solution of iodide of potassium was divided in two equal parts. One part was submitted to Dr. Fort's procedure, a current of ten milliampères for thirty seconds, and the result you see here in this bottle marked "A." The other part was treated in the same way by five milliampères for ten minutes, the treatment at one *séance* for stricture by the author's method. Bottle marked "B" shows the result.

Experiment II.—On a mucous lining of a pig's bladder Fort's instrument was used, with a current of ten milliampères for thirty seconds; the result you will find here marked "C." On another part of the same mucous lining five milliampères were used for ten minutes, the writer's method; the result is marked "D." This experiment is made only to show that the electrolysis used does not burn or destroy tissue. Electrolysis used on a healthy mucous lining is not intended to prove the action on a stricture, which is a pathological condition of the mucous lining.

Patents of Instruments by Physicians.—Reliable information reports that Dr. Fort has patented his instrument. It is still a mooted question whether the present rule of the medical code in regard to the patenting of instruments is just. A true humitarian gives his invention free to the millions. He may be bothered in many ways. Competition of instrument-makers will soon throw an inferior article on the market, with the name of the inventor, a lower price, and probably with a so-called improvement by the instrument maker. The good manufacturer cannot sell his superior instrument, the article sold is bad, and the inventor cannot recognize his own child; it will not fulfil its requirements. This inferior instrument will bring the operation of the inventor into discredit, and the whole work of the inventor is soon condemned by the profession. Still worse, an enterprising manufacturer patents a good invention, and prevents the real inventor, who thought that the code of medical ethics made him a benefactor of humanity, from using his own instrument. It seems that the code needs an amendment to protect an inventor, so that he can guard against the falsification of his own instrument, without really gaining by the manufacture of the article. An inventor wants to see that his ideas are carried out by the manufacturer in making a good instrument. This will protect his reputation, without yielding him any profit.

Dr. R. W. Taylor's Remarks.—On November 12, 1895, at a meeting of a section at the New York Academy of Medicine, Dr. Robert W. Taylor, in introducing Dr. J. A. Fort, of Paris, made several statements as follows:[1] "I need not say anything about the fallacies and want of success of the method of electrolysis which has been in use in America for many years. In Newman's method of electrolysis, the instrument, with a round, olivary tip, was passed down the stricture, and the mucous membrane was burned away as well as the stricture."

Why Dr. Taylor has made such misleading statements is difficult to understand. To explain again the theory and practice of electrolysis in the stricture of the urethra, and thus show how incorrect Dr. Taylor's statements are, is one reason for preparing this paper. In December of 1890 the writer had the honor to read a paper before this association, on "Twenty Years' Retrospect in the Treatment of Urethral Strictures by Electrolysis," which was published in the *Journal of Electro-Therapeutics*, New York, January and February, 1891, describing the method and the success of that treatment. Remarks as quoted above prove, however, that some of the profession do not understand the modes advocated, making it an imperative duty in this paper to elucidate again the theory and practice of electrolysis.

The Theory of Electrolysis.—Electrolysis as a chemical action is an acknowledged fact since 1800; the theory can be found in any text-book on elementary physics and chemistry. Electrolysis is the decomposition of a compound body by electricity—a chemical decomposition. "Thus, since an ampère is a current of one coulomb per second, and each coulomb of electricity passing through a solution of silver deposits 1,118 milligrams of silver, a current

[1] Read at the meeting of the New York County Medical Association, March 15, 1897.

[2] Medical Record, January 9, 1897, p. 71.

[1] American Medico-Surgical Bulletin, December 1, 1895, p. 1,452 and 1,453.

strength of one ampère produces a deposit of 1,118 milligrams of silver per second."[1]

In the treatment of urethral strictures by electrolysis we depend in principle on the action of a galvano-chemical absorption. It has been asked, what absorbs what? The answer is that the decomposition of the electrolytic current by its decomposition absorbs by degrees the pathological formations of the stricture; or, in other words, the decomposition absorbs the fibrous tissues which have encroached on the calibre of the urethra, and by such absorption the calibre will be freed from the obstruction and finally restored to its normal size and healthy tissue.

A stricture is always a consequence of an inflammation, which may come from different causes, mostly a long-continued suppuration, which forms infiltration not only in the mucous lining, but deeper in the submucous tissues. Fibrous tissues or cicatrices thereby formed infringe slowly on the calibre of the urethra, and multiply in time to such a degree that no room is left for the passage of the urine. In form and size strictures may vary, and, if they are only on one side of the urethra, or due to a contraction or malformation of the mucous lining, they may be cured by the usual means practised in genito-urinary surgery—gradual dilatation, divulsion, or cutting operations. However, most strictures are equally spread in a circle around the normal calibre of the urethra, and in those cases electrolysis promises better results as a curative measure, theoretically and practically.

From experiments on tumors, the writer has demonstrated and seen that a needle inserted in a tumor exerts an electrolytic action around itself in a radius of from one to two inches, and absorbs thereby the pathological tissues. Fibroid tumors, particularly in the practice of gynæcology, have been reduced in size and sometimes absorbed entirely by electrolysis.

The cutting operation for stricture can only divide the obstruction in one line and in one place, leaving the other parts of the constriction intact. Even if an incision enlarges the calibre, one of two things will follow: Either the divided surfaces come in apposition and then heal by first intention, thereby restoring the stricture just as it was before the operation; or the divided surfaces are kept apart and stretched, in which case the healing must take place by granulations and subsequent formation of cicatrices, leaving the patient uncured and in a condition still requiring the use of a sound. This is admitted even by the principal advocates of cutting operations.

Many voices in the profession have protested against urethrotomy, and such have been mentioned by the writer in former papers; for instance, Dr. J. H. Girdner.[2] Dr. J. P. Tuttle[3] said, at the meeting of the New York County Medical Society, May 25, 1896, that the whole principle of dilatation and internal urethrotomy was wrong. The success of internal urethrotomy depended, not upon the thoroughness of the cutting, but upon the thoroughness with which the urethra was dilated after the internal urethrotomy. Dr. N. Senn declares cutting operations in strictures a failure, in his essay at the New York State Medical Association, held October 28, 1891.

The statement of some eminent practitioners, that in Newman's method of electrolysis "the mucous membrane was burned away as well as the stricture," is absurd and incorrect, to say the least. These gentlemen ought to know that an electric current of from three to five milliampères cannot possibly burn, cauterize, or destroy a mucous lining. If they do not know this, the writer has told them privately in conversation, as well as in his published statements, that strong currents which cauterize must be avoided: that he depends entirely on the electrolytic action of absorption, which does not destroy the mucous lining, but affects the new formation. In the meeting mentioned above, Dr. W. J. Morton was the only one who said that "Dr. Taylor was not quite fair to Dr. Newman, in stating that the latter burned his way through the stricture, for certainly Dr. Newman distinctly states in his writings that mild currents are used," etc. There is absolutely no burning or destruction in the mucous lining by the writer's method of electrolysis, and he refers again to his writings and also to the results of his experiments in electrolysis on dogs,[4] that were treated by a stronger current and nevertheless recovered in good shape. Even if a mucous lining is injured by caustics, it would recover itself, as we see in gynæcological practice, and Dr. I. A. Taylor has in his operations demonstrated this fact to the class of Bellevue Hospital Medical College.

The way a cure by electrolysis is effected is as follows: A No. 11 French electrode connected with the negative pole of a galvanic battery is introduced to the stricture; three, four, or even five milliampères are used; the electrode is held on the stricture (guided but no force used) till the absorption allows the electrode to pass and be easily withdrawn. After one week the operation is repeated with a No. 14 French electrode, egg shaped, using a current of from three to five milliampères for about ten minutes. Each week a *séance* follows with a larger electrode, till the stricture is absorbed and the calibre of the urethra restored to its normal size.

The Practice.—In theories individuals may differ, and all theories are not confirmed by practising; but if the practice is successful it makes the theory correct, and proof of success in practice confirms the theory.

This is our case under consideration, and from reliable reports the treatment of urethral strictures by electrolysis has been a decided success, as will be seen by the following history.

The writer has treated urethral strictures by electrolysis for thirty years, with success, without any relapse; has written many reports on it; particularly given *in extenso* three hundred cases, in series of one hundred each. He read a paper before this association on December 15, 1890.[5] His next paper was read before the American Electro-Therapeutic Association, in October, 1892, in New York,[6] "On the Present Status of Electrolysis in the Treatment of Urethral Strictures, with Statistics of One Hundred Cases" (the third series). The writer next reported seventeen hundred and fifty-five successful cases by fifty-four different operators, all of whom vouch for the correctness of their statistics;[7] and additional cases by Drs. G. Howard McFadden, F. H. Wallace, W. R. D. Blackwood, C. A. Bryce, etc. On April 14, 1893, Dr. A. R. Booth, of Shreveport, La., reported one hundred more successful cases. In June, 1893, Dr. F. B. Bishop,[8] of Washington, D. C., reported more successful cases. Dr. H. E. Bennett,[9] of Lima, Ohio, in an article on strictures, speaks favorably of Newman's method. Dr. Fred S. Crossfield, of Hartford, Conn., reported one hundred successful cases.[10] To dispel any possible doubt about the correctness of the statistics, a committee of investigation was appointed by the American Electro-Therapeutic Association, who

[1] Houston and Kennelly, in Electro-Therapeutics, p. 84.
[2] Medical News, July 14, 1888, p. 39.
[3] American Medico-Surgical Bulletin, June 6, 1896, p. 504.

[1] Transactions of the Medical Society of the State of New York, 1874.
[2] Journal of Electro-Therapeutics, New York, January and February, 1891.
[3] Journal of the American Medical Association, April 15, 1893.
[4] Times and Register, Philadelphia, April 8, 1893.
[5] Virginia Medico-Monthly, June, 1893.
[6] The Medical World, August, 1893, p. 269.
[7] Times and Register, Philadelphia, January 21, 1893.

worked faithfully for a whole year, and finally reported [1] as follows:

On Investigation of Dr. Newman's Statistics.—"We have examined the records of Dr. Newman's cases of urethral stricture submitted to us, and regard his conclusions as well sustained by the statistics he has presented, and as far as our experience in this line of work adds further testimony, it is confirmatory of the value of the continuous current in resolving a large class of urethral strictures. The committee made diligent efforts during the year to comply with the directions given them, to enlist the co-operation of surgeons of large experience in other methods of treatment of urethral stricture in examining both the patients and statistics, but failed to receive such assistance from them." Chicago, September 11, 1893. Signed by A. H. Goelet, William J. Morton, W. J. Herdman.

On motion the report was accepted.

More good reports come from Dr. G. W. Overall, of Memphis, Tenn. Cases 83–87, in 1894.

Dr. Lamoureux read a paper in Lowell, Mass., August 29, 1895, and reported twelve successful cases. Another favorable report was made by Dr. M. H. Sears before the Denver (Col.) Medical Society.[2] A very good article was written by Drs. Holladay and Burton, of Hot Springs, Ark., on "Urethral Strictures, Treatment by Electrolysis."[3]

Dr. Desnos, of Paris, reviewed the different methods of electrolysis in strictures of the urethra,[4] before the Société Médico-Chirurgicale, in Paris, February 10, 1896, in which he gave the Newman method the preference. At the annual meeting of the American Electro-Therapeutic Association, in Boston, two more papers were read, on October 1, 1896, on successful treatment by Newman's method, by Dr. F. H. Wallace, of Boston, and Dr. F. B. Bishop, of Washington, D. C.[5]

In an article on "Electricity as Applied to Medicine and Surgery," Dr. Fred Schavoir, of Stamford, Conn., says: "I consider electrolysis for urethral strictures one of the greatest triumphs in electro-therapeutics."

The Correct Diagnosis.—The writer had very little to do with the diagnosis in the cases he reported, because most of the patients had been under treatment many years and the diagnosis had been made by one or more eminent genito-urinary surgeons, who generally advised cutting operations; other patients were sent for the electrolytic treatment by well-known eminent practitioners. Only recently a patient's stricture was so contracted that his physicians could not pass any instrument. Therefore, as a last resort, the parts were anæsthetized and two physicians tried to pass a small catheter, without success. As the patient became conscious he overheard the conversation of the two surgeons, in which they said they were unable to pass any instrument, and that there might be a chance for him by Newman's method of electrolysis. When he was fully recovered these gentlemen told him that he must undergo a cutting operation within twenty-four hours, otherwise they could not guarantee his life. They never mentioned electrolysis to him. The patient found his way to the writer, electrolysis passed a No. 9 instrument immediately through the stricture into his bladder, and a few months later a No. 21 French passed. It was a very bad stricture, indeed. Such cases have appeared often, and have been reported in former tables published. Relapses have not taken place after patients had been discharged as cured, and they have been kept under observation for many years. Only recently a patient was seen well, without a day's sickness, twenty years after he had been treated by electrolysis for strictures. In most cases when opportunity offered re-examinations have been made. These facts have been explained more in detail in former papers. Some patients have appeared again after six or seven years, complaining of a relapse, but on examination no relapse was found, and the ailment was a new one in a different place.

Reliability of Reports.—The statements as reported have been made from actual facts as recorded in notebooks, from letters of patients and physicians, as also from testimonies, observations and re-examinations, documentary evidences, etc., and all these points have been carefully investigated during a whole year and found correct by the committee mentioned above and have been certified accordingly.

Now about failures which have been reported, and must be considered also as facts. Undoubtedly operators have failed, and the cause lies between the operator's incompetency, carelessness, impatience, mismanagement, wrong diagnosis, faulty instruments, and the patient's disobedience—all of which may occur in any operation.

The success of electrolysis in urethral strictures is so well established that simple negations cannot undo affirmations and facts of success, as found true by investigations of reliable medical gentlemen.

Conclusions, which are for your consideration and discussion:

(1) There is a similarity in the construction of Butler's and Fort's instrument, the priority of the idea belonging to Butler.

(2) The current of ten milliampères can give very little, if any, electrolytic action in thirty seconds; therefore Fort's operation, called "linear electrolysis," is in reality a divulsion.

(3) The present code does not protect a physician as an inventor, nor his instrument.

(4) The success of electrolysis in the treatment of urethral strictures is a fact well established by documentary evidence and by the thorough investigation of an impartial committee.

(5) A current of five milliampères cannot burn, cauterize, or destroy normal tissues.

(6) Relapses do not occur if the subjects are cured once by electrolysis proper.

64 West Thirty-Sixth Street.

[1] Transactions of American Electro-Therapeutic Association, 1893, p. 46.
[2] Denver Medical Times, November, 1895.
[3] The Kansas City Medical Index, October, 1895.
[4] Medical Record, June 6, 1896.
[5] Transactions of American Electro-Therapeutic Association, 1896.
[6] The New York Polyclinic, November 15, 1896.

Retroversion of the Uterus.—Martin (*Journal of the American Medical Association*, February 20, 1897, p. 335) summarizes as follows his views upon the question of retroversion of the uterus: (1) Continuous retroversion of the uterus is a condition that frequently leads to serious pathologic consequences. (2) Retroversion without adhesions can be cured without operative interference in about twenty per cent. of the cases in which it occurs. (3) A small percentage of cases of retroversion with adhesions can be cured by massage, electricity, and depletion. (4) Retroversion with unyielding adhesions should be corrected through Douglas' cul-de-sac and the round ligaments should be shortened at the same operation. (5) Retroversion with diseased appendages should be treated through an abdominal incision and the uterus brought forward and suspended from the urachus or from a ligament constituted of peritoneum. (6) When the Alexander operation is performed, the ligaments should be secured without resort to a permanent buried suture, and this can be best accomplished by tying the two ligaments together in a firm knot over the pubes beneath the integument.

Progress of Medical Science.

The Sterilization of Catgut by Cumol.—Drs. Clark and Miller, after a thorough bacteriological investigation and a practical experience of a year with the cumol method of the sterilization of catgut, conclude that it is the most reliable. They state that many of the methods hitherto practised are unreliable, as has been shown by the outbreaks of infection which have been traced, either by direct bacteriological investigation or by the strongest circumstantial evidence, to the catgut used in the cases. Catgut received from the manufacturer is rarely infected with pyogenic organisms, which accounts in a great measure for the absence of infections following its use when prepared by the most questionable of methods. At least three outbreaks of infection in surgical cases have been attributed to catgut. The first, in 1879, in the service of Zweifel, was certainly traced by Koch to the suture material by a careful bacteriological study. Kocher, in 1881, after a very superficial study of the germicidal power of juniper oil, introduced it as a sterilizing medium. Later, a large number of cases in his hospital service became infected, and Kocher, feeling that he had such strong evidence against the catgut employed in the cases, published an article against its use in any form, entitled "Away with Catgut." In January, 1893, a very serious reign of infection occurred in the gynæcological wards of the Johns Hopkins Hospital, which was believed to be due to catgut prepared by boiling in alcohol under pressure. The most perfect means of sterilization of catgut for surgical purposes is, unquestionably, by heat. Until the methods of Benckisser and Reverdin (1881), it was considered impossible to raise any form of animal ligature material to a temperature sufficient to render it sterile without making it brittle. Reverdin demonstrated that it was not the oil, as previously supposed, but the hygroscopic property in catgut which caused it to become brittle when heated. If this is driven off by dry heat at a temperature of 70° C., the catgut can safely be exposed to a temperature of 250° C., without impairing its integrity. The complicated apparatus, consisting of a hot-air oven and a thermoregulator, however, prevented the general adoption of the methods of these writers. Brunner found that the boiling-point of xylol was 136°–140° C., and at once adopted it as a sterilizing medium, but Krönig found spores occasionally present in catgut which were more resistant than the anthrax spores with which Brunner had experimented. After a further research Krönig found that the boiling-point of cumol, a hydrocarbon compound, ranged between 168° and 178° C., and substituted it for xylol. After a careful review of the Krönig's article, his method was adopted in the gynæcological department of the Johns Hopkins Hospital. Krönig's method is as follows: (1) Roll the catgut in rings. (2) Dry it in a hot-air oven or over a sand bath for two hours at 70° C. (3) Heat it in cumol to a temperature (165° C.) a little short of the boiling-point, for one hour. (4) Transfer it to petroleum benzin for permanent preservation, or, if desirable, leave it in benzin for three hours, and transfer to sterile Petri dishes. A bacteriologic study of this method by the writers shows that the sterilization by this method is perfect, but that the transference from boiling cumol to benzin is open to serious objection. Clark and Miller have found from this investigation that benzin is not a germicide; also that it cannot be rendered sterile by heat without danger, and, therefore, have found it necessary to modify the method of Krönig as follows: (1) Roll the catgut, twelve strands, in a figure-of-eight form, so that it can be slipped into a large test tube. (2) Bring the catgut up to a temperature of 80° C., and hold it at this point for one hour. (3) Place in cumol, which must not be above 100° C., raise it to 165° C., and hold it at this point for one hour. (4) Pour off the cumol, and either allow the heat of the sand bath to dry the catgut, or transfer it to a hot-air oven, at a temperature of 100° C., for two hours. (5) Transfer the rings with sterile forceps to the test tubes previously sterilized, as in the laboratory. In drying or boiling, the catgut should not come in contact with the bottom or sides of the vessel, but should be suspended on slender wire supports, or placed upon cotton loosely packed in the bottom of the beaker glass.—*Johns Hopkins Hospital Bulletin.*

Cyclic Albuminuria.—Dr. Marie defines this disease as albuminuria occurring in apparently healthy subjects, being intermittent in its course and subject to certain conditions. The discovery of albumin may be accidental or the patient may suffer from general debility, heaviness of the limbs, palpitations, headaches, and hemorrhages. Healthy persons may have transitory albuminuria under certain conditions. Hwass found albumin in ninety-eight out of six hundred and thirty-five apparently healthy soldiers, the quantity of which was not influenced by exercise. Captian and Spiegler found albumin, probably from reflex causes, always present in one hundred cases of scabies. This transitory must be distinguished from true cyclic albuminuria. It is doubtful whether cases which are influenced by food or cold are examples of this disease, or in perfectly typical cases they have often no effect. The cardinal symptom is that albumin is present only when the upright position is assumed, and vanishes when the patient lies or sits down, even when hard work is done on an exercise apparatus. In the case reported by the author, however, albumin appeared sometimes when the patient was in bed, at times of great annoyance or in stormy weather. The quantity of albumin is always small. Its chemical composition varies with the individual and in the same individual at different times. Serum albumin, peptone, propeptone, nucleo-albumin, etc., have been found. The quantity of urine is not much affected. If at any time it is less than normal, there is said to be a corresponding increase in the albumin. The specific gravity varies, but is usually normal or higher (1.020 to 1.030). Teissier gives the following cycle in this disease: (*a*) plus excretion of coloring matter, (*b*) albuminuria, (*c*) plus excretion of urates, (*d*) plus excretion of urea. Etiology: (1) Sex, more common in females. (2) Age, adolescence and early adult life. (3) Heredity, especially in children of gouty and arthritic parents (Teissier). (4) Disputed antecedents are renal affections, colds, overwork, and infective fevers. The author states that he considers it to be a special morbid entity, probably depending on perverted function of sympathetic nerves, and having a close analogy to migraine. He does not agree with those who believe the cause to be a "minimal" organic renal lesion, as the almost indefinite time the disease can last without bad effects and its not being influenced by the quality of the food are against that theory. Casts are not generally present, but Marie does not consider that the presence of casts in small numbers indicates organic disease.—*La Semaine Médicale.*

A Method of Disinfecting the Blood in Serious Infectious Diseases.—A contribution to this subject has been made by Dr. Henri Barré. The process to which he has given the name "disintoxication of the blood" is derived from simultaneous employment of two therapeutic means already made use of in medicine: the one very ancient, bleeding; the other very

modern, the intravenous injection of artificial serum. The aim of this treatment is to combat the phenomena of general intoxication which manifest themselves in the course of or toward the end of many diseases, and which in themselves put in peril the life of the patient. Before this treatment is begun there ought, of course, to be brought to bear the ordinary methods at the disposition of the physician—purgatives, diuretics, stimulants, sedatives, etc.—and it is not until the insufficiency of these is evident that as a last resort recourse is to be had to "disintoxication of the blood." This is most often indicated in the following maladies: uræmia, eclampsia, diphtheria (when Roux's serum does not suffice), infectious pneumonia, capillary bronchitis, malignant icterus, general acute peritonitis, cerebro-spinal meningitis, typhoid fever, measles, small-pox, scarlet fever, puerperal fever, cerebral complications of rheumatism and gout, poisoning by alkaloids, extensive burns of the skin, etc.; in short, in all cases in which there may be expected danger as much or more from general intoxication as from actual lesions of the organs themselves. In all these diseases there is to be noted a considerable diminution, if not a complete cessation, of the urinary function, and the disintoxication of the blood has for its immediate purpose (1) to eliminate artificially a certain quantity of toxins; (2) to help to achieve complete elimination by re-establishing the secretion of urine. The instruments necessary consist essentially of two india-rubber tubes, terminating at their extremities in a needle of a diameter a little greater than that of a Pravaz syringe. The longer of these tubes (about one and one-half inches) conducts into the veins of the arm the artificial serum from a graduated vessel placed at a position more or less elevated in accordance with the degree of force with which the flow of liquid into the venous system is required. The second tube (one metre), of which the needle is inserted in a vein of the other arm, has its free end in a graduated vessel, and thus serves to extract blood. The flow of the two liquids by this arrangement can be so regulated that no more serum enters than blood flows out, and thus, the circulatory system being always equally full, arterial tension need not be diminished, as it is as a consequence of ordinary bleeding. The quantity of serum introduced and the quantity of diluted blood withdrawn may vary between fifty grams and one litre for an adult, in accordance with the degree of intoxication. As will be seen, this method of disintoxication of the blood differs materially from another method, which has been styled "washing the blood," and which has been for some time applied by preference in cases of surgical infection. The difference consists mainly in the contemporaneity of the injection and the bleeding. This prevents any severe interference with the circulatory system, and allows, if death from intoxication seems imminent, the withdrawal of the greatest quantity of blood, and consequently disintoxication with the least danger to the patient. The exchange of liquids is made very quickly (in thirty to fifty minutes), so that no sharp reaction ensues; grave symptoms insensibly diminish, gradually disappear, and are followed soon by refreshing sleep. On waking, the patient desires to pass water. Sometimes sweating accompanies the re-establishment of urination, as in natural crises. In the three cases (two of uræmia, one of infectious pneumonia) in which Dr. Barré has applied his method, cases in which everything had proved useless and in which death appeared imminent, he obtained improvement as rapid as that just described. Not only did the most serious symptoms cease, but at the end of the urinary crisis they did not reappear and the patient progressed steadily toward cure. Dr. Barré expounds the following theory to explain the phenomena of the cure: (1) There is elimination of the excess of toxins, which constitute the immediate danger. (2) The good effects continue because the bulk of blood is not diminished in volume in the system and does not need reforming at the expense of the fluids of the economy, and, the arterial pressure not being diminished, no obstacle to diuresis is created. (3) Not only are toxins eliminated which appear to have an inhibitory action on the urinary action, but the toxins which remain become diluted and less powerful for evil. (4) As recent researches have proved, the alkaline salts have a favorable action on the bactericide powers of the blood, and the method thus provides the economy with a new means of fighting successfully against the microbes. Dr. Barré believes the method will be found of enormous advantage in veterinary as well as in human pathology.—*Medical Press.*

Tinnitus Aurium.—Drs. Miot and Herck divide sounds in the ears into two groups: (1) The noises which really exist in the ears or their neighborhood. They are called entotic and periotic sounds respectively. (2) The true tinniti or auditory sensations which have no apparent cause. In the first class are many conditions. It may be an increased resonance of the ear or hyperæsthesia of the auditory nerve, which make the individual more sensitive to sounds. The sounds may be due to an increased flow of blood through the ear. Muscular contraction and mucous plugs in the external ear causes noises also. The authors recognize two varieties of true tinnitus: (*a*) The noises due to a lesion of the auditory apparatus. (*b*) The noises due to nervous diseases, mental disorders, and reflexes, without any lesion of the ear organs. Middle-ear diseases cause tinnitus, especially in cases of circumscribed or diffuse otitis. In this case the tinnitus is caused by a hyperæmia of the region. In the middle ear various conditions of the tympanum and Eustachian tube give rise to tinnitus. Inflammation of the mucous membrane of the middle ear with secondary hyperæmia of the labyrinth is a frequent cause. Local applications of cold and local bloodletting, combined with catheterization of the Eustachian tube and insufflations of medicinal vapors, give the best results in this condition. Catarrh of the middle ear causes tinnitus. Irrigations through the tube is the best treatment in this condition. If the discharge becomes very great, it must be removed through an incision in the tympanum. Chronic otitis media is a very common and persistent cause of tinnitus aurium, and the authors say the subjective noises resist all treatment. Otorrhœa of a tympanic or labyrinthine origin is a frequent cause of tinnitus, and when the discharge is in the semicircular canals, as in Ménière's vertigo, the noises are extremely violent. The tinniti caused by lesions without the auditory apparatus are of various kinds. In many diseases of the nervous system, the subjective noises in the ears are premonitory or accompanying symptoms: apoplexy, cerebral anæmia and congestion, cerebral softening due to arteriosclerosis in the aged, paralysis, etc., are ushered in by unusual noises in the ears. Nicoti and Rabioli have described an auditory migraine. In some mental diseases tinniti are prominent. False auditory perceptions are common in the insane: and in the same cases there are auditory hallucinations and confused noises.—*Bulletin Médical.*

Sensory Disturbances in Locomotor Ataxia, and Their Location.—Some years ago the subject of locomotor ataxia was thought to be practically exhausted, the symptomatology and pathology clear; the disease was labelled and put away upon the nosological shelf. More recently the question of its pathology has been awakened afresh and is not yet settled, and additions

to our knowledge of its symptomatology are far from infrequent. Such an addition we may count the investigations of Laehr regarding the occurrence of anæsthesia upon the trunk. It is about two years since Hitzig called especial attention to this symptom, but the work of Laehr is the fullest and most systematic up to date, embracing as it does the careful, often-repeated examination of sixty cases of locomotor ataxia. In only five was there no anæsthesia of the trunk, and these five were all cases of locomotor ataxia complicating dementia paralytica, in which the spinal affection was secondary to and much less prominent than the cerebral affection. This trunk anæsthesia is usually not very marked, and relates particularly to the perception of touch rather than pain, in contradistinction to the sensory disturbance of the lower extremities, which ordinarily first manifests itself as an analgesia, while sensation for touch is normal. Its location is generally at about the level of or just below the nipple, and takes the form of a band reaching from the spine to the middle line in front. It is nearly always bilateral, but the bands of the two sides may not be of the same width nor on the same level. Want of symmetry is generally due to the anæsthesia of one side extending lower, as the upper border seldom differs on the two sides. In the incipient stage the band is narrow, taking in one or two intercostal spaces and their borders, or the anæsthesia itself may not be constant. Indeed, in this stage there may be no distinct anæsthesia, but simply an inability to locate touches well, while the power of localization is often found in the area adjoining a distinctly anæsthetic surface. When the anæsthesia is very slight, a prolonged examination of touch and pain sensation may improve it, so that the anæsthetic area diminishes in size. One of the most interesting facts elicited by Laehr's investigations is that the areas of anæsthesia correspond closely, not to the peripheral nerve distribution, but to the spinal segments, as outlined by the work of Thorburn, Starr, Sherrington, Head, and others. The band about the trunk has a more horizontal position than the ribs, so that if it corresponds to a certain rib in front it falls one or two vertebræ below it behind. In some cases the author could watch the gradual extension upward of the anæsthetic zone. With great regularity, as soon as it reached the third intercostal space, it began to extend on to the arm, at first affecting only the inner surface below the axilla, and then gradually covering the whole inner border before it spread much toward the radial side. Eventually the whole arm may become anæsthetic, but always by this extension from the ulnar to the radial side. As already mentioned, this corresponds to the gradual upward invasion of spinal segments, and a similar progression downward on to the lower extremities could also sometimes be traced. But it is not to be forgotten that a peripheral neuritis, which is now known frequently to occur in locomotor ataxia, may entirely change this distribution of anæsthesia. Analgesia of the ulnar trunk—that is, absence of pain when it is pressed against the condyle—he finds to be much less frequent (sixteen in forty-three) than did Biernacki (fourteen in twenty), who first described it. (The editor has found it in fully fifty per cent. of his cases.) It is of interest, too, to note that the author found in a number of cases entirely distinct bands of anæsthesia corresponding to spinal segments separated by a considerable interval, which would seem to show that the pathological processes of locomotor ataxia may begin at nearly the same time in different parts of the cord. Another interesting fact is that at the border of the anæsthetic zone the skin is often hyperæsthetic to pricking, pinching, and cold, and not only this, but in this hyperæsthetic zone the cutaneous reflexes are particularly lively. Laehr thus easily accounts for the difference of opinion regarding the activity or absence of the superficial reflexes in locomotor ataxia. If the place we stimulate to elicit a superficial reflex (*e.g.*, the abdomen for the abdominal reflex, the inner surface of the thigh for the cremaster reflex) happens to be within the anæsthetic zone, the reflex will be diminished or lost; if within the hyperæsthetic zone it will be exaggerated. The author considers the trunk anæsthesia to be a very early, but not the earliest, sensory disturbance, as some degree of analgesia of the lower extremities generally precedes it.—*Medicine.*

Early Diagnosis of Coxo-Tuberculosis.—Dr. Alexandroff has had constructed a compass like that of Weber, in order to appreciate an early hypertrophy of the subcutaneous fat in coxalgia, which he looks upon as a sure sign of the tuberculous nature of the affection.—*Arch. Méd. Belges,* January.

Precocious Hepatic Syphilis with grave icterus and acute yellow atrophy of the liver is discussed in a paper by Dr. Ch. Talamon (*La Médecine Moderne,* February 13th), and the following conclusions are presented: 1. That severe icterus which occurs in the secondary period of syphilis is not a coincidence, but indeed a direct manifestation of syphilitic infection in the same degree as are the roseola and mucous patches with which it coexists. 2. That this severe icterus is a symptomatic expression of an acute diffuse hepatatis, either interstitial or parenchymatous, possibly ending in acute yellow atrophy of the liver. 3. That it is logical to suppose that this acute syphilitic hepatitis has not as a necessary consequence a fatal termination, and that there is consequently reason for admitting lighter and more curable forms. 4. That simple precocious syphilitic icterus is probably but one variety of these curable forms of syphilitic hepatitis. 5. That between these two extreme varieties there exist in all likelihood intermediary forms of medium gravity, as an observation of Senator would tend to prove. 6. That we may consequently bring together under the name precocious hepatic syphilis, by analogy with precocious syphilitic Bright's disease, the various manifestations of secondary syphilis of the liver; the most benign manifestation being represented by simple precocious syphilitic icterus, the most grave by syphilitic icterus with acute yellow atrophy of the liver.

Paroxysmal Tachycardia in a child of eleven years was discussed by the London Clinical Society on the 8th of January. The condition had existed for five years. The palpitation would come on suddenly and cease quite as suddenly after a period of from one to fourteen days, during which the pulse beat would be 240 to 260 per minute. At times there was slight cyanosis; urine scanty; no valvular disease; no lues. Changes in the myocardium were blamed for the affection, which seems to be rare in childhood. In the discussion which followed, the possibility of nutritive disturbance of the heart centre in the medulla was suggested. It was also stated that in many instances, in which during life no heart affection was discoverable, an anatomical lesion of the myocardium would be made out at the autopsy. Disease of the nervous system does not explain paroxysmal tachycardia, since affections of the vagus itself do not give a pulse beat of over 150; and displacement of the abdominal organs likewise fails to explain the condition. As remedial measures, a vesicating plaster over the vagus, a combination of arsenic and bromide of ammonium, valerianate of zinc in beginning dose of two decigrams, and compression of the thorax and abdomen at the time of attack, were all recommended.

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TESTS FOR SUGAR IN THE URINE.

IF one might be pardoned for thus judging of the matter, by the number of very recent recommendations for the discovery of sugar in the urine which have appeared in foreign and domestic literature, Fehling's solution must be thought to have its failings. Its instability and the necessity for frequent renewal of the solution are among the drawbacks to its use.

In quantitative analysis, too, the results are unsatisfactory, especially when the urine contains but little sugar. Rangé has, however, recently indicated in the *Bulletin Médical* a simple method of employing Fehling's solution for this purpose, which is briefly as follows: Drop twenty drops of the solution into a test tube, bring to a boil, and add the urine drop by drop until decolorization takes place. Divide the number one hundred by the number of drops required, and the result obtained indicates in grams and centigrams the proportion of sugar per litre.

It is recommended that after adding two or three drops of urine and having heated the mixture to let it rest awhile, since the yellow or reddish color of the cupric oxide may mask the blue tint of the liquid. The precipitate once deposited, one can judge whether the clear fluid is still colored blue or not. To save time, Dr. Duhomme has recommended the test to be made in six separate tubes at once, adding one drop of urine to the first, two to the second, and so on. If no result is obtained after the boiling and cooling process, six drops are added to each tube, so that No. 1 now contains seven and No. 6 twelve. The drops should be deposited at the bottom of the tube and not permitted to run down the side. Another test in which Fehling's solution is utilized is that advocated by Gerrard in the *American Druggist and Pharmaceutical Record*, xvi., 1895, for the detection of minimal quantities of sugar with the aid of a cyanide-of-potassium solution.

Dr. M. McDonald, writing in *The Lancet* of September 19, 1896, on the detection of small quantities of sugar in the urine, says the most satisfactory test is that of phenyl-hydrazin, which is very sensitive, and this is its chief objection, small isolated yellow crystals making it necessary to apply other tests or to retest after fermentation.

The method he employs is: To 20 c.c. of urine in a test tube add 0.75 gm. phenyl-hydrazin hydrochloride and 1.0 gm. sodium acetate. Put in a water bath at about 90° C. for forty minutes. Allow to cool slowly, and after some hours examine the precipitate under the microscope. If albumin is present in any quantity, it should first be removed, as it sometimes interferes with the formation of the crystals of glucosazone.

A recent writer in the *Medical Chronicle* gives a somewhat modified method: In an ordinary test-tube powdered phenyl-hydrazin is introduced to the depth of half an inch, then powdered acetate of sodium in equal amount, and urine is added to the middle of the tube. Upon boiling the powder dissolves, but it is advised to continue boiling for two minutes. Upon standing a yellowish deposit forms, which is seen under the microscope to consist of beautiful needle-shaped crystals of bright sulphur-yellow color. Brown amorphous globules or yellowish scales are found when sugar is not present. In carrying out Sir William Robert's recent recommendation to filter through animal charcoal in order to remove the normal reducing agents which interfere with delicate tests, McDonald found that the charcoal kept back a large proportion of the sugar, and that washing the charcoal afterward with distilled water and applying Trommer's test gave a good reaction. Three separate formulæ having sulphate of copper as their chief reagent have recently appeared—that of Whitney, which was described in the New York *Medical Journal* of January 25, 1896; that of Schreiber, *Apotheker Zeitung*, x., 1895, 782; and that of Elliot, which was given in the MEDICAL RECORD of January 23, 1897, page 124.

The Schreiber test is really one of salicylate of copper:

Sulphate of copper	2 gm.
Salicylate of sodium	2 gm.
Carbonate of sodium (cryst.)	8 gm.
Distilled water	up to 100 c.c.

Filter.

Five cubic centimetres are added to an equal quantity of urine and heated until a precipitate forms; if the latter is gray or black with the same mirror upon the sides of the test tube, no sugar is present, but if the precipitate and mirror are yellow, it is. It is said that this reagent serves equally for the approximative determination of the quantity of sugar present. Thus, if the five cubic centimetres require two cubic centimetres for the production of the yellowish mirror, the urine contains ten per cent; if two and a half are required, it indicates one per cent.; and if three must be added, one-tenth per cent.

Williamson's "simple method of distinguishing diabetic from non-diabetic blood," published in the MEDICAL RECORD for February 6th, page 196, may be applied to urine examinations as well, and some investigations have been carried out in this direction. It would seem therefore that, arising from these many suggestions, there should be found a reliable and at the same time convenient test for both the presence and proportion of sugar present in any suspected case of diabetes.

THE HEALTH BOARD AND COMPULSORY REPORTS OF TUBERCULOSIS.

The reports of the committees of the New York Academy of Medicine, the Medical Society of the County of New York, and the New York County Medical Association have shown that the medical profession of this city is not yet ready to approve the recent order of the health board regarding compulsory returns for tuberculous cases. To such as read the reports in the present issue it will be evident that we correctly interpreted the opinion of the members of these different bodies when we predicted that the measure would not be indorsed. The academy, with becoming earnestness, views the question of prevention in its broader and more practical aspect. Instead of advising that hospitals for the treatment of indigent tuberculous patients be under the charge of the board, it recommends that they be under the control of the city authorities, the board of charities, to which they properly belong. It is also wisely advised that the enforcement of compulsory notification be delayed, and this, too, by a thoroughly representative committee composed of a chairman and secretary whose authoritative influences no one will question.

The Medical Society of the County of New York is still more emphatic in its protest. In the language of the resolution adopted by an unanimous vote it is declared that "the recent edict of the health department in relation to the compulsory reporting of cases of tuberculosis is unnecessary, inexpedient, and unwise."

It would now appear that the time has come for the health board to rescind the obnoxious regulation, in order that it may, as formerly, work in harmony with the wishes of the profession.

THE MONTREAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

We have been taken to task gently by an esteemed correspondent for the warning which we uttered recently, against the unbidden attendance of Americans at the meeting of the British Medical Association at Montreal. He seems to think that the warning was anglophobic in its inspiration, and asserts that Americans will be as welcome at Montreal as Canadians or Englishmen would be at any meeting of the American Medical Association.

It is unnecessary to disclaim any national prejudice as a motive for our warning, for there is not a word in it to justify such a charge. But when our friend, who, in expressing his own feelings of friendliness voices, we trust, those of his fellow Canadians, states that all physicians from this country will be welcome, he is not speaking by the book. The notice which we quoted from the *Canada Lancet* appeared in identical form in most if not all of our Canadian exchanges, and was evidently inspired from headquarters and intended as a warning to American physicians to wait for an invitation before coming to the meeting. It will be seen from the letter of Dr. Adami to the Medical Record, published in this issue, that a number of invitations will be sent to prominent members of the profession in the United States, the number being limited only by the necessities of the case. And our Canadian confrères desire it to be distinctly understood that while they would be glad if it were possible to welcome all, they will be forced to restrict their hospitality to such as are bidden.

A FOOL'S COMPLAINT.

The principal speaker at a recent dinner of the Irish Revolutionary Brotherhood, held to commemorate the Irish uprising in 1867, was a man whom the papers call a "civil justice." He took for his theme "Liberty," which he grieved to think was rapidly being throttled in our land. He cried that the liberty of the American citizen was fast diminishing, and that there was an ever-increasing decadence of personal rights. He offered in proof of all this the tyrannical decree which had recently been promulgated, forbidding him to deposit the excrement from his mouth in public places. A civil justice who complains because he cannot void his excretions in public, and thinks that his liberty is thereby curtailed, is as little fitted for the official position he holds as he is for the society of his fellow-men. An asylum is where he belongs.

News of the Week.

Medical School Inspectors.—The one hundred and fifty medical inspectors of schools have been appointed by the board of health and are now under instruction. All but three of the candidates who passed the civil-service examination received appointments in the corps. They will begin their new duties on March 29th.

The Twelfth International Medical Congress.—The chairman of the American national committee writes us that extracts of papers to be read before any of the sections ought to reach the secretary-general before June 1st, in order to be printed in the preliminary volume. The transatlantic steamship companies one and all refuse any reduction of the usual charges. In their replies to the letter of the secretary-general they admit the existence of an agreement which prevents them from lowering their prices. *The Lancet* gives the cost of the railway journey approximately as follows: A circular ticket from London via Paris, Strasburg, Munich, Vienna, Oderburg, and Granica (frontier station for Moscow), and home via Eydtkuhnen (frontier station from St. Petersburg), Königsberg, Berlin, Cologne, Brussels, and Calais to London, available sixty days, first class, £17 5*s.* (about $85); second class, £12 4*s.* 6*d.* (about $60); fifty-six pounds of baggage free to Avricourt on the out journey and from Blandain on the home journey. For the remainder of the journey baggage must be paid for. The tickets for the Russian portion of the journey must be taken at the frontier stations, the cost being as follows: Granica to Moscow, first class, 38 roubles 43 kr.; second class, 24 roubles 68 kr. Moscow to St.

Petersburg, first class, 20 roubles 76 kr.; second class, 12 roubles 21 kr. St. Petersburg to Eydtkuhnen, first class, 17 roubles 90 kr.; second class, 10 roubles 74 kr. No return tickets are issued on the Russian railways. Taking the rouble at 2*s.* 3*d.*, the approximate cost of the railway travelling will thus be: First class, £26 ($128); second class, £18 ($85). The secretary-general holds out some hope of the fares on the Russian lines being considerably reduced. All visitors will be required to be provided with passports. It is hoped that the members of the congress will be received at a court reception by the Czar, and arrangements are being made for fêtes to be held at St. Petersburg after the termination of the meeting at Moscow. The chairman of the American national committee is not authorized to issue certificates of any kind in favor of congressists. He will try to ascertain, however, in which way their movements may be facilitated, and may receive a reply in the second half of April. A special prospectus, containing the final details referring to travelling, lodging, festivities, etc., is promised for a near future.

The Maryland Public Health Association has been formed as the result of the conference of health officers held in Baltimore on February 17th and 18th. This conference was called on account of the prevalence of typhoid fever and diphtheria in that State, and was attended by representatives from every county in the State.

College of Physicians of Philadelphia.—A stated meeting of the College of Physicians of Philadelphia was held on March 3d, the president, Dr. J. M. Da Costa, in the chair. Dr. D. D. Stewart read a paper "Concerning the Blue Line in the Gums in Lead Poisoning," in which he pointed out that this line is dependent upon the combination of the lead salt circulating in the blood with the sulphur contained in the food, forming an insoluble lead sulphide. Drs. S. Weir Mitchell and A. H. Stewart presented a communication entitled "Studies of the Blood in Crotalus Poisoning, with Photographic and other Illustrations." They described the degenerative influence of crotalus venom upon normal blood, and showed that this effect was present in very much smaller degree in the blood of immunized animals. The report, which is not yet complete, represents a continuation of the work begun by Dr. Mitchell some twenty years ago, resumed a few years ago in conjunction with Dr. E. T. Reichert, and again taken up in the sequence of the recent developments of the investigations of Calmette and Fraser. Dr. Charles W. Burr read a paper entitled "The Mimicry of Tumor of the Brain in Bright's Disease," in which he related cases illustrating the fact that nephritis, and especially the uræmic state, may be attended with almost any of the symptoms of tumor of the brain, as well as of other cerebral lesions, such as hemorrhage and vascular obstruction, so that at times the diagnosis is beset with the gravest difficulties. The mere absence of albumin and tube casts from the urine is not always decisive. Dr. John K. Mitchell read a paper entitled "Curious Symptoms from Fracture of Lateral Vertebral Process," relating a case in which the extremity of a lateral process of one of the lumbar vertebræ was broken off, and gave rise to somewhat obscure though rather distressing symptoms, relief from which was afforded only by surgical interference, with detection of the actual condition and removal of the offending irritant.

Obituary Notes.—Dr. Ernest A. Hoffmann died at No. 45 West Twenty-fifth Street, this city, on the 11st inst. Born in Germany in 1832, he came to this country in 1852, and graduated from the medical department of the New York University in 1858. For several years he practised in Poughkeepsie. In 1867 he became a professor in the Medical College for Women in this city.—Dr. Sumner A. Mason, of 128 West One Hundred and Twenty-seventh Street, died on the 12th inst., from congestion of the brain, being found unconscious in his office by his daughter, with whom he lived. He was fifty-eight years of age, a graduate of the University of Pennsylvania of the class of 1868.—Dr. H. Hoffman Baker died at Philadelphia on March 15th. He was graduated from Jefferson Medical College several years ago.—Dr. Manoah S. Long died at Mertztown, Berks County, Pa., on March 16th, of pneumonia, at the age of fifty-six years. He was graduated from the University of Pennsylvania in 1862.—Dr. Arnold H. A. Schott died suddenly at Philadelphia on March 18th, at the age of seventy years. He was born in Wetzlar, Germany, and served as lieutenant in the army, later being appointed as instructor in the military academy at Berlin. He was graduated from Jefferson Medical College in about 1868.—Dr. James A. Fisher died at Reading, Pa., on March 6th, at the age of sixty-five years. He was graduated from the Pennsylvania Medical College in 1854. He was prison physician for three years, and at the time of his death was a member of the school board.—Dr. Peter D. Keyser died of pneumonia at Philadelphia, on March 9th, after a short illness, at the age of sixty-five years. He was graduated in 1852 from Delaware College, receiving the degree of A.B., and subsequently that of A.M. For two years he then occupied himself in the study of chemistry, afterward going to Germany to continue his studies. In 1861 he entered the United States army as captain in the ninety-first regiment of Pennsylvania infantry, United States volunteers, and served with the army of the Potomac in the Chickahominy campaign on the staff of Brig.-Gen. Henry M. Naglee until after the battle of Fair Oaks. On account of ill health and wounds received, he resigned his commission in the army in 1862, and revisited Europe, where he entered the medical department of the University of Munich, and afterward that of Jena, receiving from the latter the degree of M.D., in 1864. He subsequently visited Berlin, Paris, and London, and then returned to the United States, to be appointed acting assistant surgeon in the United States service, being detailed to the Cuyler Hospital at Germantown. In 1864 Dr. Keyser founded the Philadelphia Eye and Ear Hospital, and became its surgeon in charge. He was also surgeon to Wills Eye Hospital and to the medical department of the German Society.

In 1883 he was made professor of ophthalmology in the Medico-Chirurgical College, and for nine years was also the dean of the college. Since 1889 he was a member of the board of health. He was a member of many scientific and social organizations.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C., March 22, 1897. Changes in the medical corps of the United States navy for the week ending March 20, 1897: March 13th.—Assistant Surgeon D. N. Carpenter detached from the United States naval laboratory and department of instruction, Brooklyn, N. Y., and ordered to the *Brooklyn*, March 15th; Assistant Surgeon F. L. Pleadwell detached from United States naval laboratory and department of instruction, Brooklyn, N. Y., and ordered to temporary duty on the *Constellation*, March 15th. March 16th.—Surgeon H. G. Beyer detached from the *Newark*, March 17th, and ordered home to await orders; Assistant Surgeon A. W. Dunbar detached from the *Newark*, March 17th, and ordered to the *Vermont*. March 17th.—Surgeon M. H. Simons detached from torpedo station, Newport, R. I., April 15th, and ordered to the *Columbia*; Surgeon E. Z. Derr detached from the *Columbia*, on being relieved, ordered home, and granted three months' leave; Passed Assistant Surgeon J. M. Moore ordered to the *Alert*, upon the arrival of that vessel at Mare Island, Cal.; Passed Assistant Surgeon L. W. Spratling detached from the *Alert* upon being relieved, ordered home, and granted three months' leave.

The American Medical Association.—The following addresses will be delivered at the meeting in Philadelphia the first week in June: Presidential address, by Dr. Nicholas Senn, of Chicago; address in surgery, Dr. William W. Keen, of Philadelphia; address in medicine, Dr. Austin Flint, of New York; address in State medicine, Dr. John B. Hamilton, of Chicago. The late Dr. Jerome Cochran was elected in Atlanta to deliver the address in State medicine. He was in favor of entrusting to the Marine Hospital services the duties of the proposed department of public health of the central government; Dr. Hamilton opposes this proposition.

An Epidemic of Typhoid Fever has been prevailing among the employees of the Lambertville (N. J.) Rubber Company, thirty-three of the two hundred and fifty hands being compelled to give up their work, and thirteen developing virulent typhoid fever. It is thought that the disease was transmitted through the use of water obtained from a contaminated well.

A Philadelphia Enterprise.—The *Medical and Surgical Reporter* calls attention to a most extraordinary announcement, which appeared in the Philadelphia *Evening Telegraph* of February 15, 1897. The headlines of the article are worth quoting, if only to show the strictly professional character of the advertisement. They read: "Diseases of the Stomach. The Long-Needed Institution for their Treatment will soon be Ready for Service. Wide Field for its Work. Will be Situated at Broad and Brown Streets, with a Distinguished Staff. Boon to the Thousands." Then the writer, prefacing his remarks with the indisputable statement that "the need of a special hospital devoted to the treatment of diseases of the stomach has long existed in this city," enters into details concerning this "boon to the thousands," from which we learn some interesting facts concerning the great enterprise: "The institution will be known as the American Hospital for Diseases of the Stomach, and will be located on the corner of Broad and Brown streets, which offers exceptional facilities for this purpose. The building is a large and commodious one, with an imposing brownstone front. . . . The objects of the hospital will be: 1. To treat by the most modern method those suffering from diseases of the stomach and bowels. 2. To provide comfortable surroundings and proper food for those unfortunately afflicted with cancer, ulcer, appendicitis, and other ailments of the stomach and bowels. 3. To establish a well-equipped laboratory for research work in the line of food adulteration. 4. To establish a school of dietetics, in which free instruction to the public will be given in the hygiene of food adulteration. . . . Physicians of the highest repute and well-known specialists have agreed to devote their time and experience toward the success of the undertaking. The following medical staff will do the work of the institution, some as consultants and others in active duty: Prof. J. M. Da Costa, Prof William Osler, Prof. W. W. Keen, Prof. James Tyson, Dr. John B. Deaver, Dr. D. D. Stewart, Dr. Lewis Brinton, Dr. E. K. Perrine. As this is the only institution of its kind in the country, it is only fitting that the great medical centre of Philadelphia should be the first to take the lead in the matter." And yet the envious call Philadelphia sleepy!

The Hospital for Consumptives of Maryland, which was recently opened in Baltimore, is filling a great want there. St. Joseph's Hospital has also set apart a ward of forty beds for the treatment of pulmonary tuberculosis.

The Health Department of Baltimore has been called upon to look into the condition of a number of bakeries reported to be in a filthy state. Nine hundred and seventy-eight inspections were made last year, resulting in a decided improvement in cleanliness.

Dr. Nansen.—The Norwegian parliament has unanimously resolved to confer upon Dr. Nansen, the Arctic explorer, a professorship of zoölogy at the Christiania University.

Vital Statistics of Philadelphia.—For the week ending March 13th there occurred in the city of Philadelphia 521 deaths, 16 less than during the preceding week and 7 less than during the corresponding week of the previous year. Of the whole number 163 occurred in children under five years of age. The principal individual causes of death were as follows: Pneumonia, 105; pulmonary tuberculosis, 54; heart disease, 24; diphtheria, 21. There were reported during the week 82 cases of scarlet fever, 58 of diphtheria, and 46 of typhoid fever.

The Color Line in Physical Culture.—An instructor in physical culture in Louisville, Ky., resigned a short time ago rather than lecture to colored teachers.

A Parisian Medical Man will, it is said, be invited to deliver one of the general addresses at the Montreal meeting of the British Medical Association, as a compliment to the French Canadian physicians.

Lombroso's Opinion of Zola.—M. Zola is an epileptoid with prehensile foot, precocious wrinkles, gastric crises, anguish and vertigo after intellectual effort, and hystero-epileptic psychosis, or, at least, a paranoiac psychosis.

The Bill for a Department of Public Health was introduced into the fifty-fourth Congress by Senator Gallinger. It provided for the appointment by the President from the medical profession of a secretary of public health, with an annual salary of $8,000, and of an assistant secretary at an annual salary of $5,000. Among the duties of the secretary of public health would be to obtain through all accessible sources weekly reports of the sanitary condition of all ports and other places in the United States; to tabulate statistics of marriage, births (noting those that are illegitimate), stillbirths, with cause thereof and period of utero-gestation, and deaths from all diseases and from violence, accident, suicide, murder, and data concerning the fruit of consanguineous marriages and the transmissibility of insane, alcoholic, syphilitic, nervous, and malignant types of constitution to offspring, and the evils of race miscegenation; to procure information relating to climatic and other conditions affecting health, and especially in reference to the most favorable regions in the United States for the cure or relief of chronic diseases, particularly consumption; to procure information as to the prevalence and ruinous effects upon the body and mind of intemperance and prostitution; to endeavor to ascertain the extent, the origin, and classification of insanity in the several States and Territories of the country; to investigate the state of comfort of the laboring classes in respect to their lodgement, their trades, occupations, the healthfulness of their workshops and the contents of the atmosphere they habitually breathe, and the prevalence of premature degeneration of the nervous and muscular system by the exactions of piecework employment, and to obtain information in regard to the soundness of their food and purity of water supply; to ascertain the ages at which the children of the poor are put to work and its hindrance to their physical development, and their lack of common-school education; to seek information of the hygienic state of public-school buildings, respecting their illumination, ventilation, and presence of noxious elements in the circumambient air; to seek information in regard to the pollution of streams and navigable waters and public and private wells; to attempt to promote the most extended and thorough training of students, in order to fit them for the practice of medicine; whenever an epidemic disease is spreading abroad, or in any country which by commercial or other relation may endanger the health of the inhabitants of the United States, to call a conference of the surgeons-general of the army, navy, and marine-hospital services, and the executive officer or officers of the various State boards of health throughout the country, to consider and advise with them in regard to the best methods to pursue to protect the country against the invasion of any such epidemic disease. The secretary of public health, if a bill similar to this should ever pass Congress, would evidently have no sinecure. It was proposed to appropriate $50,000 to defray the expenses in carrying out the provisions of this act.

Tri-State Medical Societies are becoming very fashionable of late. The latest one to be established comprises, we believe, the State of West Virginia and the western parts of the States of Pennsylvania and Maryland. If this is not the exact combination, we are open to correction. The Tri-State Medical Society of Iowa, Illinois, and Missouri will meet in St. Louis on April 6th, 7th, and 8th. The programme of this meeting contains the names of eight men from States other than those mentioned in the title of the society.

The Mysteries of Medical Casuistry.—Dr. Campbell Black, of Glasgow, has a disagreeable habit of asking questions, and has lately taken to seeking information anent medical advertising. He writes to the *Medical Press* that he has seen in its columns an editorial opinion that the advertising of medical books in lay papers was wrong. Then he continues that he has just read in a morning paper that one of the medical professors of the University of Glasgow delivered a lecture the day before in the lecture room of the Pathological Institute of the Western Infirmary, on "Inflammation," and "that there was a large attendance of the public." "Can you enlighten me," he says, "one ever perplexed as to the mysteries of medical etiquette, how, if the one course be heinous, the other is commendable?"

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on March 11th. Dr. J. M. Swan exhibited tibias from cases of rachitis and caries of femur, tibia, and fibula. Drs. Joseph McFarland and W. W. Babcock exhibited a large spindle-cell sarcoma of the ovary and also a uterus bicornis. Drs. C. W. Burr and D. J. McCarthy exhibited a primary carcinoma of the pancreas, with secondary invasion of the liver and the brain. The cerebral symptoms were the most conspicuous and led to an incorrect diagnosis of tumor of the cerebellum, while the neoplasm was situated in the prefrontal lobe. Dr. A. C. Abbott exhibited actinomyces fungus. Dr. Alfred Hand, Jr., exhibited an infantile heart displaying a patulous ductus arteriosus. He showed also miliary tuberculosis of lungs, spleen, and intestine. Dr. J. D. Steele demonstrated rupture of the liver and of the spleen, together with hemorrhage into the lung and diminutive aorta and pulmonary artery, associated with hypertrophy of the heart, from a case of violent railway injury.

Clinical Department.

A CASE OF CREOLIN POISONING.

By ALBERT G. ANTHONY, M.D.,

SYRACUSE, N. Y.

The patient, aged five years, was my own child. He had whooping-cough and we were using inhalations of creolin. One night by mistake the nurse gave him a teaspoonful of the creolin, thinking it was cough syrup. In a moment the mistake was known, as the agony of the child was something terrible. His lips and chin were white. I was making a call a short distance from home, and a messenger was hurriedly dispatched for me; and when I arrived, about ten minutes after the accident, the child was comatose, the pupils were very much contracted, the skin was cold, and there was complete muscular relaxation. Breathing was superficial, jerky, and irregular. The pulse was rapid, faint, irregular, and at times very indistinct. I learned that a glass of milk had been given, followed by lime water, and, as the child became unconscious, nothing more was given. The general condition of the patient suggested the use of atropine, and I gave one-one-hundredth grain hypodermatically, followed in thirty minutes by a second dose of one-fiftieth grain. Artificial respiration was kept up in the mean time. Shortly after the second dose of atropine the pupils began to respond and the heart's action improved. Sufficient consciousness was restored in two hours to permit liquids being given by the mouth, and I began the administration of sulphate of magnesium in saturated solution until four drachms of the powder had been given. The improvement continued. Six hours after the ingestion of the poison one ounce of black urine was discharged. The urine deposited a black granular sediment resembling charcoal. No incidents of moment marred the complete recovery, except the unpleasant effects of the supersaturation of the system by atropine and the local corrosive effect of the poison on the lips, mouth, and throat. Two thoughts impressed themselves on my mind, viz., the specific indications for atropine and the value of the sulphates.

MARKED VARIATIONS, FROM TIME TO TIME, IN THE COLOR OF THE IRIDES OF A YOUNG WOMAN.

By J. C. CLEMESHA, M.D.,

BUFFALO, N. Y.

A short time ago, I was consulted by Miss C. on account of deficient vision for distance and discomfort after using the eyes a length of time for near work. Examination into the state of refraction showed myopic astigmatism and suitable glasses were prescribed. During the consultation she volunteered the statement that the color of her eyes varied from time to time, which fact had been noted by her family physician and a number of her friends. The color of the irides varies from black to a bluish-gray through the various shades of brown, brownish-yellow, yellowish-green. Sometimes, she tells me, they resemble the color of a cat's eyes. The young lady is strong and healthy, has suffered from no serious illnesses, though the fact must be noted that her hair, dark at the time, changed to gray at the age of eighteen, and has remained so ever since. Mental emotion seems to be a factor in the causation of these changes.

The Johns Hopkins Hospital has opened a maternity ward.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 18, 1897.

Edward G. Janeway, M.D., President, in the Chair.

Report of Committee on Tuberculosis.—The following was the report of the committee appointed at the January meeting for the consideration of tuberculosis:

"The committee met March 12th, and now presents to the academy as a result of its deliberations the following statements:

"1. In the opinion of this committee the board of health might wisely delay the enforcement of compulsory notification, but should adopt more stringent measures for the care of sputum in factories, workshops, tenement houses, ferryboats, places of public assemblage, and public conveyances.

"2. In the opinion of this committee the establishment and maintenance by the city of a hospital or hospitals, to which indigent tuberculous patients may be admitted, is advisable.

"3. This committee recommends the appointment by the legislature of a commission for the establishment and management of sanatoria in healthy country districts in this State, for the care of the indigent tuberculous patients in the early stages of the disease.

"4. This committee would commend to the State board of health the importance of the careful regulation of the sanitary condition of hotels and sleeping-cars throughout the State.

"E. G. Janeway, M.D.,
"*Chairman.*
"T. Mitchell Prudden, M.D.,
"*Secretary.*"

On motion the report was accepted and adopted.

Experimental and Pathological Observations on the Uræmic Intoxications.—Dr. C. A. Herter read a part of a long paper on uræmic intoxication, based on numerous experimental and pathological observations carried on during several years. He would undertake to show that all of the clinical phenomena classed as uræmia ought to be referred directly or indirectly to a toxic state of the blood, and not primarily to mechanical causes. Further, that the toxæmic theory of uræmia not only involved no restriction on the present use of this term, but, on the contrary, made it desirable to extend its application to some cases in which the clinical conditions were unobtrusive or masked.

The observations were principally of two kinds, experimental and chemical. The experiments on animals consisted chiefly in the injection of the serum of the blood of patients presenting uræmic conditions. Through the kindness of various physicians, particularly those connected with the hospitals, it had been possible for him during the year to obtain blood from twenty-eight uræmic patients, the serum of which he injected into rabbits, in a few instances into dogs and monkeys. Rabbits were not chosen because they were best for this purpose, but because for them a small amount of serum, which alone could usually be obtained, would answer. The injections were made at the rate of ten cubic centimetres per minute. Of the twenty-eight patients, eleven had had repeated convulsive seizures, two puerperal convulsive eclampsia; six were subject to chronic nephritis; the remainder showed such uræmic symptoms as headache, dyspnœa, contracted pupils, etc.

In investigating the influence of urea in the production of uræmia, the first step had been to determine the amount of urea contained in normal blood; next,

to determine the amount present in uræmic states. The urea of normal human blood was 0.02 to 0.05 per cent.; of normal dog's blood, 0.03 to 0.07 per cent. Urea of normal human urine, 2 to 3 per cent. Urea of blood in human nephritis might reach 0.8 per cent. Urea of blood in a nephrectomized dog might reach 0.6 per cent. Fatal quantity of normal human blood serum injected intravenously in rabbits weighing from 1,000 to 2,000 grams, at the rate of 10 c.c. per minute, was 50 to 150 c.c. Fatal quantity of human blood serum from cases of uræmic convulsions, 12 to 30 c.c.

There were two main classes of human uræmia: *A*, urea of blood serum normal, toxicity of blood serum increased. *B*, urea of blood serum increased, toxicity of blood serum increased. The importance of class *A*, in which the urea of the blood serum was normal while the toxicity was increased, was the fact that urea could be positively excluded as the cause of the symptoms. Several cases belonged to this class. In class *B* were thirteen cases. In this group the quantity of serum required to kill the rabbits weighing from one thousand to two thousand grams varied from 12.5 to 47 c.c. The blood serum in this class possessed the highest degree of toxicity, and the amount of urea which it contained was from two to ten times the amount in normal blood. Most cases of uræmia complicated by other diseases showed a marked increase in the amount of urea contained in the serum. The cases related showed also that some cases of chronic nephritis without distinctly uræmic symptoms presented increased toxicity of the blood serum.

The conclusions which Dr. Herter had drawn from experiments with the blood serum in the normal and uræmic states were chiefly as follows: That normal human blood serum was only moderately toxic when injected intravenously; that in some cases of chronic nephritis without distinct uræmic symptoms the toxicity was increased; that in certain cases of uræmic symptoms short of convulsive seizures the toxicity was increased; that in uræmia with convulsive seizures the toxicity was markedly increased; that in many uræmic cases the urea in the blood was markedly increased—not so in some, although there was increase in the toxicity; finally, that the phenomena of uræmia were caused by the toxicity of the blood.

Dr. Herter then directed attention to the nature of the toxic agent or agents in the blood which produced uræmia. The first fact to which he called attention was the effect of heat on the toxicity of serum. In this connection the following statements were made: 1. That the application of moderate heat either greatly reduced or wholly destroyed the toxicity of serum obtained in some cases of uræmia. 2. The application of heat greatly reduced the toxicity of serum obtained from doubly nephrectomized dogs. 3. The application of moderate heat distinctly reduced the toxicity of serum of normal dogs; it would probably have the same effect on normal human serum. 4. In double nephrectomy probably the poison in the blood was merely an accumulation of that which normally existed in the blood in some quantity. Under the addition of this moderate heat the serum changed color, becoming darker.

The author then referred to some theories regarding uræmia. The first mentioned was that which attributed it to urea. As already stated, in certain cases the urea in the blood was not increased, and here this theory could be cast aside. In other cases, however, the blood was not only more toxic, but contained a greater amount of urea. Some experimenters had found urea toxic, others had not. The author's experiments in this connection resulted as follows: That pure urea was toxic in animals when injected intravenously, but only when very large quantities were employed—ten to fifteen times the daily excretion of urea in the animal experimented upon. The symptoms merely fairly constant in dogs—slower, stronger heart action, copious diuresis, contraction of the pupils, irregular fibrillary contraction of the muscles; finally, tonic and clonic spasms and death. In monkeys the symptoms were the same, except that the pupils were dilated instead of contracted. The symptoms occurred much earlier in nephrectomized dogs, because the kidneys were not present to excrete the injected urea.

The author had studied the effects of double nephrectomy in dogs upon the urea in the blood. The urea doubled or trebled in two days, was increased five to ten fold in four days, and the quantity of urea in the muscles, liver, and brain was correspondingly increased. The same effect in greater or less degree followed the checking of the function of the kidneys by cantharides, etc. There was no doubt that the presence of increased urea in the blood depended upon a lesion of the secreting cells of the kidney, the quantity of urea in the blood being in proportion to the renal changes. When the epithelial change was slight there need not necessarily be an increased amount of urea in the blood. These facts were of easy application in acute nephritis in the human being, but the question was more complicated in chronic nephritis. In the latter the excretion of urea might be a little behind, and when an acute nephritis developed uræmic symptoms rapidly manifested themselves. The urea itself had a diuretic effect, which in chronic cases might aid in keeping off acute symptoms. The facts previously alluded to, however, furnished evidence strongly against the view that urea itself was ever the cause of uræmia—the facts being absence of increase of urea in the blood in some cases, and even a diminution of the normal quantity in some instances. The idea, however, that urea did not play an important part in uræmia was not to be taken as indicating that its accumulation in the blood was unimportant. Among its effects which the author had demonstrated experimentally were diarrhœa and vomiting, and these symptoms in chronic nephritis might be due to the accumulation of urea in the blood.

Dr. Herter believed that for practical purposes the consideration of the volume and specific gravity of the urine yielded all the information that could be obtained from the urea in the urine. What we rather required was a clinical estimate of the urea in the blood. He had not time on this occasion to take up the subject of the extractives in the urine, the potassium salts, etc.

The next division of the paper dealt with the pathological differences of the various clinical types of uræmia. Considerable information could be gained from a study of experimental uræmia produced by double nephrectomy in animals. This corresponded to obstructive uræmia in man, and an interesting fact was that the temperature remained normal or subnormal. In both cases vomiting was frequent: there was usually marked muscular prostration from the beginning, occasionally early restlessness: delirium was absent: paralysis had not been noticed. General convulsions were exceptional; consciousness could usually be aroused at any time.

In uræmia of other forms the symptomatology was more complex. In high tension of the pulse, benefit from venesection was attributed to withdrawal of poisons with the blood. Vomiting was sometimes due to gastritis, sometimes to an effort to rid the system of poisons. Convulsive cases were usually attended by slight rise of temperature. The presence of the uræmic poisons did not explain persistent fever, which was present in some clinical cases. There was reason to believe it was due to another factor, namely, infection. It was well known that nephritis was often determined by certain fevers, etc., and it was not astonishing that

this interference with the renal function often precipitated an impending convulsion. In time we should probably know more of the way in which the various infections acted. The author then made some experiments with the use of staphylococci and other bacteria, to determine their influence in cases of uræmia. One might refer to such cases as mixed uræmia. Indeed, to this class belonged by far the largest number of cases, the cases of pure toxæmic uræmia being comparatively rare. Some cases were not easy to classify. This was true of puerperal eclampsia. Before dropping the subject of the influence of infection, the author said there was evidence strongly suggesting in some cases toxic absorption from the intestines. The changes seen in the kidneys of infants suffering from intestinal troubles would go to support this view. In short, we must widen our conception of uræmia as a pathological state. It was not a pathological entity. Speaking generally, any poison which damaged the kidney sufficiently was capable of producing the uræmic state.

Dr. William H. Draper opened the discussion. The observations which the author had made with regard to the toxicity of the human blood serum were very important. Of course, the subject was not new, but important facts had been emphasized and brought out. The toxicity of the blood serum probably varied from hour to hour, and undoubtedly was the explanation of a great many of the discomforts to which human beings were exposed. The paper was also very suggestive, in that it called attention to the analogy between the toxicity of the blood as it was found in many of the infectious diseases and as it was found in the condition which resulted from acute or chronic disease of the kidneys. Probably there was scarcely any symptom of so-called uræmia which could not be presented in the course of any severe infectious disease, such symptoms being caused by the accumulation of excrementitious substances in the blood. He had also been interested by the statement which had received the endorsement of other writers, that uræmia was not a pathological entity. Further, that it was not due to urea, but to a complex condition of the blood. A third point in which he had been particularly interested related to autoinfection from the intestinal canal. Certainly the nervous symptoms in gastro-intestinal troubles in infants were indicative of some autoinfection.

Dr. A. Jacobi would repeat what had been suggested by the paper and the remarks of Dr. Draper, that in infectious diseases we should look for danger arising from the kidneys. It had long been observed in pneumonia in the adult, for instance, that the principal danger was not so much from the pneumonia proper as from an accompanying nephritis. He also referred to those conditions in which the water in the blood was considered as being diminished as instances in which uræmic symptoms were likely to manifest themselves temporarily. On a hot summer day, a person being exposed to the sun, perspiring, without water, a headache and other symptoms developed, which were relieved at once by a glass of cold water. But what Dr. Jacobi wished particularly to lay stress upon was the author's reference to autoinfection from the intestines, and the frequency of nephritis and uræmic symptoms connected with gastro-intestinal affections. Very recently Dr. Osler had denied the existence of fevers arising from autoinfection from the intestines. Dr. Jacobi said there could not be the slightest doubt that nephritis from intestinal autoinfection was very common. It was also almost the rule in various diseases, as diphtheria, pneumonia, etc.

Dr. William H. Thomson looked to such papers as Dr. Herter's as the only practical way to show the relation between the clinical symptoms known as uræmia and the pathological conditions underlying them. He knew of nothing more puzzling than to attempt to trace the relation between such clinical symptoms and the pathological conditions apparent from physical examination. How, for instance, were we to account for dropsy connected with large white kidney, yet less damaged than the atrophic or cirrhotic kidney which was unaccompanied by any dropsy? Other examples were given which showed that uræmic symptoms were not necessarily connected with the condition of the kidney which produced dropsy. There had been albumin in the urine of one of his patients since an attack of nephritis in 1879, low specific gravity, light color, yet he never complained of being sick. On the other hand, not infrequently there was absence of albumin in some patients' urine and yet their uræmic symptoms grew. In connection with the author's remarks upon obstructive uræmia resembling uræmia in animals from which the kidneys had been removed, Dr. Thomson said he had been asked to see a man in consultation who had not passed any urine for eight days, yet there was almost entire absence of symptoms, and the doctor wanted to know why he had not convulsions, etc. Dr. Thomson told him that the man would not show uræmic symptoms, but would die, growing weak, and while there might be twitching there would be no convulsions. It turned out so. The man had had renal colic on the left side thirteen years previously; there was no trouble afterward until lately, when he had had a second attack of renal colic, on the right side, blocking the right kidney. The first organ had been destroyed, the latter recently obstructed. The difference between the two classes of cases was this: that when suppression was preceded by inflammation of the kidney a far more toxic state developed than when suppression occurred without preceding disease.

Dr. Andrew H. Smith said the paper suggested the thought, how much better it would be to do away with the term uræmia and substitute that of toxæmia of renal origin or renal toxæmia. The unexpected results occasionally arising from the administration of drugs could probably be explained by deficient eliminative power of the kidneys. He would never forget the alarming symptoms once caused by a very moderate dose of morphine and it was then found there was disease of the kidneys. Any trifling disturbance of the gastric functions would sometimes lead to very unpleasant results when there was disease of the kidneys. The necessity of making periodical examinations of the urine of all persons under his care should be impressed upon the family physician, in order that he might not be taken by surprise.

Report of Commitee on the Subject of the Health Department in the Charter of the Greater New York.—Dr. P. Albert Morrow read the report. The questions presented in Dr. Stephen Smith's paper had been carefully considered. The powers of the board of health were those which had been conferred by law and had been in operation for thirty years. These powers, which might seem extraordinary, had been tolerated in the past only because the health department had been chary in their use, reserving their exercise for times of emergency. The committee did not recommend a change in the charter in this regard, believing that the conservative influences which had prevailed in the past would continue, and persuaded that if at any time there should be any unwarranted exercise of such powers, a reaction would take place which would bring about restrictive legislation. In the present advanced state of the charter, the committee had thought it advisable to limit its suggestions to that provision which discriminated against physicians in the matter of the presidency of the board of health. Therefore the committee offered the following:

"*Resolved*, That in the composition of the board of

health of the Greater New York there should be three commissioners appointed by the mayor, two of whom should be practising physicians of not less than ten years' standing at the date of their appointment.

"*Resolved*, That there should be a third commissioner. That the third commissioner should be a reputable citizen of the Greater New York, qualified by education and experience for the duties of this office.

"*Resolved*, That the health officer of the port should be ex officio a member of the board of health, and that the president of the board of police should be ex officio a member.

"*Resolved*, That one of the three health commissioners should be designated president of the board by the mayor in making the appointments.

"*Resolved*, That we should abolish the office of coroner and adopt the system in Massachusetts, modified to suit the exigencies existing in New York."

On motion the report was received.

Dr. A. Jacobi said he fully agreed with the propositions made by the committee. There was one thing, however, which had not been mentioned. Dr. Jacobi then read the second of the two following sections, Dr. Piffard reading the first one, or 1,248, subsequently.

"Affidavit may be required.

"Sec. 1,248. The department of health may require any physician to subscribe, not less than three hours after service of a demand thereof upon him, an affidavit, stating therein whether he has or has not any patient, who, in his opinion, shall then be sick of any pestilential, contagious, or infectious disease, and if he has any such patient, to state in such affidavit his or her name and the house or place in said city where he or she shall then be and the nature or name of such disease, to the best of his knowledge and belief.

"Penalty for failing to report.

"Sec. 1,249. Every practising physician who shall refuse or neglect to perform the duties enjoined on him by the foregoing section shall be considered guilty of a misdemeanor, and shall also forfeit for each offence the sum of $250, to be sued for and recovered by the health department. It shall be the duty of each visiting, hospital, and consulting physician, to make an immediate report to the department of health of the name of every practising physician by whom he shall have reason to believe the provisions of said section have been violated; and if such physician shall neglect or refuse to perform his duty, the department shall order him to be suspended from any office he may hold, and he shall, moreover, be liable to such further penalty and to such prosecution for his violation of this law and of his duty as the board of health shall determine."

Dr. Jacobi said this made of physicians spies. It was undignified, unworthy, and dangerous, and certainly ought to be stricken out. Moreover, it was unconstitutional. By law physicians were certainly compelled to report a felony, but by the section physicians were required to report a misdemeanor, which was not in accord with the constitution.

Dr. Piffard read the first section and also entered a strong protest against these sections appearing in the charter.

The president, Dr. Janeway, said this had been the law for about eight years, and had simply been adopted from the present regulations of the board of health into the charter of the Greater New York. He did not know just how it had come to be inserted, but he thought it was from failure on the part of some physician some eight years ago to report a case of typhus fever or cholera. The law might look more aggressive than it was, for he knew of no instance in which it had been abused or enforced.

Dr. Jacobi remarked that if the law was a dead letter it had better be stricken out. If it should be enacted into the new charter, it might become very dangerous.

Dr. Piffard moved to strike out the sections read. There were, he said, some other things in this proposed charter which ought to be stricken out or changed. For instance, sanitary inspectors were given the power to arrest. Further, a citizen on going to a judge and making complaint, could require the judge to order arrest. It was not stated that the judge may but that he shall issue the order.

Dr. Charles E. Quimby thought the very fact that these things which had been said to constitute the law for thirty years was sufficient reason why this charter should now be reconsidered and revised, so as to bring it more in accord with modern knowledge of pestilential diseases, etc. He did not wish to question the actions of the board of health, but he did question the propriety of trusting too much to the wisdom of future members of the board. He thought the time had come in sanitary administration when some restriction should be placed upon the absolute power now given health boards in defining what diseases should be placed under their entire control. They were given power to take charge of all hospitals for pestilential, contagious, and infectious diseases, and physicians might look forward to the time when they would gather up patients with venereal and most other diseases and conduct them to hospitals under their exclusive charge. Without any disrespect to the medical profession, he would say that he thought no man ought to have such a temptation thrown before him. However, he had taken some pains to ascertain the chances of modifying the present charter before its adoption, and had learned that it would be adopted practically as it stood, and that any alterations desired by the medical profession would have to be made subsequently.

Dr. Jacobi moved that the report be laid on the table for the present. It could be taken up at any meeting when there was more time for its discussion. The motion was carried.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 15, 1897.

Joseph E. Janvrin, M.D., President, in the Chair.

Balsam of Peru and Castor Oil as a Surgical Dressing; a Study of Twenty-nine Thousand Cases.—Dr. A. E. Gallant read the first paper. It was intended to prove the value of castor oil and balsam of Peru as a surgical dressing which prevented retention and favored drainage and healing. The paper was based on statistics in Dr. Van Arsdale's clinic at the Good Samaritan and Eastern dispensaries, where, out of a total of sixty-five thousand surgical cases the past nine years, the dressing mentioned was used in twenty-nine thousand. A recent editorial by Dr. Pilcher and Dr. Dennis' "Surgery" were quoted to show the important relation existing between retention of fluids and solids in wounds and their infection by bacteria, sepsis, and want of union. The present paper was a continuation of observations recorded by Dr. Van Arsdale a few years ago, when he brought the method of dressing wounds by balsam of Peru and castor oil to the notice of the profession. The accumulation of serum and pus in wounds which could not escape they denominated retention. It was frequently brought about by dry dressings, dry powders, and ointments, which for a few hours absorbed a certain amount of moisture, then became dry, and shut off the discharges until the dressing was changed. In the treatment of fresh wounds

some means must be provided for the escape of blood first and of serum later. To any means by which was afforded exit of blood, serum, or pus, the term drainage was applied. Given a wound with blood clot, closure of the gap, bacteria, and serum as a pabulum, we had all the conditions for suppuration with its local and systemic manifestations. To prevent this we must provide for the rapid absorption of blood, of serum, later of pus, thus deprive the bacteria of their natural food, and render the soil unfit for their development. The dressing which accomplished these purposes best in the experience of Dr. Van Arsdale and of the author was castor oil with from five to six per cent. of balsam of Peru. The balsam oil was spread on gauze, several thicknesses being placed over the wound and covered with oiled silk, oiled muslin, or rubber, retained in place by a bandage or adhesive plaster. In special cases the wound could be powdered previously with iodoform or other agent. Balsam of Peru was too irritating when applied much stronger. It was believed to exert a mild antiseptic action, but the dressing was applied chiefly for its absorbent properties.

Uses: 1. As long as there was any secretion the dressing prevented union or closure of the gap where incision was made, and thus prevented the accumulation of blood or serum in the depth of the wound. 2. Dry gauze would not take up moisture as readily as when previously moistened. 3. The sponge-like action was continuous, and no accumulation could take place. 4. The oily mixture separated the fibres of the gauze, and the secretions were drawn into the interstices. It was, therefore, important to apply a relatively large quantity of gauze. 5. Immediate removal of secretions from the depth of abscesses facilitated rapid contraction of the cavity and aided healing from the bottom.

Neither the oil nor the balsam required to be sterilized. Abscess cavities were never packed, as it would interfere with their contraction. Regarding results, he found that during the nine years in the two dispensaries there had been treated 69,364 new patients, with 154,529 consultations, or an average of two and one-fourth consultations for each patient. Of this number 29,000 had been treated with the balsam-oil, or a little over one-third of the total number of surgical cases. The author classified these cases under burns and scalds, bullet wounds, abscesses, suppurating lymphatic glands, boils, buboes, varicose ulcers, chancres, etc. In burns the blebs were opened; if suppuration had taken place the skin was cut away, the raw surface dusted with powdered bismuth subiodide, and the balsam-oil dressing placed over it. Pain subsided, suppuration and fever disappeared, the reformation of epithelium was remarkably rapid, the cicatrix was soft and pliable. Animal and insect bites were never cauterized; the dressing brought about rapid union. Abscesses as large as an orange of lymphatic glands in children would contract down to almost nothing within three days after they were opened, a drain was introduced and cut off level with the skin, plenty of gauze containing the balsam oil applied, and over this rubber tissue. They considered it important to excite hemorrhage in the least degree possible, as it would open up new channels for septic absorption. Therefore they did not scrape or even irrigate abscess cavities after evacuating them, but simply introduced the drainage tube and applied the balsam-oil dressing. When this was renewed after about three days, it was found to have absorbed all of the discharges, while the cavity was contracted until nothing remained except the space occupied by the drainage tube and the line of incision. It was surprising to see bullet wounds heal so rapidly under the dressing without further measures, the explanation being that all of the discharges were immediately absorbed, leaving no pabulum for the multiplication of bacteria. Certain sores, as varicose ulcers of the leg, tuberculous ulcers, etc., were treated by a more or less modified method. In his hospital work Dr. Van Arsdale had used sterilized oil without balsam for skin grafting, with excellent results.

Having analyzed the numerous cases in which they had used the dressing of balsam of Peru and castor oil, the author summed up its advantages partly as follows: It afforded continuous drainage or sponge-like absorption to the point of saturation, so that the ulcer, abscess, or wound was kept clean and dry, yet soft and moist on the exterior. Retention could not take place; there was no scabbing, no redness, no eczema, no adhesion of the dressing; epithelial growth went on rapidly; there was absence of irritation, of pain, of fever, of infection. The dressing need not be renewed oftener than two, possibly three times a week. Under this treatment irrigation, disinfection, or scraping of abscesses was worse than useless. Dr. Gallant himself applied the balsam-oil dressing in aseptic operative wounds, as in removal of cancer of the breast, with most satisfactory results.

The Origin of the Balsam-Oil Dressing.—Dr. W. W. Van Arsdale, being requested to open the discussion, said they had been driven to the use of the dressing named through necessity rather than through forethought. He had been trained in the aseptic and antiseptic schools, and it was not from choice that he had treated the first cases in the manner described in the paper. It was simply because in the dispensary it was impossible to carry out the details of antiseptic or even aseptic treatment. In his class alone there were sometimes as many as one hundred patients a day who required surgical attention within a period allowing not more than two or three minutes for each patient. Recollecting a case of ulcer once treated by all known methods, without success in bringing about healing, he had resorted to olive oil containing a little balsam of Peru, with speedy success. But olive oil would dissolve only one-half or one per cent. of balsam of Peru, and, speaking to the apothecary about it, they had hit on castor oil, which would dissolve as much as was desired. The paper had described this method in detail, and he could corroborate all that Dr. Gallant had stated. While they were driven to the use of this dressing by necessity, yet they had soon become alive to its advantages and had found the indications for its use steadily widening. But he feared that if he said much more upon the subject it would be inferred that he was biassed. He would, therefore, proceed to state one seeming objection, namely, that the dressing which so thoroughly absorbed all of the discharges took on some odor. While this in no wise interfered with the healing of the wound, yet it was more or less disagreeable. Perhaps something would be discovered to add to the dressing which would do away with this feature. Regarding the use of the dressing in primary wounds, personally he did not employ it in such operations as herniotomy or removal of the breast when the edges of the wound could be brought together, because it hardly seemed necessary as a means to the primary union which was sought. But wherever drainage had to be substituted for asepsis, he could most warmly recommend the dressing. In times of war it would be of special benefit, and ought, he thought, to take the place of the iodoform gauze which every soldier in the German army had to carry. The latter was calculated to shut in secretion and favor sepsis, especially if there were infection, as there was likely to be. The balsam-oil dressing would keep the wound dry and yet moist.

Dr. Fred H. Wiggin recalled some experience when hospital interne under Dr. James R. Wood, in 1878, when little was known about antisepsis. Dr.

Wood was accustomed to leaving wounds open and painting them with balsam of Peru. Unaware of Dr. Van Arsdale's practice, Dr. Wiggin had since made use of balsam of Peru in cases of granulating wounds and ulcers, and had found that it stimulated them to healing and prevented drying of secretions.

Dr. Von Donhoff stated that the principle of asepsis as distinguished from antisepsis was seen every day. A good illustration was the sight of a dog freeing itself of the dressing which with good intention had been placed on its injured limb, and keeping it open by licking it. He would not forget the first impressive lesson taught him by one of the lower animals. A horse had injured its breast; he sewed back the loose mass of flesh and carefully bound up the whole chest, and the horse just as carefully ripped off all the dressing and the sutured mass of flesh as well. Healing went on rapidly, without infection, which probably would have taken place with suppuration had the dressing remained. The only source of healing of wounds was that physiological *vis a tergo* which came from within, unimpeded by external occlusion.

Dr. Gallant said, in the course of some closing remarks, that Dr. Van Arsdale had not used the balsam-oil dressing on primary wounds as often as he had himself, and seemed not to have the same degree of faith in it, or considered it unnecessary. Dr. Gallant, however, believed it was of advantage, doing no harm, insuring absorption of all secretions, preventing possible development of germs, and promoting primary union. In reply to Dr. Wiggin, he said the balsam of Peru was not the important ingredient, but rather the oil; and no doubt something else could be found to take the place of the balsam as a means to keep the oil sweet and to impart a stimulating effect when that was indicated.

Results of Chemical Electrolysis versus Divulsion or Cutting in the Treatment of Urethral Stricture.—Dr. Robert Newman read the paper (see p. 443).

Dr. F. Schavoir, of Stamford, said that if he were asked which department of electro-therapeutics was best, he would say electrolysis of strictures as devised and practised by Dr. Newman. In the treatment of endometritis, uterine hemorrhage, fibroids, etc., there were other measures which could replace electricity, but in urethral stricture all other methods were unsatisfactory. Why was Dr. Newman's method not more generally practised? He could think of but one objection, namely, that a good deal of study was required to understand the principles involved—physiological, electrical, mechanical, and chemical. If doctors would give the treatment a fair trial, they would become as enthusiastic as Dr. Newman. Why was not the whole lining of the urethra dissolved equally with that of the stricture tissue? He thought the explanation probably was the difference in blood supply. An objection to Fort's instrument and another one presented was that only a part of the circumference of the urethra was touched by them at the strictured portion, and, if the stricture tissue were in one side only, it would not be acted upon.

Dr. Samuel G. Tracey said there were many genito-urinary surgeons who feared electrolysis in the treatment of stricture, and he thought it was due to a want of appreciation of the value of the electro-chemical change which took place in the tissues under the negative pole of the galvanic current. Surgical measures even resulted fatally occasionally, and it was far preferable to resort to such a simple measure as electrolysis, which could be applied without danger, injury, pain, or interference with business. Further, the stricture would not return. Electro-chemical absorption took place, produced by a constant current, negative pole, small amount of amperage. If one carried the amperage up to thirty or forty milliampères, there would be cauterization or destruction of tissue. Three to five milliampères were enough. His personal experience led him to believe that the majority of strictures could thus be cured. As Dr. Newman had pointed out, the action of Fort's method was more by tearing than by electrolysis.

Dr. Von Donhoff said that when he had listened to the reading of a paper by Dr. Newman some years ago, he had propounded some questions which still remained unanswered. It was impossible for anybody to answer them. The cure of stricture meant getting rid of the deposit which caused it. Electricity in mild current simply acted as a mild stimulant. He had seen electrolysis used succesfully apparently, but a series of graduated sounds could have been used just as successfully. Dr. Newman, however, claimed that the stricture was cured and did not return. This must mean a return of the canal to its former natural state, which the speaker denied was a possibility.

Dr. Newman closed. The last speaker had commenced with a conundrum, which he himself had admitted nobody could answer. The question, however, whether stricture was cured by electrolysis was answered in the affirmative by statistics of cases with non-recurrence, and one reported case in which autopsy subsequently showed absence of stricture where one had existed prior to treatment by electrolysis. When patients had returned to him it was not for recurrence, but for stricture in another portion of the urethra.

Compulsory Reporting of Cases of Pulmonary Tuberculosis.—This was the special subject for discussion, and representatives of the city health department had been invited to be present.

Dr. George B. Fowler, health commissioner, was first invited to speak, and stated the successive steps taken by the board of health looking to the control of pulmonary tuberculosis. He thought the last step, requiring the reporting of cases of pulmonary tuberculosis, had been misunderstood by many members of the profession, and this fact seemed apparent from the announcement on the card, "Compulsory Inspection of Cases of Tuberculosis." There was to be no compulsory inspection. Inspection would be made if it were requested by the physician reporting the case. A conservative estimate, from the number of reported cases and deaths from tuberculosis, placed the number of patients in the city at twenty thousand, not to mention many unrecognized incipient or obscure cases. The startling prevalence and fatality of tuberculosis was evident from recent European statistics, showing that one-third of all deaths in the German empire were from this disease, and in Vienna nearly one-half of the deaths between the ages of fifteen and sixty were from tuberculosis. Dr. Fowler impressed the fact that the board had not declared tuberculosis contagious, as the remarks of one speaker would indicate. The board had declared it to be among the infectious and communicable diseases, dangerous to the public health.

Dr. J. Blake White thought we were indebted to the commissioner of health for coming and making this explanation. But there was high authority against the positive statement that tuberculosis was infectious and communicable. He quoted the late Benjamin Richardson, the observations of gentlemen in Philadelphia—Cohen, Da Costa, Tyson, etc. These gentlemen, of widest experience in hospitals where tuberculosis existed, had seen no more cases among nurses in such hospitals than in the general population. Dr. Da Costa had known only one out of about one hundred and fifty house physicians to have tuberculosis, and in that instance the disease was not present for five years after he had left the hospital.

Dr. Louis Fischer said the resolutions adopted by the West Side German Dispensary, which had given

rise to this discussion, had been passed on account of the injustice done one of their staff and a patient by one of the inspectors of the health department. Dr. Fischer held that the part taken by the tubercle bacillus in tuberculosis was not clear. It was claimed that infection could be proven by inoculating lower animals. It was true that something more or less similar to what was seen in man could thus be produced by inoculation of animals, but there was a difference, just as there was a difference in similar experiments in diphtheria. We knew that Leaming, Da Costa, and other eminent authorities did not believe that the bacillus tuberculosis was the prime factor in the disease. The statistics based on reported cases were not reliable. He knew of doctors who never even reported cases of diphtheria. How, then, could it be expected that they would report all cases of tuberculosis? He did not believe the inspector of the health department could do any more than the family physician to prevent the spread of infection by the latter's patients. He would like to have the subject referred to the committee on hospitals.

Dr. Noll, a member of the committee on hospitals, objected because their committee already had too much to do. Later, on motion of Dr. Manley, the subject was referred to a committee of three, to confer with a similar committee from the Academy of Medicine and the County Medical Society. The president appointed Drs. Manley, S. B. W. McLeod, and J. Blake White.

Report of Committee on Hospitals, etc.—Dr. Noll read the report at the request of Dr. Stewart. The report contained several recommendations, which were adopted: 1. In view of the fact that some doctors had called on the mayor, asking him not to appoint a physician to fill the vacancy in the charities commission, a resolution was adopted by the association, requesting the mayor to appoint a physician. The resolution called for a committee of three to wait on the mayor, the president to be one; and later the president appointed as the other members Drs. Harrison and Stewart. 2. The second resolution called for the appointment of a committee to confer with a committee from the County Society, with regard to the medical charity abuse. The County Society committee believed the Charity Organization Society would act in this matter, especiallly if the County Association also requested it. Dr. Noll said this was not ideal, but it was probably the best that could be done under the circumstances. Dr. W. Washburn, who was connected with the Charity Organization Society and also a member of the County Society committee, spoke on the question. The president appointed on this committee Drs. Newman, Nott, and Stewart. 3. It was suggested that a committee be appointed to visit J. P. Morgan, to show that the gift for the great obstetric building planned was unnecessary and harmful in influence. The president appointed on this committee Drs. McGillicuddy, Berg, and Beaman Douglass. A fourth suggestion, relating to the remission of dues since 1892, was not adopted, but a motion was passed calling for the number of physicians in arrears.

Diphtheria.—From the look of the throat alone, there cannot be made in many cases a diagnosis between diphtheria and the effects of vesicants and escharotics; the condition which led to the pellicular inflammation must be known. Though of course it is recognized that there are many cases of ordinary follicular tonsillitis, "yet the distinction between the non-contagious affection and true diphtheria can seldom be drawn in a given patient, and therefore in practice it is wise to consider the disease to be in all cases probably, or at least possibly, diphtheritic."—Allbutt, "*System of Medicine.*"

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 22, 1897.

Robert A. Murray, M.D., Vice-President, in the Chair.

Serum Diagnosis of Typhoid Fever.—Dr. C. A. Elsberg read the first paper of the evening. The serum diagnosis of typhoid fever, or Widal's reaction, was demonstrated by microscopic slides and by test-tube specimens. Under the first microscope was a bouillon culture of the typhoid bacilli, under the second Widal's reaction in serum, and under the third the same reaction from dried blood.

A study of the human blood showed that it contained under normal and pathological conditions substances which protected the organism against invasion by micro-organisms. These substances were four, called alexins, antitoxins, bacterilitic substances, and glutein. Having mentioned these substances and the difficulty of diagnosticating typhoid fever by the typhoid bacillus, because of its close resemblance to the colon bacillus, the author passed to the consideration of Widal's method, which he had found very reliable and also very useful in diagnosis under certain circumstances. His observations were based mainly on dried blood, serum having been used in a small proportion of the cases. The reaction consisted in a clumping of the typhoid bacilli when placed in the serum of a patient who had typhoid or had recently recovered. The same reaction took place in dried blood diluted with a proper amount of water. In his own test experiments the serum and the dried blood had been of like value.

The clinical basis of the paper was the examination of the blood or serum of 410 patients—262 of typhoid fever, 148 of the various diseases seen in a general hospital. In only one of the cases without typhoid was the reaction present. The patient not being very intelligent, it was possible she had had typhoid a month previously, of which she could give no distinct account. Of the typhoid cases the reaction was present the first week of the disease in only eight per cent., but in eighty-six per cent. it was present within two weeks. In only fourteen per cent. was its appearance delayed until after the second week, by which time, of course, the clinical diagnosis could certainly be made, unless the course of the disease was quite obscure. The method was of chief value in cases in which the diagnosis remained in doubt after the first week. While the presence of the reaction was almost positive of typhoid fever, its absence did not necessarily exclude that disease. The examination might be made too early in the disease, or at an interval when the reaction was absent, while next day it might be present. In three of the cases reported there was recurrence of the typhoid, and it was only after the recurrence that the reaction was distinctly present. This would point to a relation between the agglutination and immunization. The reaction lasted several weeks after recovery from typhoid, but he had found it in no instance after six months. In one it had disappeared after the eighth day. The reaction was additional proof that the Eberth bacillus was specific of typhoid fever.

Dr. N. E. Brill, in whose service at Mt. Sinai Hospital most of the author's observations had been made, confirmed the statements made in the paper, and said the epidemic among the nurses in the training-school had afforded them unusual opportunities for daily examinations of the blood throughout the course of the typhoid in twenty cases or more. Dr. Brill thought the presence of the Widal reaction furnished immediate proof that the case was one of typhoid. To the trained examiner the reaction was perfectly character-

istic, but it might be mistaken by the inexperienced. He thought that in the few cases reported by some gentlemen in the city of its presence in other diseases might be accounted for by a recent overlooked attack of typhoid. The three cases of recurrent typhoid mentioned in the paper were very interesting, as they would seem to show that so long as the immunization was too incomplete to prevent recurrence the reaction was absent, but after the recurrence immunization became complete and the agglutination was then found.

Dr. W. H. Park thought some anomalous cases might be accounted for on the supposition that there was slight infection by typhoid bacteria, and the reaction was found, but the characteristic symptoms of the disease were not present. Again, in a case at Bellevue a year ago, in which the reaction was striking, there had not been typhoid for a year, but the man had abscess of the liver. In this case the explanation was probably that the typhoid bacilli had remained in the liver abscess. In a few cases, however, this explanation of a positive reaction in the absence of typhoid did not seem clearly to hold. Dr. Park pointed out some advantages of the serum over the dried-blood test, although the latter was usually very reliable. In a case at Roosevelt, absence of the reaction under the serum test led to the exclusion of typhoid, although the entire house staff held to the typhoid diagnosis based on clinical symptoms. Autopsy showed absence of typhoid and presence of tuberculous meningitis. Reaction with a large dilution pointed almost positively to typhoid. At the health department the reaction was present about the sixth day, which in hospital cases would point apparently to the eighth or ninth day. In some instances it was absent until the third week.

Dr. Elsberg agreed with Dr. Park, that when reaction was present unusually long after an attack of typhoid, it might be due to some local abscess or inflammation in which the typhoid bacilli found a lodging-place. He had seen it in a case of periostitis, but had not an opportunity to examine for typhoid bacilli at the site of this disease.

The Mechanical and Operative Treatment of Clubfoot.—Dr. A. M. Phelps read a few notes and presented a number of patients, casts, and photographs, bearing on the mechanical and operative treatment of clubfoot. Authors were now pretty well agreed that heredity had much to do with clubfoot. He was inclined to think that some form of trauma in the uterus played an important part, more particularly forced position, as when amniotic fluid was scarce. Some of his examples of clubfoot showed a position resembling the shape of the uterus. There was no reason to think that either clubfoot or harelip depended upon maternal impressions. The paper of the evening dealt principally with different forms of varus. Mechanical treatment alone was sufficient if begun at birth or not later than the third month. The foot should be twisted into correction, and finally into overcorrection with the hand, and held in that position until the next day or the next dressing by strips of adhesive plaster passing from the plantar surface outward and up on the ankle and leg, these to be supported by roller bandage. Plaster could not be used at this time. In cases seen after the third month, the deltoid ligament or other contracted parts should be divided, and the necessary force used to bring the foot into a position of overcorrection. It was seldom necessary to divide bone, but in one case shown he had found it necessary after his incisions to use a force of fifteen hundred pounds to twist the foot into a position of overcorrection. It was absolutely necessary to retain the foot in the corrected position, otherwise the case would not be cured. In his experience relapses never occurred, except when the patient or parents neglected to return or to carry out the treatment. This number was less than ten per cent. Up to three months ago Dr. Phelps had operated in five hundred cases, and had never had a death. The mortality under older methods was due to bone operations. It was very seldom that division of bone was necessary. He presented a young man, who when a child had been operated upon by the elder Mott, and later by the younger Mott. The foot was in very bad shape when he saw the man, but to-day was practically straight and the patient was walking about.

Dr. L. A. Sayre was requested to open the discussion. He said it would be difficult for him to express his full pleasure on hearing this exposition of the correct treatment of clubfoot. There was nothing to be criticised. If the advice given were generally followed, there would be much less barbarism practised in the treatment of clubfoot.

Dr. Virgil P. Gibney also fully agreed with Dr. Phelps in his exposition of the treatment of clubfoot. He aimed always to get the foot straight. If it could be done by the nurse's hand, that was the method employed. If plaster was necessary, it was used. In advanced or neglected cases he resorted to operative treatment. Almost anybody could get the foot straight by cutting it, but there were few, it seemed, who knew how to keep it straight. Yet that was positively necessary, and was a point which might be more strongly emphasized.

Dr. Kiliani made some remarks in the line of endorsement of the paper, and mentioned the fact that Volkmann, under whom he had studied, had later given up extirpation of the astragalus on account of its dire results, and adopted the method of Phelps as soon as a knowledge of it reached Europe. Dr. Kiliani also dwelt upon the fact that whenever an operation was done it was only the beginning of treatment. The correction must be maintained. Some European surgeons made correction on the instalment plan, but, whether it was done at one time or by degrees, it must be carried out until there was no tendency to relapse.

Dr. Reginald H. Sayre remarked that in many cases it was absolutely impossible to make correction after incision without the use of very great force, and in Dr. Phelps' severe cases presented this evening this must have been the secret of success. Old cases had facets worn into the bones in the false position, and the corrected position must be maintained until new facets formed and there was no tendency to relapse.

Dr. C. Dixon Jones said he had employed only the method described by Dr. Phelps, and had found it sufficient to overcome the deformity.

Dr. Phelps, in closing, said there was no such thing as relapsing clubfoot. Relapse meant failure to carry the treatment to the point of cure. Overcorrect the false position and the weight of the body would itself tend to prevent relapse. Before treatment its tendency was to exaggerate the existing valgus, but supercorrect and it would drive the foot in the opposite direction until it had become solidified in the position the surgeon desired.

Report of the Committee on Hygiene.—Discussion on this report was announced for the present meeting. Dr. Egbert Le Fevre requested that it be read. The secretary, Dr. Avery, read as follows: "Realizing the need of proper measures to prevent the spread of pulmonary tuberculosis, and regarding it an essential preliminary that all physicians be impressed with the importance of making an early diagnosis of the same by a microscopic examination of the sputum, we earnestly recommend that physicians avail themselves of the offer of the bacteriological department of the board of health to make such examinations. We approve of the compulsory reporting of cases of pulmonary tuberculosis if the inspectors are forbidden to visit or to have any communication with the patients

without the consent of the attending physician, believing that the attending physician is capable of giving all the necessary instructions."

Dr. Le Fevre, who as a member of the committee on hygiene had signed this report, said it was drawn up in order that the matter might be placed in some form for action by the society. Personally he had not changed his views much since he had first expressed them upon the action of the health board in requiring compulsory reporting of cases of pulmonary tuberculosis. He was opposed to it. It was a different matter from notification of cases of scarlet fever, diphtheria, and other infectious or contagious diseases which ran a short course. When we reported a case of tuberculosis it was practically for life.

Another point: the board of health must necessarily have large powers, but it ought to be hedged about to some extent in the interests of the patient. They had been told that the proposed new charter was only a continuation of the present charter in most regards. That might be, but was it desirable to renew certain regulations which had fallen into oblivion, yet which, if enforced, might prove dangerous? If the board decided to place tuberculosis among the infectious diseases which had to be reported, it reclassified that disease. The board would have exclusive charge of hospitals for the treatment of such cases. Indeed, if the sanitary code of the present city should become that of the greater city, as provided in the wording of the charter, the health board would be given practically the treatment of all infectious diseases, and it had only to declare a disease infectious in order to take charge of it. Without criticising the present board, which he thought had been very moderate, this was dangerous power. Although he had signed the report for the sake of bringing the matter before the society, he hoped it would not be adopted.

At this point several motions were made, all looking to the rejection of the report and in opposition to the compulsory reporting of cases of tuberculosis, but, as they were not in accord with parliamentary law, Dr. Piffard moved, after the report had been accepted, to adopt it, and said he would vote against it. The report was rejected.

Resolution Adopted Opposing Compulsory Reporting of Tuberculosis.—Dr. A. Y. Reid said he thought the society ought to express in some positive way its disapproval of compulsory notification of cases of tuberculosis. It was unjust to the patient and to the physician. He offered a resolution to that effect, but withdrew it in favor of one read by Dr. Charles E. Quimby, the wording of which he preferred:

"*Resolved*, That in the judgment of this society the recent edict of the health department in relation to the compulsory reporting of cases of tuberculosis is unnecessary, inexpedient, and unwise."

The motion was carried, no voice in the negative being heard.

Epulis. Resection of the alveolar margin is the only logical treatment. Simple extirpation of the alveolar portion of the tumor is to be condemned.—Dr. Edouard Friteau.

Litholapaxy.—A glance at the column of results will show that in proportion as I abandoned lithotomy in my practice in favor of litholapaxy, and as I gained experience of this latter operation, my results improved; and the fact that my last sixteen litholapaxies for calculi of from two up to six and one-eighth ounces were one and all successful show what splendid results we may obtain from Bigelow's operation.—P. J. Freyer, *British Medical Journal*, November 7, 1896.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL DEFENCE — LONDON UNIVERSITY — ANNUAL MEETING OF MEDICO-CHIRURGICAL—SURGICAL PHYSIOLOGY OF THE FOOT—CASES EXHIBITED AT THE CLINICAL SOCIETY—A FORTUNE FOR UNIVERSITY COLLEGE HOSPITAL—MIDWIVES BILL—THE LATE SURGEON FYFE.

London, March 5, 1897.

Medical defence is quite a leading subject just now with a large section of the profession. Both the societies devoted to it have just held their annual meetings and the proposal for the British Medical Association to take up the work is being freely discussed. At the London and Counties Protection Society meeting the chairman remarked that though the society existed for the purpose of going to law, it was fortunate in keeping out of the courts during the past year. But he claimed that much good work had been done which could not be related in the report without doing harm to some of the people concerned. The reserve fund had been brought up to £344 and there is a guarantee fund of £1,700. At the meeting of the Defence Union success was measured rather by the number of actions brought to a satisfactory conclusion. In this respect the union has done a great work, and promptitude in movement has been one of the chief causes of its success. Mr. V. Horsley, F.R.C., presided, and threw the responsibility of the failure of the proposed amalgamation on the London and Counties Association, which had abruptly broken off the negotiations on the point of the name of the amalgamated society. It really seems a pity, as I remarked at the time, that an an arrangement cannot be come to, for "what's in a name?" Surely in such a case union is strength. Mr. Horsley has always been, he said, in favor of amalgamation and he has worked hard as president of the union. It is a question whether even yet negotiations may not be renewed.

But the much larger proposal of union with or absorption into the British Medical Association is now fairly before the profession. The advocates of this are numerous and active. The officials seem to wish to be led rather than to lead, and a scheme has been submitted to the branches and is under serious consideration by them. Under it the association would take up the work of defence, and an additional subscription would be levied for the purpose. This, which should be regarded as a premium for insurance, does not seem to satisfy all members. Some think it should not be compulsory. Others say if it were only voluntary, many members would omit to pay it. In that case there would be no advantage over the present societies. But if all were compelled to subscribe, there would be a splendid fund available for defence. Some fear that compulsion would cause numerous secessions and so weaken the association. The branches will not be unanimous. In fact some have already pronounced in favor of taking up defence and others against it. No little discussion is therefore going on, and perhaps this may eventually lead to something approaching unanimity. If the association takes up the work it will probably absorb both the smaller societies, and special provision should no doubt be made to facilitate this. It was suggested at the meeting of the union that some of its members, not belonging to the association, would find themselves deprived of their present benefits, and it certainly looks as if a little hardship might be the result in some cases. If so, they would have to comfort themselves with the reflection that they had contributed to the establish-

ment of a much greater fund for defence than the union is likely to command.

There was a meeting this day week at the Royal College of Physicians of the delegates named in the report of the Cowper commission on the University of London. Lord Lister moved a resolution, calling on the government to take immediate steps for the reconstruction of the university on the lines recommended by the Cowper commission. The motion was seconded by Professor Rucker and supported by Sir George Young, Sir H. Roscoe, the Rev. Dr. Wace, and Lord Reay. It was carried unanimously. Other movements in favor of a teaching university are being renewed; among them the medical schools will be forward, for their interests are deeply involved.

The annual meeting of the Medico-Chirurgical Society was held on Monday. It is as solemn a function as becomes our premier society. The financial statement and the library report were considered satisfactory. The president (Dr. Dickinson) gave his address, in which, having referred to the increased number of fellows and the finances, he spoke of the house dinner held last year as a pleasant institution, which he hoped might become annual. Then, as in duty bound, he took up the death roll—this year a heavy one, for the society has lost twenty-three ordinary fellows, three of whom had been presidents and seven fellows of the Royal Society. One honorary fellow, Prof. Du Bois-Reymond, has also died in the year. Some feeling tributes were passed to the deceased fellows, most of whose deaths I have reported as they occurred. The usual vote of thanks was passed for the address and the officers for the ensuing session were elected.

The physiology of the foot seems in need of clearing up, at any rate from a surgical point of view, if we may judge from the proceedings at the last ordinary meeting of the Medico-Chirurgical Society. Mr. T. S. Ellis has been insisting for years that the plantar arch is formed and maintained by muscular action and so may be thereby renewed after destruction. The point he now brings forward is, Why is the arch not overformed in stage dancers? He says the short flexors keep the great toe in a straight line and counteract the excessive action of the long flexors, which naturally tend to increase the arch. He exhibited a wooden model of the foot provided with elastic cords to imitate the action of the muscles—one set of which he calls "formators" and the other "limitors" of the arch. He regards hollow foot or claw foot as a consequence of persistent action of the long flexors with failure of the short flexors and the adductors. On the other hand he attributes flat foot to failure of action in both groups. He is convinced that the hanging foot at rest is in the position of inversion, and there is great strain and loss of power in walking with the foot everted. Consequently he urges that our military march should be altered. He says the action of the flexor longus hallucis can be shown to throw the ankle outward by putting the toes together and rising on tiptoe. Objection was taken to the view that the flexor longus throws the foot outward as well as to some other opinions, and of course it was remarked that the model, however carefully contrived and made, could not fully represent all the conditions in the foot.

The meeting of the Clinical Society on Friday was devoted to the exhibition of cases, of which there was a fair show. There was a young man with multiple subcutaneous tumors, apparently fibro-neuromata, which had been noticed for years. An osseous growth from the left frontal bone appeared three years ago and last year nervous symptoms came on, pointing to growth inward, though it is possible they may be set up by tumors pressing on the cranial nerves and spinal roots.

A girl, aged fifteen years, was shown, the subject of hystero-epilepsy, who has periods of double consciousness, which first came on after an attack of meningitis. Her case was reported to the society a year ago and no change has occurred in it.

A man, aged thirty-three years, had had a hæmatoma of the left auricle which had developed spontaneously and subsided without the usual scarring.

Dyspnœa is not common in aortic cases with brachycardia, but a case of this complication was exhibited. There had been a systolic murmur, but within a few days a diastolic murmur had developed. Other cases were mentioned in which a diastolic murmur had developed after a time. Such cases seem to be rare. A man, aged forty-two years, with aneurism of the aorta, was shown by Dr. Besley Thorne, who had treated him by mineral baths and graduated exercise with free ingestion of fluids. After six weeks he could walk with comfort, although prior to treatment the slightest exertion caused great dyspnœa. A skiagraph was shown. The aneurism had not increased in size during the exercises. A slight recurrence yielded to renewal of the treatment.

Another case suggested an association of scleroderma with Raynaud's disease—a circumstance observed by Raynaud himself. An infant with a syphilitic eruption was shown, and a man with ulcer on the leg, healing gradually after incisions at the outer edges and bringing the inner edges together in the middle line. The gaps were treated by Thiersch grafts.

Sir Blundell Maple has subscribed £100,000 toward rebuilding University College Hospital.

The Dublin epidemics continue.

The midwives registration bill has been postponed to the 12th and will then have little chance of coming on.

Surgeon Fyfe, R.N., was the only officer killed at the taking of Benin. He was shot while attending Captain Byrne. He was "only a non-combatant," and the so-called combatants assume superiority to such brave helpers.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE PEST QUESTION—MEDICAL CONGRESSES—A NEW WRINKLE FOR LARYNGOLOGISTS—PHYSICIANS AND QUACKS—NUMBER OF PHYSICIANS IN GERMANY, ETC.

BERLIN, March 10, 1897.

NOTWITHSTANDING the plague in India has apparently passed the maximum degree of virulence, the German government, as briefly indicated in my last letter, has taken energetic steps to prevent its introduction into this country. To begin with, it has sent a commission composed of experienced scientists to India to study the nature of the plague, and to obtain if possible an anti-plague serum. Strict quarantine precautions against vessels from the stricken districts have been taken. All vessels that have persons on board suffering from the plague at any time during the voyage, or have any "suspects," are detained, and the sick, the "suspects," and the well passengers are placed in separate buildings. Unsuspected persons are detained eleven days, invalids until final recovery, and "suspects" until the period of incubation is well passed. A vessel coming from the plague region with a clean bill of health is passed after the passenger baggage is disinfected. Similarly strict precautions have been adopted by all other European countries as well, so that the danger of the conveyance of the plague into America via Europe is, to say the least, very remote. It remains for America to protect itself by strict quarantine measures from any

invasion, especially over the Pacific coast from Australia and Eastern Asia. How active the interest in Berlin medical circles in this question is was recently demonstrated by the unusually large attendance at the Berliner medicinische Gesellschaft on the 24th ult., when Dr. Rolle read a descriptive paper upon the subject. With the projection lantern, he demonstrated microscopic preparations of the plague bacillus from patients and animal experiments, and also showed cultures of the germ.

The plague conference in Venice was touched upon in my last letter. Berlin will witness two medical congresses in the near future; viz., the balneological, to be held from the 11th to the 15th of March, and that for practitioners of internal medicine, to be held from the 9th to the 12th of June. To both of these all American colleagues are cordially invited.

A new trick to prevent the disagreeable coating of laryngoscopical mirrors with moisture is worth noting. Dr. Kierstein, the discoverer of the autoscope, was the recipient recently of a secret remedy said to prevent this coating, and which looked like softsoap. Indeed the resemblance was so striking that softsoap was tried, and behold, it fulfilled the same purpose. Even direct breathing upon the mirrors will produce no moisture. The same holds good of microscopic lenses. Practically the procedure is of little value, for the customary preliminary warming of the mirror before using is less troublesome for the physician, and certainly more agreeable for the patient than softsoap. Still it is an interesting physical fact, and it is therefore worthy of mention.

It is the aim and desire of the German physicians to keep the professional tone and standing even cleaner and brighter than their laryngoscopical mirrors. It is a lamentable fact that Germany abounds with quacks and "healers." This is the result of a lax state of laws which permit any one who so wishes to practise the healing art. Medical practitioners are not regarded as a special professional class, but are classed with the trades and industries. It is the earnest endeavor of all physicians here to have the dignity and privileges of their science and profession formally recognized by law. Included in such a recognition would of course be suitable protective measures against quackery. This end was, and still is, being striven for by our foremost academic teachers, Kussmaul, Bardeleben, Gerhardt, von Ziemssen, and others. They favor a more rigid medical examination, and say that especially should the examination in the branches of hydrotherapy, psychiatry, and in the treatment of accidents and injuries be more severe. In Germany one obtains his degree of doctor of medicine at the universities, but any one can practise as a physician who passes the "Staatsexamen." The study at the universities is long (five years) and expensive; the increased severity of the examinations would result in many attending but a year or two and then beginning practice. What is necessary is stringent laws against quackery. At present this is out of the question, for these individuals seem to have protection from the higher circles. It is a fact that a general suffering from tabes dorsalis was treated in a local hospital by a quack, and the visiting professors were forced to permit him under their very eyes to apply daily his special "methods" until he had succeeded in "curing" his patient forever, which sad event took place in a brief space of time.

The greatest and best-known of all quacks is the celebrated Pastor Kneipp, who still flourishes here. It is admitted that there is much good in his peculiar methods, but the general world will never learn how much harm has been done by the irrational, forced, and excessive application of the "Kneipp cure," by Kneipp himself and his overzealous, unreasoning imitators, because the victims dread the ridicule which would fall upon them if they complained. I will cite but one sad case as a sample of the total neglect of duty toward patients in vogue at the Kneipp Hospitals in Wörishafen. A young girl, who had been in several institutions because she was suffering from mental disease, was brought to Kneipp by her relatives as a *refugium ultimum*. From him she received the customary treatment of such cases. She was told that she was mentally weak, and frequently excited to violent insane outbreaks. Then the following awful, unheard-of procedure was gone through with. This young, weak-minded emotional girl was placed in charge of a young orderly at night. The consequences were not failing. The patient was in course of time delivered of a child. It was of course impossible to prove the guilt of the orderly in court, but the persons responsible for the care and treatment of the patient will be proceeded against by law. However, the root of the evil lies in the laws themselves, which give free license to quacks, and thus permit the unrestrained practice of the "healing art" as it is carried on in such grand style at Wörishafen.

Not only is the profession unprotected by the law, but directly oppressed. As related in a preceding letter, the tax authorities have determined to levy an assessment upon all private clinics. Under the leadership of von Bergmann, a society of physicians has been formed to combat by all legal means this unjust measure against physicians.

The medical profession in Germany is notoriously overcrowded, and in view of this it can be easily understood how doubly oppressive the workings of the law must be. In November, 1896, there were 24,000 physicians (practitioners) in Germany: an increase in the last decade of 8,000, or, in other words, 34 per cent. In Berlin itself, the number was 2,077. The average of physicians to the population equals 459 per 10,000 (in Hamburg it equals 742). It is interesting to note the increase of physicians and of the population at the same time. While the population of Berlin from 1890 to 1895 increased 6 per cent., the number of physicians increased 35.4 per cent.; while in the German empire the population increased 5.7 per cent., the number of physicians increased 22.5 per cent. Should this go on for twenty years more, the prospects for our successors certainly do not look rosy. A reform of all the factors which now conduce to lower the standing and dignity of the medical profession is an absolute necessity in order to prevent it from sinking to the level of the trade.

DERMATITIS ATTRIBUTED TO *X*-RAYS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Referring to Dr. Lilienthal's letter (MEDICAL RECORD, February 20, 1897, p. 287), I am glad to see that the suggestions put forward by me in a communication of December 31, 1896 (MEDICAL RECORD, January 30, 1897, p. 178) are confirmed by Mr. Tesla.

In my remarks I questioned whether the skin manifestations were due to the *x*-rays at all, and suggested that the dermatitis was probably the result of the action of obscure heat waves. I further pointed out that in the cases recorded, the exposure had either been prolonged or repeated at frequent intervals. In conclusion, I stated it would be worth while to place a solution of alum in water between the Crookes tube and the patient, with the object of absorbing the heat-waves, without interfering with the *x*-rays.

In a recent letter to Dr. Lilienthal (*loc. cit.*) Mr. Tesla expressed the opinion that he had gained additional evidence that the *x*-rays themselves were incapable of producing the actions reported, and that

they were due to ozone and possibly nitrous acid. He added that heat also might be to a certain extent responsible. This latter view he, however, further emphasized by stating that the effects followed long exposures at short intervals, and that he believed the long-continued heat might cause desiccation of the skin with subsequent dermatitis. To protect the patient he recommended an aluminium screen, which would allow the *x*-rays to pass through but stop chemical substances.

From the above *résumé* it will be seen that Mr. Tesla shares the views expressed by me on the subject of so-called Roentgen-ray dermatitis.

GEORGE PERNET, M.R.C.S. Eng., L.R.C.P. Lond.

77 UPPER GLOUCESTER PLACE, DORSET SQUARE, N. W.,
LONDON, March 2, 1897.

BRITISH MEDICAL ASSOCIATION, MONTREAL MEETING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: We regret to hear from friends across the border that your editorial of February 20th, upon the coming meeting of the British Medical Association in Montreal, has created no small amount of irritation and we may almost say misunderstanding among members of the profession throughout the United States. What is said in that editorial is strictly correct, and we are glad that you have drawn attention to the conditions under which those who are not members of the association can attend the meetings of the same, for thereby you have taken from us the extremely unpleasant burden of directly notifying our confrères that we cannot invite the whole individual profession of America to take part in the meeting.

Nevertheless, we are greatly concerned that the very delicate position in which we find ourselves has caused irritation, and are most anxious to remove as far as possible all ground for soreness. We trust that what follows will prove that we are far from preparing to hold a "little family feast," and that we are doing all that lies in our power to have with us as many friends as we can safely invite.

While the British Medical Association has a membership of close upon twenty thousand, the attendance at any previous gathering has but on two occassion reached three thousand. The majority of the members reside in the British Isles, and under the most favorable circumstances we cannot expect that great numbers—thousands—of members will attend next August. The extent of steamship accommodation alone prevents more than a few hundred old-country members being present with us. Canada with her sparse population will be represented by hundreds and not thousands of members; the other British colonies and dependencies by delegates from the various branches; and were we to throw the meeting open to the medical men in attendance upon the sixty-six million inhabitants of the United States, the members of the association present would be utterly swamped by the non-members. The whole character of the meeting would be destroyed—it would no longer be a meeting of the British Medical Association, but would assume the nature of an American medical congress with British officeholders.

Clearly, our confrères across the line will see that, even were we guided by no bylaws, we in Montreal, having secured the first gathering of the association outside the British Isles, dare not venture to change the whole character of the annual meeting. Add to this that to throw the meeting open would of necessity make us guilty of holding an international medical congress in opposition to that which will be held in Moscow this year. For the honor of the profession, as also for the grave political considerations, we dare not lay ourselves open to this charge.

All that we can venture, all that can in reason be expected of us, is to invite as guests, not the whole profession in the States, but the leaders of the profession. For weeks, not to say months, we have been engaged in drawing up with great care lists of representative men in the various branches of our profession in various States of the Union: and the sole reason why our invitations have not already been dispatched is that we wish to invite as many as we can, but cannot enlarge these lists until we have a more definite idea of the number of old-country members who will attend. That is to say, we wish to invite the greatest number possible without endangering the character of the meeting. We expect to have not less than one thousand members present, and thus our list of invited guests will assume no inconsiderable proportions. We are, dear sir,

Yours very faithfully,

J. G. ADAMI, M.A., M.D.,
J. A. SPRINGLE, M.D.,
E. P. BENOIT, M.D.,
Honorary Local Secretaries.

VOMITING AND INTUBATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: My attention has been called to the interesting letter of Dr. Thomas Hubbard, in your issue of the 6th ultimo, and the no less interesting reply of Dr. J. O'Dwyer in that of February 20th. Neither communication, however, quite reaches the heart of the question originally raised by my paper, nor do they much affect the physiological theory of vomiting, inasmuch as they deal only with intubation practised with the ordinary tube.

Dr. Hubbard has quoted me as having suggested intubation as a means of checking hyperemesis, and this fact, together with a deep anxiety to see my theory put to the practical test, prompts the present communication.

In an article[1] published in the *Medical News* of July 6, 1895, I called attention to the fact that if physiologists were correct, the important factor in efficient emptying of the stomach was, so far as the actual mechanism is concerned, the firm contraction and fixation of the diaphragm, and that this depended upon the rigid base of support afforded by the expanded ribs, being due to forced and held inspiration, the fixed air column in the trachea being absolutely necessary to the proper performance of the act; that, assuming this to be true, we might hope to prevent vomiting, either by intubation or by tracheotomy in desperate cases, by making it impossible for the patient to hold the forced inspiration. Further, that the tube used must probably be especially designed for this purpose, as the outlet of the ordinary tube could perhaps be closed by the epiglottis and the tissues in which it lies.

A special tube devised by me to meet this indication was figured in that article. This tube has a very high head, with a large opening on its posterior as well as its superior surface. The possible adaptability of such a tube to the relief of intractable hiccough and to pertussis was also mentioned. Unfortunately, as Dr. O'Dwyer states, physiological theories and working facts are not always in harmony, and no one can feel more keenly than I the need of a practical test and the testimony afforded by a long series of observations.

[1] A suggestion bearing upon a new method of treatment of persistent vomiting.

No man living has had a greater experience in this line of work than has Dr. O'Dwyer, and I trust he will give the theory a trial, not through the use of the ordinary tube, but with some such modification as I have recommended. Such tubes are to be obtained from Tiemann at the present time, but those that I have are a bit too long in the shank, and would be better if made of vulcanite instead of metal, as has been suggested by Tiemann. I should like to ask the doctor if he has ever observed that true vomiting occurred after tracheotomy when the tube introduced into the trachea was of good calibre and free from obstruction. I have questioned a considerable number of physicians, surgeons, and nurses, and have been told almost invariably that vomiting has never occurred after the operation, so far as they can recollect. For the present purpose, observations upon adults would be particularly desirable.

Dr. O'Dwyer overthrew many theories when he demonstrated his novel procedure to a somewhat incredulous profession, and I trust that in this matter his invaluable services may be enlisted, having in view the possible establishment of a new application of his own great discovery.

CHARLES LYMAN GREENE, M.D.

ST. PAUL, March 7, 1897.

WOMAN'S INFERIORITY TO MAN—MAN'S INFERIORITY TO WOMAN—WHICH IS SUPERIOR?—NEITHER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have recently read in the MEDICAL RECORD a certain article on "Woman's Inferior Sensitiveness to Pain," from which a certain doctor (Ottolenghi) attempts to prove woman's inferiority to man. As I am a woman, I may be excused for entering a protest and also for expressing some very strong feeling on the subject. To say that I was disgusted, would hardly express my feeling. I knew on first reading it, however, that the argument was misleading, though I did not then have the material at hand with which to defeat it. But I have now. His argument is a fallacy, and I am going to prove it. Hear him:

"Women are less sensitive to pain than men. The higher classes are most sensitive and the uncivilized and degenerates least. And, therefore, as the uncivilized and degenerates are least sensitive to pain, and as woman is less sensitive than man, woman is inferior."

I shall prove the fallacy of his analogy, and that by making another. I am going to prove by my analogy that man is inferior to woman.

Man has more physical strength or brute force than woman The higher classes have the least and the uncivilized and lower classes or (races) the most. And, therefore, as it is the uncivilized and lower classes (or types) that have the most brute force, and as man has more than woman, therefore man is inferior to woman.

But I do not think so. I merely wanted to show the fallacy of his argument. And I have shown it. I would be glad if you would publish this. Although I am not a physician, and am a woman, still I give myself the credit of having some sense. I really do think it is a duty you owe to your readers and to the world at large to publish this, for nothing is like a mistaken notion for doing harm.

For the benefit of those who may be too simple to comprehend, I will say that the negro has more brute force than the white race. So with all the other inferior races, I suppose. But it is certainly true in regard to the negro.

Of course it is needless for me to say that I do not accept the views recorded of the distinguished doctor. I never could look upon our sex as being inferior to the other. It seems to me that nature herself would teach us better. Among the lower animals we do not look upon one sex as being inferior to the other. Why should man be an exception? Nowhere in all creation is the male considered superior to the female, and I do not believe it right or just to make woman, the rightful and lawful consort of man, his inferior. It is only the self-conceit of man that allows him to do it.

I could say a great deal more, but I will not waste my time on it. This much I have said, and this much I mean, and I shall send it to you, whether you publish it or not.

But this much I will add. It may be that woman's so-called "inferiority" is due to her "inferior" opportunities. This you might do well to ponder.

Whenever and wherever I see more mistakes in your magazine, I shall not only consider it my privilege but my duty to inform you of them. . . . I suppose, however, as I am not a "learned doctor," this will not be published.

Another analogy: Men are less refined than women; among the higher classes is the most refinement and among the lower classes and degenerated least. And, therefore, as the lower classes and degenerates are least refined, and as man is less refined than woman, therefore man is inferior.

MATTIE MITCHELL.

[We gladly give our correspondent an opportunity for expressing her views, and gallantly acknowledge the force of her arguments.—ED.]

NERVOUS INFLUENCE AND DISEASES OF WOMEN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the course of a recent most interesting discussion before the College of Physicians of Philadelphia upon the causative influence of gynæcological diseases in the production of diseases or derangements of the nervous system, the weight of evidence seemed to be negative; those who were not influenced by the fact that they were gynæcological surgeons seemed to think that nervous derangements are not so generally dependent upon gynæcological diseases and that their relief does not so frequently follow gynæcological operations as many of us have been taught to believe. Now, I am tempted to ask whether the reverse is not the case: whether many gynæcological diseases are not directly or indirectly dependent upon a primary derangement of the nervous system.

Regarding, as we must, the nervous system as the great vivifying, controlling, regulating department of the body, realizing that without the force elaborated in and disseminated from the nervous system the organs of the body would be but inanimate masses of organic matter; remembering that, without nervous force, manifestation of function would be impossible, is it not more logical to assume that disorder is more likely to originate in the nervous system than in some organ (as the uterus or ovary) that of itself has no inherent power, no capacity of originating or perpetuating either normal or abnormal action? Is it possible for any organ of the body to become diseased without a previous derangement of the all-controlling nervous system?

Would it not be well, therefore, in all gynæcological diseases to look into the condition of the nervous system and to combine with our local treatment measures calculated to restore this system to a normal condition?

Would it not be well in all gynæcological cases fairly to try the therapeutic efficacy of a restored nervous system before resorting to surgical procedures?

Joseph F. Edwards, M.D.

1,625 Pacific Avenue, Atlantic City, N. J.

THE TOXIC ORIGIN OF INSANITY.

To the Editor of the Medical Record.

Sir: In the New York *Herald* of to-day appears a sensational article with the caption "No Longer a Mystery." It purports to be the discovery of the toxic origin of insanity determined by the bacteriologists of the State Institute of Pathology, and it contains a covert puff for the State commissioners in lunacy.

While the fullest credit should be given to the staff of this important institution, it is but fair to state that the study of toxæmia in connection with insanity is by no means a novelty, nor is it the discovery of these enterprising young gentlemen. Over a decade ago Salomon, Regis, and others recognized the toxic origin of mental disease, while no less than ten others, among them Herter and Smith, have written extensively on the subject. Perhaps most credit should be given to Dr. Allan McLane Hamilton, whose paper on "Autotoxis as a Cause of Insanity" was read before the Medical Society of London in May last, and noticed in your London letter a short time subsequently. In this paper, which contained much original research, the connection between toxæmia and insanity was fully shown.

Vesania.

New York, March 15, 1897.

IS ORTHOPÆDIC SURGERY TO BECOME AN OBSOLETE SPECIALTY?—WITH REMARKS ON SPECIALISM.

To the Editor of the Medical Record.

Sir: No one interested in the advancement of true specialism in medicine can fail to thank you for your editorial, "Is Gynæcology to Become an Obsolete Specialty?" which appeared in the Medical Record of February 27, 1897.

Aside from the merits of the questions raised by the discussion between the surgeons and the gynæcologists, the more important issue is, Is it the best policy, both from a scientific, medical, and humanitarian standpoint, for any special department of medicine to "overlap" and invade other fields? All will admit that this is in many instances a necessity as a matter of study and education. But as a matter of practice it would seem to be an error. In a humble way I have discussed this subject elsewhere when my essay, "What is Orthopædic Surgery?" was criticised by Dr. Gibney in the *New York Medical Journal* of November 7, 1891. In my reply[1] to Dr. Gibney I say: "It is universally admitted, I think, that all specialists in medicine should be thoroughly equipped both in medicine and surgery, and there is no reason why one thus equipped should not practise both general medicine and surgery. It must, however, be apparent that the so-called specialist who does this weakens his own claim to specialism and apologizes for his specialty. This will be true so long as medicine and surgery, generally speaking, are progressive, and so long as there are unsolved truths awaiting the special investigator and the special student."

Have the specialists solved all the truths in their special departments? How many have ceased to be special investigators as well as special practitioners?

Unless these questions can be otherwise satisfactorily answered it would seem that the answer made to Dr. Gibney regarding orthopædic surgery is also applicable to other specialties.

I do not stop to question the motives of those who "overlap." They may be honest but mistaken, or they may be selfish or "commercial." But it is a fact that the effect of the present state of affairs upon the entire medical profession is bad, and I have noticed that the lay public is beginning to ask: "What sort of a specialist is he who in his office, in his writings, and in his college and hospital work is a specialist, but who is a family physician and a general practitioner among a selected *clientèle* on other occasions?"

The outlook for the general practitioner is indeed an uncertain one if the "specialist" is to invade the domain of the family physician. Why should he do so?

Not long ago, for example, I had occasion to send a gentleman who consulted me to a well-known specialist. With my full approval this specialist took entire charge of the conduct of the case. He is now duly installed as the regular medical attendant of not only the patient himself, but of his immediate family and some of his friends. I frankly told the "specialist" that I was surprised at his course, but he only smiled and said, "Others do it."

This is no excuse. As I have often said to those who have honored me by asking my advice regarding the adoption of a specialty: "One can make no better investment of one's time after a thorough training, than gradually to adopt a specialty when opportunity or inclination favors. When, however, a certain point is passed, or a hospital or college position, presenting an opportunity for clinical study and investigation, enables one to assume a position as an authority, one should, if he adopts a specialty, cease to be a general practitioner."

The demoralization which has apparently invaded the gynæcological field has already left its marks on orthopædic surgery, and the remarks made in your editorial, with a slight change of words, are applicable to quite a number of men who are best known as orthopædic surgeons. Not content with a patient study in the wide and practically unexplored field before them, these "orthopædic surgeons" "overlap" and, neglecting legitimate orthopædic work, invade the field of the general surgeon.

There are orthopædic surgeons to whom even laparotomy is not a stranger. A considerable portion of a chapter in a recent work on orthopædic surgery is devoted to "amputation at the hip-joint." A paper read before the American Orthopædic Association and published in its Transactions is entitled "Amputation as an Orthopædic Measure." One man, until quite recently a member of the Orthopædic Association, resigned because he felt that he could not afford to have it known that he was connected with the association. Other good and able men, starting out with the intent and desire of becoming orthopædic surgeons, have failed to have the "courage of their convictions" at a critical moment and have become in effect general surgeons. And the profession smiles and the communities in which they live cannot see any great difference between the general surgeon and his orthopædic competitor.

Orthopædic surgery is bound to become a great specialty, but it will not succeed on general surgical lines. Before it can be a real specialty it must cease to appear in the rôle of a competitor with general surgery. It must not "overlap." Its disciples must cease to antagonize the best elements of the profession by posing as orthopædists, when they only lack opportunity to become general surgeons. And until this change is brought about there will be no true orthopædic surgery, except as here and there a man

[1] "On the Definition and Scope of Orthopædic Surgery," New York Medical Journal, November 14, 1891.

stands up for the right and defies criticism, for it is getting to be almost as rare to find a legitimate orthopædic surgeon as it is to meet with an orthodox gynæcologist who does not "overlap" and compete with the general surgeon in operating for appendicitis, etc.

Many do not, I think, appreciate how much there is in orthopædic surgery, outside of its somewhat limited operative work, or how far it may be made useful to humanity. It certainly cannot aid the orthopædist to compete with the general surgeon, and, indeed, there is no necessity for it. If it were accepted and understood by the profession at large that the orthopædic surgeon should confine his operative work to those cases which require special orthopædic care after operation, the entire profession would be benefited: orthopædic surgery would find itself busy with congenial work, and it would occupy a well-defined and enviable position among the specialties.

NEWTON M. SHAFFER, M.D.
32 EAST THIRTY-EIGHTH STREET, NEW YORK,
March 10, 1897.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 20, 1897:

	Cases.	Deaths.
Tuberculosis	161	107
Typhoid fever	5	2
Scarlet fever	200	10
Cerebro-spinal meningitis	2	4
Measles	187	9
Diphtheria	230	37
Laryngeal diphtheria (croup)	14	3
Small-Pox	3	0
Chicken-pox	12	0

A New Application for the X-Rays.—According to the *Journal de Médecine de Bordeaux*, a man by the name of Ferdinand, placed under arrest for illegal practice of medicine, claiming to be a graduate of an American college, presented a diploma which excited the suspicion of the magistrate. Calling in the services of an expert, the document was submitted to the action of a Crookes tube, and the resulting skiagraph showed distinctly the outlines, in the substance of the paper, of a name which had been erased from the surface to make room for that of "Dr. Ferdinand," who was held upon this evidence.

Professor Kölliker will celebrate, on the 6th of July next, his eightieth birthday and fiftieth anniversary as a teacher of medicine.

Fürbringer's Statistics for the Antitoxin Treatment during 1896 show 663 cases, with 114 deaths, or a mortality of seventeen per cent. In the year preceding there had been 581 cases in the hospital, half of which only were subjected to the serum treatment, and the mortality had been over thirty per cent. Only one accident resulted from the injections. In a child of seven years, syncope, lasting two minutes, followed what was supposed to have been an injection into a vein. By the employment of violent revulsive agents, the child was brought back to life.

Health in Texas.—The report of the health officer, Dr. Swearingen, for 1895-96, just received, shows an interesting outbreak of small-pox among negro refugees from Mexico. At the quarantine established at Eagle Pass 411 were detained, 178 of whom had variola, and of which number 51 died. In an epidemic of scarlatina of atypical form, not recognized as such for some time, 44 cases occurred in 17 families, with 11 deaths (twenty-five per cent.). There is also a report upon the shipment of cattle during the quarantine season.

Insusceptibility to Vaccination has a legalized status in England, and many certificates are granted each year. The last report of the local government board shows, however, that in 88,875 successive vaccinations, not a single instance of insusceptibility had been met.

Swine Fever is not always the same disease in different epidemics, and it is not impossible, considering Behla's recent experiments, that a certain proportion of the instances are due to the same infectious agent as produces measles in the human.—*La Médecine Moderne.*

A New Laboratory.—The raw material of ichthyol, heretofore found only in the Tyrol, has recently been discovered on the Adriatic coast, and the yield of the material is said to be extremely rich.—*Medical Press.*

State Examining Boards.—Let every State have its examining board, but let there be also such uniformity of requirement that when a man has passed his examination in one State he may be permitted to practise in any State of the union to which force of circumstances or inclinations have driven or led him.

The Way They Treat Quacks in Germany.—A Dusseldorf "doctor," found guilty of selling nostrums for all kinds of disease and of advertising "cure alls" and similar impositions, has been sentenced to four years' imprisonment, to pay a fine of £150, and to a suspension of his rights of citizenship for five years.

Quinine Packets Made in Indian Prisons.—Quinine packets containing five grains each are made up in the prisons. During the past year, in the Alipore central jail, 3,760,434 powders were filled and packed, giving employment to a daily average of 29 prisoners; during the previous year only 2,917,536 were folded. The total number of post offices supplied with these packets in Bengal alone increased during the year from 2,321 to 2,509, and out of that number only 127 have not replenished their original stock, showing how much the packets are in demand.

Rabies has increased in England since the law relating to muzzles for dogs was repealed in 1892. There were 38 cases that year. In 1893 there were 93 instances; in 1894, 248; in 1895, 672.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that it necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

INEBRIETY, ITS SOURCE, PREVENTION AND CURE. By Charles F. Palmer. 12mo, 100 pages. Fleming H. Revell Company, New York.

THE RETROSPECT OF PRACTICAL MEDICINE AND SURGERY. Edited by Dr. James Braithwaite, and Dr. E. F. Trevelyan. American edition. 12mo, 435 pages. G. P. Putnam's Sons, New York. Price, $1.50.

ORGAN DISEASES OF WOMEN. By J. C. Burnett. 12mo, 156 pages. Boericke & Tafel, Philadelphia, Pa. Cloth, $1.00.

THE LIFE AND WORKS OF ROBERT WATT. By Dr J. Finlayson. 8vo, 48 pages. Illustrated. Smith, Elder & Co., London. Price, 3s. 6d.

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Original Articles.

ON THE DISINFECTION OF THE HANDS.

By ROBERT F. WEIR, M.D.,

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THE riddance of hurtful germs from whatever the surgeon or his assistants may put into or apply to a freshly made wound has been of late years simply and satisfactorily made, save in two exceptions.

By the application of dry or moist heat, sterilization, proven to be perfect, has been easily accomplished in the dressings, instruments, pads (in lieu of sponges), and ligatures, excepting catgut, which in its larger strands is yet infrequently imperfectly sterilized. This is one of the exceptions alluded to. The other and more important one, and to which the remedy of heat cannot be applied, is the required aseptic condition of the hands of the surgeon and his assistants and also of the operation field itself. This is yet the weak spot in our aseptic work, and numerous attempts have been made to gain both certainty and simplicity in this direction. I cannot in the few minutes allotted me spare time to go over all the methods that have been proposed, and shall only attempt to bring to notice sundry tests that, through the aid of my house surgeons, Drs. Kenerson and Taylor, and their staff, I have been able to conduct, at the New York Hospital, during the past three or four months. Casting aside a long list of antiseptics that have been shown to be ineffectual, there remain a few that have been more or less freely accepted by surgeons from the test of a long or rigid experience. Of the oldest are carbolic acid in 1 to 20 solution, and the bichloride of mercury, in solutions varying from 1 to 500 to 1 to 5,000. Both of these are objectionable, from the secondary reason of the skin irritation and roughness that they often produce; but it was not long after the introduction of carbolic acid into surgery that it was found clinically that the carbolized oil and alcohol solutions were unreliable, and as early as 1881 Koch[1] gave the true reasons for such discredit, and further proved by culture tests that even the strong watery solution, 1 to 20, of the acid was not always to be depended on as a germicide. This conclusion has been shown to be correct by many other observers since that time. The new antiseptic, the corrosive sublimate of mercury, then came into vogue and reigned supreme for many years as an efficacious, cheap, and readily attainable germicide; and though disinfection by heat, announced as early as 1881 by Koch, gradually displaced the sublimate disinfection for all wound paraphernalia, still it required additional and further knowledge to drive away all antiseptic irrigations or applications to a freshly made wound, and to substitute, in other words, asepsis in an operation for antisepsis. But, notwithstanding this, the sublimate solutions continued to hold their ground strongly as the best means for rendering sterile the hands entering a wound, until Geppert, in 1889 and again in 1891, showed that hand disinfection by such solutions was an error. For, by washing the hands, after being duly immersed for many minutes in a sublimate solution, with a solution of the sulphide of ammonium, which neutralizes the bichloride remaining on the hands, the scrapings from the hands and nails showed that in a large proportion the germs had not been killed, and that they would then be developed, without hindrance, in the culture tubes and, by inference, in the wounds into which they might be introduced. These experiments were corroborated and made more widely known to the surgeons of America by Dr. Abbott,[2] at the laboratory of the Johns Hopkins School at Baltimore, and have been confirmed by other observers many times since. Following upon this revelation, attempts were made either to employ new methods or to remedy, if possible, the faults of the sublimate solutions: as, for instance, by adding to its use, at the suggestion made by Fürbringer,[3] alcohol, to bathe or to brush with which under the nails and also along the edge of the skin at the root of the nails, for these two locations had been proven to be hardest to render germ free. With this addition the improved sublimate disinfection was carried out according to this formula: (1) Cleansing the hands with green soap and hot water, with strong brushing for one minute; (2) cleansing under and about the nails, preferably with a piece of soft wood; (3) one minute brushing or immersion of the nails in alcohol; (4) one minute immersion in a 1 to 2,000 sublimate solution. This procedure varied a little according to the surgeon, and generally more time was allotted to the soap-and-water scrubbing and to the sublimate immersion than was given by Fürbringer, and with myself the immersion was carried up to five minutes in a 1 to 1,000 solution, for the reason that I found that when the hands were then washed with sulphide-of-ammonium solution I was many times germ free on a culture test, though not invariably so. It seemed to me then, however, the best yet attainable. This I now see was probably due to not increasing the duration of the sulphide washing, and perhaps also to the influence of the alcohol. A new method was put forth about this time by Dr. Howard Kelly,[5] based upon Abbott's report on the unreliability of sublimate solutions, which has been tried faithfully not only by myself but also by many others, and not always with satisfactory results. I refer to the employment of the saturated solution of the permanganate of potassium,[6] in which, after the usual preliminary washing and brushing with soap and water, the hands and arms are immersed until they assume a deep mahogany-red or black color: they are

[1] Read at a meeting of the Practitioners' Society, March 5, 1897.

[2] Koch: "Mittheilungen aus dem kaiserlichen Gesundheitsamte," 1881. Weir: "Weak Points in a Lister's Dressing," Medical News, May, 1885.

[3] Geppert: Berl. klin. Wochenschrift, 1889, No. 30. Deutsche med. Wochenschrift, 1891, No. 25.

[4] Abbott: Johns Hopkins Hospital Bulletin, April, 1891.

[5] Poten, for example, recently repeated these tests of sublimate disinfection with subsequent washing out in the sulphide of ammonium solution in twenty-one instances, and in no case did the culture tubes remain free from germs.

[6] Fürbringer: "Untersuchungen und Vorschriften über die Disinfection der Hände."

[7] Kelly: American Journal of Obstetrics, etc., p. 1,414, 1891.

[8] The permanganate is added in excess to boiling water, i.e., beyond twenty-five per cent. The solution used at the New York Hospital is one part of the permanganate to sixteen parts of water.

then at once transferred to a saturated solution of oxalic acid, until completely decolorized and of a healthy pink color; a final washing with sterile water completes the procedure.

Kelly claimed a germ-free result in forty-four instances out of fifty trials. An unfavorable report on the method was, however, made by Reinecke, and my own culture test trials with it, shortly after an account of it had been published, showed me that it was not so satisfactory as was wished, and that the hands were at times left in a condition of roughness and discoloration that often necessitated the declination of a dinner invitation.

To determine more satisfactorily its worth, I have, however, recently carefully made a series of thirty-one tests of the permanganate method, with the following results: Twenty-two tubes remained sterile and nine showed colonies of staphylococcus, or a success of seventy per cent. This method has been followed, I think, only to a limited extent in this city or elsewhere; but its surgical position has been overtopped by other procedures.

Surgical attention during the past two years has continued to be largely centred on this weak spot in our hand asepsis, and while many substances to this end have been intruded on our notice, yet only two at present seem to promise much, and these are alcohol and chlorine.

Alcohol itself is, according to Koch and others, not a true germicide. Germs, according to this master observer, could be kept one hundred and ten days in absolute alcohol and then be found alive and active. Furbringer's addition of alcohol to the sublimate disinfection of the hand and fingers led to further experimentation and testing in this direction, and the most important papers presented on this subject have been those by Reinecke[1] (1895), Ahlfeld and Vahle[2] (1896), and Poten[3] (1897).

A *résumé* of the labors of these observers can be briefly given. It amounts to this: that alcohol in its ordinary strength, ninety-five per cent. (above fifty per cent., Poten; eighty to ninety-six per cent., Reinecke), will render the hands—previously washed according to the usual rule with brush, soap, and hot water—germ free after a brushing with or immersion in that fluid for five minutes. For this testing of the efficacy of alcohol, the most resisting germs were employed—generally the anthrax bacillus; but Reinecke resorted to a more resistant one than this, and safer to himself and to his patients, should the sterilizing process fail—the bacillus pyocyaneus, and more commonly a bacillus found in catgut, particularly in the larger strands. It is allied to the hay bacillus, and is supposed to be derived from the grass or hay eaten by the sheep from whose intestines catgut is made—a fact that is not generally known. Globig and others have used for similar reasons even a still more resisting potato bacillus (bacillus mesentericus ruber and vulgatus), and most of the tests have been carried out with scrapings made by knives, by roughly sharpened flattened wires, by pieces of ivory or of soft wood or rattan, from under the nails and about the edges of the fingers or hands, normally dirty or purposely smeared with the ordinary pyogenic germs. Kelly states with much positiveness, concerning this latter point, that "the staphylococcus albus and sometimes the aureus are present in enormous numbers on the hands and about the nails of every individual associated with medical work in this community (Johns Hopkins Hospital). This is demonstrated in all the experiments I have conducted." Ahlfeld, Vahle, and Poten adopted this view in their tests; and in my own, to be given shortly, I have largely accepted this fact, though control experiments with intentional infection have been made by myself and nearly all observers with more or less frequency. Leedham-Green, likewise, in twelve tests made with hands in a normal state, found even after washing with yellow or soft soap and water and with the use of a nail cleaner, that in every instance many colonies of the staphylococcus albus and aureus, bacillus pyocyaneus, and others could be developed.

Reinecke's exactness is plainly manifested in his paper, and its deductions are based upon carefully planned bacteriological investigations and methods of examination.

With such explanatory remarks, and referring those more deeply interested to the original articles themselves, I can at once place before you the conclusions arrived at concerning the reliability of alcohol as a means of disinfection of the hands. Reinecke found with washing with green soap and hot water for five minutes, and then brushing with ninety-six-per-cent. alcohol for three minutes, followed by a subsequent immersion in sterile water, that nearly always an absolutely germ-free condition of the hands would result. He also stated that in an emergency a probably safe condition of asepsis could be brought about by simply scrubbing the hands and nails for five minutes with alcohol alone.

Ahlfeld and Vahle, by substituting for or rather adding to the brushing of the hands and nails, a washing or true immersion in alcohol, were enabled to secure a perfect asepsis in 87.2 per cent. of their numerous trials, though Poten, with weaker alcohol, sixty to eighty per cent., with less damage to the hands, for strong alcohol irritates, got what he called a safe asepsis in eighty-seven per cent. The latter preferred, however, to wash the hands in two or three bowls of alcohol or until its color remained unchanged, the first washing causing usually slight opalescence from loosened epidermis, etc.

My own trials of alcohol, verified with a duly conducted culture test, amount to twenty-four in number. They were made with the usual brushing and washing with green soap and hot running water, and with the aid of a pointed brush, like end of rattan, which aids best, I think, in cleaning under and about the nail spaces. This washing was done for from three to five minutes; then the hands were immersed in alcohol, ninety-five-per-cent. strength, and brushed vigorously for five minutes; occasionally a final washing of sterilized water was resorted to—more to aid by its moisture the subsequent scraping for products for culture tests than aught else.

Of these trials but one showed any germs in the agar culture tubes, though the hands were rendered very dry and roughened by the alcohol.

Not all the testimony that I have collected is, however, so favorable to alcohol as that just given. Mr. Leedham-Green,[1] in October, 1896, repeated the experiments of Reinecke on normal hands and hands artificially infected with bacillus pyocyaneus or with the potato bacillus; he also infected the hands with pus from an abscess, etc. His series of twelve each of the various infections showed that an aseptic condition, after the employment of the alcohol method of Reinecke, occurred on normally infected hands but twice; on hands purposely infected with the bacillus pyocyaneus, but once; with potato bacillus, tried six times, all remained infected. His results from other experiments with the sublimate solutions, repetitions of Geppert's, were so much at variance with the reports of that observer that he himself thought at first that his own methods might be faulty, but no error was found. In spite of these adverse results, he concludes by say-

[1] Archiv f. Gynaekol., 1895, p. 515.
[2] Deutsche med. Wochenschr., 1896, No. 6.
[3] "Die chirurgische Asepsis der Hände," Berlin, 1897.

[1] "Disinfection of the Hands," British Medical Journal, October 17, 1896.

ing that though alcohol will not accomplish all or nearly all that Reinecke and others claim for it, it is nevertheless a valuable if not the most valuable agent we possess for the disinfection of the hands.

As to the way in which alcohol produces sterilization, a good deal of discussion has arisen. It has already been quoted that germs kept one hundred and ten days in absolute alcohol have been found then to be active and capable of rapid development. This would seem to settle the point that alcohol was not an antiseptic, but its preservative qualities are too well known to admit of this doubt. Fürbringer said it removed the fat from the hands, and so gave subsequent disinfection a better chance to work. This is disproved by the fact that sterile fingers may be obtained by alcohol alone. Reinecke said that the grease in the hands held the germs *in situ;* the alcohol, dissolving the fat, allowed these germs to be mechanically washed away, particularly if sterile water was used after the alcohol. This does not fit, however; for when ether, which is equally a fat solvent, was used for two minutes to wash the hands, asepsis was produced in only 22.2 per cent. of the trials made, though when alcohol was similarly employed in the same series, 88.8 per cent. of the hands were rendered aseptic. Kronig, who had bad luck with his alcohol tests and whose experiments do not stand criticism, thought the alcohol so shrunk together the scales of the epidermis by its hygroscopic properties that the bacteria had no chance to get into the test gelatin when the fingers were pushed into it. But, without quoting further opinions, the explanation offered by Ahlfeld and Vahle is probably correct. It is that a certain amount of water is necessary to germ life; if this be abstracted, which alcohol can do, the germ will be killed. However, to reach the interior of a germ cell, the law of osmosis—that for its action the interposing membrane, here a cell wall, must be in a moist condition—must be observed. Pure alcohol will neutralize this condition, but a watery alcohol, eighty to ninety-five per cent., fulfils the physical demand, and the germ life is therefore destroyed.

A few minutes since I stated that the two newest and best recommended agents for hand disinfection were alcohol and chlorine. The latter, which I will now take up, has the older reputation as a powerful germicide, dating back to the time of Koch himself, though Kümmel, of Hamburg, was among the first to employ it in practical surgical work, in 1885. This surgeon then stated that the only solutions after whose use no single colony of bacteria developed were those of carbolic acid, five per cent., and, as far as he could then judge, of chlorine water; but that his experiments with the latter were not completed. A year later he[1] reported that after scrubbing the hands and nails with soap and water for three minutes, and then brushing them with equal parts of chlorine water and water, no colonies of germs would be found. Its employment is alluded to but seldom since then in surgical literature, and for my purpose it is unnecessary now to trace its course as an antiseptic.

Some five years ago, becoming more and more unsettled as to the trustworthiness of the sublimate solution, though then used on Fürbringer's plan, I added to my process of hand disinfection a final washing in the officinal chlorine water, which contains two-fifths per cent. of chlorine gas. This notably improved my clinical results, and had a minor but agreeable action in abrogating the usually roughened condition of my hands. A short time thereafter Mr. Rauschenberger, the efficient apothecary of the hospital, suggested the use of a mixture of the household chlorinated lime and crystallized carbonate of sodium, the common washing soda, which, with a little water, would evolve, he said, freshly formed chlorine, and by its other action saponify the skin fats and dissolve to a certain extent the horny skin layer—all of which were decided advantages. This method has well stood the test of time clinically, and it has come into general use for hand disinfection in the hospital with which I am connected, and has also proved itself by repeated culture tests to be among the most reliable of agents for this purpose. Its chemical reaction is a little obscure, but it is virtually a production of the so-called chlorinated soda in a fresh and liquid state, and which is better known by the familiar name of Labarraque's solution. The Pharmacopœia states it to be an aqueous solution of several chlorine compounds of sodium, chiefly NaClO and NaCl, and containing at least 2.6 per cent. by weight of available chlorine.

It is now used in the following way: After a thorough scrubbing with hot running water, green soap, and a brush, aiding the cleansing under and about the nails with a pointed brush, like the end of rattan or soft wood, about a scant tablespoonful, *i.e.*, a large pinch, of the ordinary commercial chloride of lime or bleaching powder is put in the palm of the hand, and on it is placed a crystal of the carbonate of sodium (common washing-soda) about one inch wide and one-half inch thick (or of a size that will permit it to be easily rubbed about like soap). A little water is now added, to make a thick cream, and this is rubbed up and down the palms and hands and arms, until the little rough grains of the chloride of lime disappear or markedly diminish, or until the creamy fluid thickens into a pasty layer. Another ready way to determine when to cease using the soda is to cast it aside when a sense of coolness is felt in the palms, for when the cream is first made a sensation of heat is noticed. The procedure occupies from three to five minutes. Before washing the paste off in sterile water, I prefer to use a sterilized rattan cleaner to rub it under and around the nails. When finally cleansed in the sterile water, the hands will be found smooth and soft and smelling of chlorine. If the odor persists after the operation, neutralization can be had, or before this if any reason exists, by a (sterile) weak one-fifth-per-cent. solution of aqua ammonia. There is seldom any irritation of the skin following this chlorine asepsis. Should such occur, bathing the parts (after the operation) with water and anointing with non-petrolic oil will at once remove it. Depending somewhat on the sensitiveness or thickness of the skin, the procedure can be employed, if required, three or four times a day, without marked irritation. As to the efficacy, consider these figures: Forty-two tests made according to the foregoing method gave forty sterile results, or ninety-five per cent. of successful asepsis.

The advantages for hand disinfection of chlorine and alcohol over any other antiseptic, so far as is now known, are fully apparent, though the testimony of other experimenters is always to be desired in questions of such importance as the one under consideration.

As corroborative of the efficiency of chlorine, I venture to detail a little further the use of chlorine water, which I have already stated was added to the Fürbringer sublimate disinfection by me, in 1892. This addition worked very well clinically, but I was troubled by finding that the chlorine solution varied much in strength, depending on its freshness or the duration of its exposure in a basin. By obtaining the solution, however, directly from the manufacturer, in quart bottles, and by using the same as soon as poured out, this objection was overcome; but these precautions of themselves did not allow the method to be widely recommended. Moreover, though occasional tests with the

[1] Kümmel Archiv f. klin. Chirurg., Bd. xxiii., p. 541. Centralbl. f. Chirurg., 1886, No. 17.

sulphide-of-ammonium solution showed the hands and nails to be free from pyogenic germs (the staphylococcus epidermidis albus being the most difficult to get rid of), yet I was unsettled as to the relative values of the three antiseptics used—to wit, alcohol, sublimate, and chlorine. To obviate the objection made to the sublimate, the hands were, after its use, washed in a solution of carbonate of sodium in lieu of the ammonium sulphide. This avoided the staining that ensues from the latter, and also neutralized the sublimate. By so doing it was then believed that the germs inhibited by the bichloride would be better exposed to the chlorine action, and it would seem from the tests made that this was a fair inference. When tests were resorted to of hand disinfection thus made without the soda washing, one hundred and fourteen in number, only ten failures occurred, which is ninety-one per cent. of successes; but this, please recall, might have been invalidated by the inhibitory action of the sublimate. In fifty-three tests, however, in which the soda washing was done after the use of the sublimate, the result was that in only three tubes were germs found, or that there was ninety-four per cent. of successes. This spoke well for the chlorine addition. The potency of the alcohol as a reliable agent in hand disinfection was not then entertained, it being used merely as a fat extractor; but, when it was pointed out that its efficiency was much greater in bringing about a veritable asepsis, the above method was broken up and the sublimate solution was discarded as unreliable and unnecessary, and the alcohol and chlorine were treated singly to determine their relative values, with the outcome that has already been placed before you.

Bearing additionally on the value of chlorine as a hand disinfectant is the experience of the well-known bacteriological investigator, E. Klein.[1] This observer reports a series of experiments to test the value of another chlorine compound, or, rather, of the same chlorine compound that I have just brought to your notice, for in each set of testings, my own and his, it is the familiar Labarraque's[2] solution, the old solution of the hypochlorite of sodium, that each is working with —made fresh in one instance by the combination of the calcium hypochlorite and the sodium carbonate, and bought ready made in the other. Mr. Klein took the hypochlorite of sodium, which had been made of a ten-per-cent. strength of available chlorine, and, diluting it to one per cent., tested its action on a variety of germs—among which were the proteus vulgaris, staphylococcus aureus, bacillus coli communis, bacillus anthracis, bacillus diphtheriæ, bacillus typhosus, bacillus of swine fever, vibrio of cholera, etc.—with the result that a five-minutes' exposure killed the germs just enumerated. In weaker solutions his results were not so good. I was led by reading his article to try the commercial Labarraque solution, and essayed it first in its pure state, which contains two-fifths of one per cent. available chlorine. It proved in this shape, as was anticipated, too strong for the skin for practical use; but in the nine trials it was employed in this strength, with normally infected hands and a previous washing with soap and water, all the tubes remained germ free. When, however, the solution was diluted to one-tenth strength, in twenty-one trials there were seven failures —*i.e.*, germs showed on cultures. This test was not pursued further, as even in one-tenth strength it caused much skin irritation. Still, in an emergency it could be safely used in half its full strength. It should be further experimented with and reported on as a ready disinfectant.

The conclusions that may fairly be made from this brief *résumé* on the subject of disinfection of the hands, are, therefore:

1. That the solutions of corrosive sublimate are unreliable.

2. That such disinfection is so far best effected and in the order named, by the use of nascent chlorine, alcohol, or potassium permanganate.

3. That the chlorine is satisfactorily evolved by the conjoined use of the moistened commercial chlorinated lime and crystallized sodium carbonate.

4. That of these three procedures, the chlorine treatment is least hurtful to the hands; alcohol the most trying.

In addition to these conclusions, it appears proper to reiterate in a condensed form the results of the various tests that have been made. They are therefore grouped for convenience in the annexed table, to which is joined a condensed description of the various methods of disinfection which have been employed.

TABLE OF TEST CULTURES.

	Total Number of Test Cultures Made.	Contained Germs.	Contained No Germs.	Contained Germs.	Contained No Germs.
1. Bichloride:					
(*a*)	114	10	104	8.7 per cent.	91.3 per cent
(*b*)	53	3	50	6 "	94 "
2. Nascent chlorine:					
(*a*)	42	2	40	5 "	95 "
(*b*)	35	4	31	11.4 "	88.6 "
3. Liq. sodæ chlorinatæ, containing 10 per cent. chlorine	9	0	9		100 "
Containing 1 per cent. chlorine	21	7	14	33⅓ "	66⅔ "
4. Potassium permanganate	31	9	22	30 "	70 "
Alcohol, 95 per cent	24	1	23	4 "	96 "

Methods of Sterilization. — 1. Bichloride: (*a*) Hands and forearms scrubbed with green soap and water; regions under and around nails rubbed with pointed rattan, then scrubbed with 1 to 2,000 alcoholic bichloride for one-half to one minute; scrubbed again in U. S. P.[1] chlorine water; finally soaked in 1 to 1,000 watery solution of bichloride of mercury from three to five minutes, and then in sterile water two minutes.

(*b*) Same as (*a*), except that after soaking in 1 to 1,000 bichloride of mercury the hands are washed with sterile sodium carbonate water (one-half-per-cent. solution) and then soaked in sterile water.

2. Nascent chlorine: (*a*) One or more large crystals of carbonate of sodium are taken in one hand and covered with about a tablespoonful of bleaching powder,[2] and enough water is added to make a thin paste, which at first feels warm and from which fresh chlorine gas comes. This is rubbed for two to three minutes over the hands, nails, and forearms, until a creamy paste is formed, or until the sodic crystals impart a cool sensation, or until the rough grains of the bleaching powder have mostly disappeared, when the hands are washed in sterile water.

(*b*) Same as (*a*), followed by soaking for two minutes in 1 to 1,000 bichloride of mercury. This was done by an error in a number of trials, and hence these results have not been alluded to in the body of the paper.

3. Labarraque's solution of chlorinated soda: (*a*) Ten-per-cent. chlorine (a special strength). Hands and forearms were scrubbed with soap and water, then with Labarraque's solution for one minute.

(*b*)[3] One-per-cent. chlorine strength was made by

[1] "On the Disinfecting Action of Sodium Hypochlorite," by E. Klein. Lancet, Nov. 28, 1896.

[1] Labarraque's solution is made by mixing sodium-carbonate crystals, 150 gm.; chlorinated lime (bleaching powder, hypochlorite of lime), 75 gm.; water (50° C.), 1,000 c.c.

[1] Containing when freshly made 0.4 per cent. of chlorine gas.

[2] Using about twice as much of the soda as of chlorinated lime (bleaching powder).

[3] This solution is about one-half the strength of the commercial Labarraque's solution.

diluting the above with ten parts of water. Hands and forearms were scrubbed with soap and water, then with this solution one minute.

4. Potassium permanganate: Scrub with soap and water; clean nails with wood brush; rub 1 to 16 permanganate solution into hands and arms until they are of a deep mahogany color; immerse in saturated solution of oxalic acid till entirely bleached; rinse with sterile water. In a few instances to further remove any of the disinfectant, baryta water, five per cent. barium hydrate crystals, was used prior to the final washing in sterile water.

5. Alcohol: Hands and forearms scrubbed five minutes with green soap and hot water, and then immersed and scrubbed five minutes in ninety-five-per-cent. alcohol, and finally washed in sterile water.

Control tests were resorted to from time to time in the trial of each antiseptic used. These were made with either freshly obtained pus showing staphylococcus aureus in activity, or with bouillon cultures of the staphylococcus aureus. The following examples are given to demonstrate the methods employed:

Series I.—Control test with disinfection by alcohol: (*a*) Five fingers of the hand were infected with bouillon cultures of staphylococcus pyogenes aureus by rubbing these with a soft rattan brush under and about the roots of nails and on the adjacent skin. Under culture all showed germs, with some few colonies of staphylococcus epidermidis albus.

(*b*) The same fingers were then scrubbed with soap and water three minutes, immersed and scrubbed with ninety-five-per-cent. alcohol three minutes, and then rinsed in sterile water. Result: Four tubes sterile: one showed a few colonies of staphylococcus epidermidis albus.

Series II.—Control tests with nascent chlorine disinfection: (*a*) Five fingers infected as above. Subsequent scrapings placed in agar tubes. Four cultures showed large growth of staphylococcus pyogenes aureus, and one also a few colonies of staphylococcus epidermidis albus.

(*b*) The same five fingers were then scrubbed with soap and water three minutes, scrubbed with nascent chlorine five minutes, and bathed in ammonia, one-fifth-per-cent. solution, three minutes, and finally rinsed in sterile water. Result: Four cultures remained sterile, and one tube showed a colony of a short bacillus and a colony of a large staphylococcus, neither pyogenic.

Series III.—Control test with permanganate-of-potassium disinfection: (*a*) Five fingers infected as in Series I. All cultures therefrom showed an abundant growth of staphylococcus pyogenes aureus.

(*b*) The same fingers were then scrubbed with soap and water three minutes, soaked in permanganate-of-potassium solution, 1 to 16, three minutes, then in oxalic acid saturated solution, until bleached (about five minutes), then in baryta water three minutes. Result: One tube showed no growth whatever: three tubes showed scanty growths of staphylococcus pyogenes aureus; one tube showed a decided growth of staphylococcus pyogenes aureus.

Series IV. is suggestive rather than conclusive. Several times similar control inoculations as have just been exemplified had been resorted to, in which, after intentional infection, when the scrapings were taken from under the nails and about the root of the nails and tested in agar culture tubes, either no germs developed or they showed themselves in unduly few colonies. After some thought the conclusion was arrived at that a sufficient amount of previously used antiseptic material must have remained on the hands of the assistant to inhibit the growth of the germs. This was tested in the following way:

(*a*) Dr. Taylor, the house surgeon, having washed his hands freely with bichloride-of-mercury solution, 1 to 1,000, ten hours later, having in the mean time washed his hands with soap and water, infected all his fingers with staphylococcus pyogenes aureus, and made therefrom test cultures, with the result that in only one out of ten cultures was there any growth found, and that only a single colony of the staphylococcus pyogenes aureus.

(*b*) The same assistant at another time, after two days of hospital work with hands very seldom in bichloride solution, and fifteen hours after the last use of this antiseptic, then tested one of his fingers by dipping it in a sulphide-of-ammonium solution. The skin immediately turned dark brown, and a culture then made from scrapings under and about the nails showed two colonies of long non-pyogenic vibrios.

(*c*) Another finger of the same hand was infected at that time with staphylococcus pyogenes aureus. Scrapings from under and about the nail, taken ten minutes later, developed no germs whatever in the culture tubes.

Not much is known as to the extent to which an animal tissue will retain an antiseptic unchanged within its meshes. Von Zeignek[1] has, however, called attention to the fact that rubber drainage tubes, silk, and catgut, placed in a solution of bichloride, will cause the disappearance of the bichloride in varying lengths of time, sometimes without changing it, sometimes by converting it into calomel; and Braatz[2] more pertinently states that bichloride will adhere to catgut, so that after immersion in a solution of this salt for twenty-four hours, and subsequent washings in frequently changed distilled water, it will give a chemical mercurial reaction for as long as five weeks afterward.

In order to ascertain if this persistent action of antisepsis obtains with substances other than bichloride, a test was made on the hands of another member of the house staff, who ten hours previously had disinfected his hands with nascent chlorine. The five fingers were infected with staphylococcus pyogenes aureus, and cultures were made from the scrapings under and about the nails. No growths, however, resulted.

REMARKS ON SEPTIC PERITONITIS, WITH SPECIAL REFERENCE TO THE USE OF THE ANTISTREPTOCOCCUS SERUM.[3]

By EGBERT H. GRANDIN, M.D.,

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A few years ago I read a paper before this section, dealing with the question of suppurative peritonitis, giving in outline a report of a number of instances, and drawing the following general deductions as the outcome of personal experience: Instances of local suppurative peritonitis uniformly resulted in recovery, provided free incision and proper drainage were resorted to before general systemic infection had become marked; while instances of general suppurative peritonitis resulted fatally, no matter what the treatment. It is my purpose this evening to amplify the subject somewhat, basing my remarks on my individual experience with suppurative peritonitis (local and general), extending over a period of six years. While a number of the cases from which I draw my deductions occurred in the male sex, I take it that suppurative peritonitis in man differs from that in woman only in the absence of certain etiological factors which the element of sex controls, and again because, when we consider the question of treatment, a very valuable drainage route is present in woman and lacking in

[1] Wien. klin. Woch., October 1, 1896.

[2] Centralbl. f. Bakt. und Parasit., Bd. viii., No. 1, p. 8.

[3] Read before the section on obstetrics and gynæcology, Academy of Medicine, March 25, 1897.

man. Again, I may be able to-night to modify the absolutely hopeless prognosis, stated on the former occasion I addressed this section, as applicable to general suppurative peritonitis.

My records for the past six years reveal forty cases of suppurative peritonitis (local and general) seen in private consulting practice and operated upon by me. This number does not include instances in which I have figured as consultant, but not as operator, and cases of pus collecting low in the pelvis, and therefore accessible by and operated upon by me through the vagina, are excluded. Every one of these forty cases required incision per abdomen, either single or multiple, associated often with counterdrainage into the vagina and through the loin. Were I to include in this analysis instances of so-called pelvic abscess, the number of cases operated upon by me would be increased largely, but with resulting obscurity in the statement of my deductions, because, to judge from my experience, general systemic absorption from these instances is rarely deep, unless operation is postponed to a culpable degree; in other words, the peritoneal cavity (the great absorbent) is rarely markedly involved.

The forty cases I draw my deductions from are differentiated as follows: General suppurative peritonitis, 9 cases; local suppurative peritonitis, 31 cases; total, 40 cases.

The etiological factor was: Suppurative disease of the appendix vermiformis, 31 cases; puerperal infection, 8 cases; ruptured suppurating ovarian cyst, 1 case; total, 40 cases.

All the thirty-one cases of local suppurative peritonitis terminated in recovery. Some were opened in the midline and drained into the vagina; others were opened above Poupart's ligament, or along the line extending from the anterior superior spine to the umbilicus, and drained into the vagina, or by counterincision in the loin. Two cases were reached posteriorly to a line extending from the anterior superior spine to the posterior.

Of the nine subjects of general suppurative peritonitis, eight died and one recovered. In these nine cases multiple incisions, flushing of the peritoneal cavity, and counterdrainage was the treatment in five cases; median incision, flushing of the cavity, and drainage, in three cases; multiple incisions, repeated flushings, multiple drainage, and injection of antistreptococcus serum in one case. This is the single case of general suppurative peritonitis which I have been able to save, and I shall shortly present the essentials to you for consideration.

First, however, I wish to make clear to you what I mean by local suppurative peritonitis and by general suppurative peritonitis.

In cases of local septic peritonitis (or, more properly speaking, purulent peritonitis), the site of infection becomes shut off from the general peritoneal cavity before the infectious toxins lead to the formation of pus. Practically, therefore, we deal with a collection of pus which is extraperitoneal. While systemic absorption occurs, it is from a relatively small absorbent surface, and ordinarily the focus of systemic infection is discovered and treated after the recognized surgical fashion, before sufficient toxæmia has set in to result in deep infection of the system with the well-known sequela of metastasis to organs of the body—such as the liver, spleen, kidneys, brain, etc. The localization of the infectious focus and its early differentiation and surgical treatment constitute the reasons why subjects of local suppurative peritonitis almost invariably recover—in my list of cases, *always*.

In case of general suppurative peritonitis, the infectious toxins invade at once or progressively the general peritoneal cavity. This great lymph sac—as it has been termed—is filled with the germs of infection, and very rapidly these are sucked up by the lymphatics and disseminated throughout the body. According to the virulence of the toxin the systemic infection is rapid or slow, the subjective phenomena are acute or of gradual development, death is relatively sudden or ensues after a number of days or even weeks—in the latter event the clinical picture being that of pyæmia. The invasion of the peritoneal cavity by the toxins, in instances in which death does not speedily ensue, results in the formation of multiple pus cavities—under the liver, the spleen, around the kidneys, around the pelvic organs, etc., giving us a manifold repetition of the condition found under local suppurative peritonitis. From each and every pus pocket the infectious elements are drunk up by the lymphatics and carried to every organ and to every portion of the body. Very quickly, therefore, systemic infection occurs, and even though prompt surgical evacuation of these pus pockets (by multiple incisions) and even though free multiple drainage be established, the infectious foci beyond the reach of the knife lead almost inevitably to death. Our multiple incisions and our multiple drainage result possibly in cleansing the meshes of the great sponge—the peritoneal cavity, but neither the one measure nor the other can reach the toxins in the lymphatics and veins throughout the body.

Until lately, then, I expected death after general purulent peritonitis, and I was not at all ashamed of my mortality rate of one hundred per cent. Lately, however, the outcome of a case which resulted favorably has given me a measure of hope that in the future I may save these cases. And yet my success may only have been one of those rare exceptions which prove the rule, and it is with a mind absolutely devoid of enthusiasm and absolutely free from bias that I give you the essentials of this case, with such comments as I feel justified in making. Without wearying you by entering into elaborate detail, sufficient the following statement:

On February 3, 1897, I saw a lady in consultation, who four days previously had had an attack of what she deemed indigestion. Her family physician had been summoned the day previous to my visit, and had found a slightly swollen abdomen, with but little elevation of temperature or rapidity of pulse. Abdominal pain was sufficient to call for opiates, and, in addition, he ordered saline laxatives. When I saw her the bowels had been freely moved, spontaneous pain was absent, the temperature was about 100° F., the pulse 90, the entire abdomen swollen and exquisitely sensitive to the touch. I agreed in the diagnosis of peritonitis, and gave a presumptive opinion that the etiological factor was perforative appendicitis, deeming an exploratory section safer than expectancy. This opinion was based on the following argument: Two years previously I had operated by median abdominal incision for the removal of a sessile uterine subperitoneal fibroid, and had found the tubes and ovaries normal. I was therefore able to exclude these organs as etiological factors of the peritonitis. The low temperature was consistent with infection of the peritoneal cavity, and the cessation of pain was significant. The relatively slow pulse carried little weight, because I happened to remember that this woman had a normal pulse of about 70.

The advice given was accepted, and that evening I made an incision over the ileo-cæcal region, entering the free peritoneal cavity and giving exit to thin foul pus. The gangrenous perforated appendix—floating free—was ligated and cut off. The coils of intestine which appeared at the incision were congested and bathed in pus. I irrigated gently with hot salt water, and tucked in strips of gauze saturated in pyrozone (three per cent.). I did not deem further exploration

requisite, since there was reasonable doubt as to whether the entire cavity had been infected.

For a few days the temperature ranged between 99° and 100° F., and the pulse from 88 to 100; the bowels moved and the abdominal tenderness began to decrease, and then intense pain over the left iliac region was complained of and the pulse rate began to rise. I made a free incision on the left side, just above Poupart's ligament, and entered a cavity containing over a pint of very foul pus. I washed this cavity out, and then, although it did not pouch in the vagina, I incised to the left of the cervix and established counterdrainage into the vagina by means of a large, thick rubber tube.

During the following day the pulse began to mount to 120, the temperature fluctuating from 99° to 101° F. In the evening the woman's condition was not at all satisfactory, and I determined an area of dulness over the left side of the abdomen, extending above the umbilicus. I sent for a bottle of antistreptococcus serum, and injected twelve and one-half cubic centimetres. At the same time I made a free incision to the left of the umbilicus into the peritoneal cavity, broke up multiple pus pockets, flushed out with a few gallons of salt water, and inserted strips of gauze in every direction.

The next morning twelve and one-half cubic centimetres of the serum were administered, and in the afternoon my second and third incisions were united by a fourth, the abdominal muscles being infiltrated with pus. Thus the left abdomen was laid open, a lower incision draining into the vagina, and through the upper incision multiple drainage of the peritoneal cavity having been established, the entire intervening area being covered with foul grayish slough and the retracted flaps being infiltrated with pus.

By this time I had noted that after the administration of the antitoxin the woman would complain of angina pectoris, requiring the administration of nitrite of amyl; she would be nauseated and have repeated chills, and in a few hours the temperature would drop to 99° F. and the pulse rate to 88. I therefore gave the order that eight cubic centimetres of serum should be injected whenever the temperature rose over 100° F. and the pulse above 90. During the following few days the woman received twenty cubic centimetres more of the serum. A further fact noted was the markedly increased eliminative action of the kidneys after the injection of the serum, the amount of urine passed reaching as high as one hundred ounces.

I will not weary you by detailing the after-treatment. Suffice it that under charcoal dressings the left side of the abdomen gradually cleaned off; the tube into the vagina was removed in about a fortnight, at which time the last strip of gauze (extending downward to the kidney) was removed from the incision to the left of the umbilicus. By means of adhesive straps carrying silkworm-gut strands, I was able gradually to approximate the large flaps, so that at the end of six weeks they were in close apposition. The incision in the ileo-cæcal region closed in about a fortnight. The woman is to-day in perfect health.

What, now, as regards the serum, has this case taught me? I am far from claiming that the woman recovered because of the serum. It is always dangerous to draw deductions of a positive nature from a single case, and, as I look over the literature which my friend, Dr. Gibier, has courteously furnished me, I am all the more loath to be at all dogmatic. I find that the antistreptococcus serum has been used in many cases irrespective of the determination as to whether the case of sepsis was due or not to streptococcus infection. The case I report is fallacious in this respect, for I neglected the very essential point of having the pus examined. Etiologically, I should assume that in my case the bacterium coli played a very prominent part in the infection, and we know that the antistreptococcus serum is powerless against the bacterium coli. If, therefore, the serum entered as a factor in the recovery of my patient, it was because the case was one of mixed infection. Further still, in looking over reported cases, I find recorded instances of puerperal sapræmia which resulted in recovery after the use of the serum *plus* the curette. Now we all know that early curettage of the uterus will ordinarily be followed by recovery, even though the serum is not used; and then again we are told that against staphylococcus infection the antistreptococcus serum is powerless. Possibly the chairman of this section, Dr. Marx, may have come to the conclusion that the serum failed him in the cases he has recorded because either he was dealing with bacterium coli commune or staphylococcus infection, and that therefore he expected from the serum that which it is definitively stated it cannot accomplish.

To return to my case, the antistreptococcus serum appeared to act as follows: Temperature and pulse rate were uniformly lowered after each administration; elimination of waste, infectious products, was favored, as was evidenced by the greatly increased action of the kidneys; pus-production was apparently checked, for, whereas before the use of the serum pus pocket after pus pocket was forming and infectious elements were being rapidly absorbed into the system, not alone after the injection of the serum did pus production cease, but the infiltrated flaps cleaned up far more rapidly than it has been my fortune to see before. I had every reason to anticipate progressive systemic infection and death; I have witnessed rapid throwing off of sepsis and recovery.

In the future I propose to use the serum on the principle that it can do no harm and may do good. Of course, whenever feasible, I shall have the pus examined, for the purpose of determining the causal agent of infection; and if, as I am informed the probability is, a serum can be placed at our disposal effective against the streptococcus, the staphylococcus, and (perhaps) the bacterium coli commune, I am nearly convinced that in the future we may save the relatively small proportion of cases we now lose. Surgical measures, prompt, bold, and radical, will not be displaced, but when they seem futile orrhotherapy may step in to fill the gap, facing which we now are discouraged and powerless.

36 East Fifty-Eighth Street.

A CONTRIBUTION TO THE STUDY OF AMŒBIC DYSENTERY.[1]

By CHARLES E. LOCKWOOD, M.D.,
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We are realizing more and more every day that the study of the rôle played by the lower organisms in the production of diseased conditions is most important as looking toward the proper diagnosis and treatment of many diseases to which our flesh is heir, and we have only to mention a few to emphasize this statement, such as the actinomyces bovis, bilharzia hæmatobia, ankylostoma duodenale, echinococcus hominis, amœba dysenteriæ; in other words, the trend of scientific investigation is to the discovery of the etiological factors of diseases as leading to more precise diagnosis and treatment. We notice this tendency in the recent writings of those who are making a special study of mental derangements, the influence of physical disorders and autotoxis in their relation to these affections

[1] Read before the New York State Medical Society, at the ninety-first annual meeting, at Albany, January 26, 1897.

being particularly insisted upon, and it is with this conviction that I am led to contribute my experience in the diagnosis and treatment of amœbic dysentery, which it has been proved is caused by the presence of the amœba dysenteriæ in the intestinal canal. Amœba, according to Foster's Encyclopædic Medical Dictionary, is etymologically derived from the Greek word Ἀμοιβή, alternation, and is defined as follows: "A genus of protozoa belonging to the order amœbæa, class rhizopoda, the members of which consist of but slightly differentiated masses of protoplasm characterized by a constant change in form (amœboid movement). Amœba coli, a species discovered by Lösch in great numbers in the dejections and on the mucous membrane of the large intestine of a man affected with dysenteric symptoms, is twenty to thirty-five millimetres in diameter, rounded or pear-shaped, and possesses a few broad pseudopodia, a nucleus, and a few vacuoles. It or a similar species has been observed under like circumstances by other investigators."

A most exhaustive investigation of the amœba and amœbic dysentery has been made by Dr. William T. Councilman and Dr. Henri A. Lafleur, at the Johns Hopkins Hospital in Baltimore, Md., and their report was published in the Johns Hopkins Hospital Reports, vol. ii., Nos. 7, 8, and 9, in December, 1891. According to this report the first account given of the presence of amœbæ in the intestinal contents comes from Lambe in 1859. Lösch was the first author who gave an accurate description of a species of amœbæ which he found in the stools of a dysenteric patient. He claimed for this organism that it was the cause of the disease, and attempted to prove this by injecting stools of the patient containing the amœbæ into the rectum of dogs. The experiments were made on four dogs and were successful in one case.

Next to the paper of Lösch the most important is a series of publications by Kartulis. Investigations were also made by Hlava, Masiutin, and Pfeifer.

Osler was the first in America to find amœbæ. Musser, of Philadelphia, Stengel, Dock, of Galveston, Tex., Cohen, Holloway, and Edebohls, of New York, have reported cases. Drs. Councilman and Lafleur say: "It is probable that in the future we must recognize a number of different organisms as the cause of the various sorts of dysentery;" and they have called the organism which was first described by Lösch under the name of amœba coli, the amœba dysenteriæ. "The name given to it by Lösch is not distinctive, for it seems very probable that there may be a number of species of amœbæ which under certain conditions and in certain localities may inhabit the colon."

In a note, Drs. Councilman and Lafleur say: "An opinion on the sources of the infection must be purely speculative until the morphology of the pathogenic amœba has been fully worked out and its habitat discovered. It seems probable that drinking-water is one if not the chief source of infection."

The case of this disease observed by Dr. George M. Edebohls, of New York, and reported by Dr. John W. Brannan, in 1893, possesses peculiar points of interest, in that "during a period of time extending over six years, five different hepatic abscesses, the result of amœbic dysentery, were diagnosticated and successfully operated upon, the patient finally succumbing to a sixth hepatic abscess, which opened spontaneously and led to death by exhaustion. Post-mortem pathological investigation determined the presence of amœbæ coli in both the large intestine and the liver."

In concluding their report, Drs. Councilman and Lafleur say: "We think it can be said as the result of the work which has been done on the subject:

"1st. Amœbic dysentery is a form of dysentery which etiologically, clinically, and anatomically should be regarded as a distinct disease.

"2d. We would consider that (*a*) the amœba dysenteriæ has been shown to be the causative agent from its constant presence in the stools and in the anatomical lesions and from the inoculation experiments of Kartulis. (*b*) Clinically the disease is characterized by the presence of amœbæ in the stools, which in addition present physical characters different from those seen in the stools of other forms of dysentery as noted above; by a variable onset, course, and duration, of which the special features are periods of intermission alternating with exacerbations; and by a marked tendency to chronicity, with the production of a greater or less degree of anæmia. (*c*) Anatomically the disease is characterized by the production of ulcers in the colon, which generally differ from those found in any other forms of dysentery. The ulceration is produced by infiltration of the submucous tissue and necrosis of the overlying mucous membrane, the ulcer in consequence having the undermined form. Frequently in addition to the ulcers there is infiltration of the submucous tissue without ulceration. In all these lesions, unless complicated by the action of bacteria, there is absence of the products of purulent inflammation.

"3. Abscess of the liver, with or without involvement of the lung, is a frequent complication, much more so than in any other form of dysentery. The involvement of the lung may early follow hepatic involvement and be detected by the occurrence of amœbæ in the sputum before there is evidence of liver abscess. These abscesses differ in their anatomical features from those produced by other causes. The chief difference is found in the absence of purulent inflammation, the abscess being caused by necrosis, softening, and liquefaction of the tissue. In these liver abscesses the amœbæ are not associated with any other organism.

"4th. The disease is widely distributed and is found in most countries in Europe, in most parts of the United States, and in the tropics everywhere.

"5th. This is the form of dysentery which has been commonly called tropical dysentery."

I will now proceed to give the history and details of the case observed by myself: On the 1st of October, 1896, I received a telegram from Boston, asking me to come there as soon as possible to see a patient who, according to the message, was very sick in a hotel in that city, and whom I had treated successfully for diarrhœa while in New York in 1894. I arrived there at eleven in the evening of October 1st, and found my patient, a young man, thirty-two years of age, suffering from a dysenteric affection characterized by frequent, yellowish-brown, watery, offensive stools, accompanied by the discharge of mucus and blood and severe colicky pains. He said he had been under the care of a local physician for six days, and had received a variety of treatment without relief. On questioning him I found that tenesmus was not marked, but he complained of a burning sensation in the rectum and at the anus during and after the passage of fæces. His general appearance was anæmic, and he was much emaciated; his tongue was heavily coated; his temperature taken under the tongue was normal; pulse, 72; respiration, 18. He said he had been spending part of the preceding summer at Old Orchard Beach, in the State of Maine, and while there had drunk some spring water, the taste of which he did not like and which he thinks made his bowels loose; he also stated that he had suffered for a long time from disordered digestion, for which he had undergone much treatment at the hands of different physicians, and that the present attack of dysentery had come on one week before, after he had eaten some ice cream. I prescribed rest in bed, a liquid diet, and an opiate, and after explaining to him the necessity of rest, a prop-

erly regulated diet, good nursing, and a thorough investigation of the etiological factor in the case, which was hardly practicable under the circumstances, I advised that he return to New York. Accordingly the following day he left Boston and went to his home in

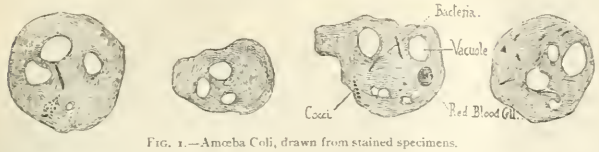

Fig. 1.—Amœba Coli, drawn from stained specimens.

Connecticut and placed himself under the care of his family physician, but, failing to obtain relief, he came to New York on October 7th, and placed himself under my care. He was now very weak and every two or three hours was having watery passages of the same character as before described, accompanied by much pain. I prescribed rest in bed; as a diet, one-half a teacup of arrowroot gruel every two hours, and a powder containing ten grains each of prepared chalk and powdered kino, and one grain of opium every three hours. As this checked the diarrhœa only temporarily, I began to suspect the presence of amœbæ, and on October 9th I took one of the stools to the Carnegie Laboratory, and asked Dr. Edward K. Dunham to examine it, and the next day received the following statement:

"I have carefully examined the fæces brought by you yesterday, and find in the material a considerable number of amœbæ coli. The stool was intensely acid when received, so that none of the amœbæ was found in movement, but from the stained preparations we feel justified in an absolute diagnosis, though we would like to ask you, as a favor to us, kindly to send us a specimen which has been neutralized or rendered faintly alkaline by some alkali immediately on its passage. In such a specimen, if examined early enough, I think we shall be able to demonstrate the amœboid movements. The greater bulk of the stool is made up of pus cells, a few red blood corpuscles are found, a very small amount of predigested food is present, and the stool contains a good many oil globules."

On October 10th and October 11th the patient had six stools each day, although taking every three hours the powder before mentioned, containing one grain of opium, and having secured a stool which had been made alkaline by the addition of one-half a teaspoonful of bicarbonate of sodium directly after its passage, I took it to the Carnegie Laboratory and received the following report: "I have succeeded in finding some very actively motile amœbæ in the stool you left this afternoon. They are characteristic in every respect, showing the vacuoles, pseudopodia, and change in form in a very satisfactory manner, so that there can be no doubt as to their identity."

A careful examination of the patient's urine was made and nothing abnormal found. Realizing now that Dr. Dunham's examinations of the stools had left no doubt as to the nature of the disease, and that active measures should be taken to destroy the amœbæ, I asked Dr. H. M. Biggs to see the case with me, and he advised the use of rectal injections of the bisulphate of quinine in the strength of 1 to 5,000, 1 to 3,000, 1 to 2,500, 1 to 1,500, in three to four pints of water at the temperature of 100° F., preceding their administration by the insertion of a suppository containing one grain of opium, or the giving of an injection of starch with twenty-five drops of laudanum one-half hour before each rectal douche, and that the rectal douches be given three or four times a day; also to give by the mouth two grains of quinine every three or four hours, and six to eight times a day a capsule containing fifteen to thirty minims of castor oil and two and a half grains of salol for its cleansing and antiseptic effect, and one grain of opium every four hours; and as a diet one quart of peptonized milk and the whites of six eggs, with a little salt and water daily. This treatment was begun on the evening of October 12th, a rectal douche being given with a rectal tube of soft rubber, connecting with flexible rubber tubing about four feet in length supplied with a hard-rubber funnel, the patient's hips being elevated by placing the douche pan on folded blankets so as to have the assistance of gravity in securing the penetration of the fluid as deep as possible into the intestinal canal. Directions were also given to the nurse to make the injection slowly and to raise the funnel not more than two feet above the patient's hips, to avoid undue pressure. The time of retention of the douches amounted on the average to five minutes for one-half the quantity injected, and ten minutes for the other half.

On October 13th, I visited the patient and found that he had suffered hardly at all from pain and flatulence since the first douche. The administration of the pills of opium, one grain each, every four hours, was now discontinued, directions being given to administer them only according to indications.

On October 15th, after having used the rectal douches of the solution of bisulphate of quinine, 1 to 5,000, three times a day for two days, I took a stool which had been rendered alkaline by the addition thereto of one-third of a teaspoonful of bicarbonate of sodium to the Carnegie Laboratory for further examination, and received the following report from Dr. Dunham: "I have examined the stool sent over this morning, and find that it still contains the amœbæ, and I was able to study them while still quite motile. The stool contains very much less pus than the former specimens, and, though it is a pretty hard matter to guess at, I think the proportionate number of amœbæ is rather less than before."

I now directed that the strength of the solution of bisulphate of quinine be increased to 1 to 3,000, or ten grains to four pints of water.

On October 16th, after having given three injections of the strength of 1 to 3,000—two on October 15th and one in the morning of October 16th—and having hitherto used the rectal douches in the quantity of only three pints three times a day, I now increased their strength to 1 to 2,500, or thirteen grains of quinine to four pints of water, and ordered their use in the

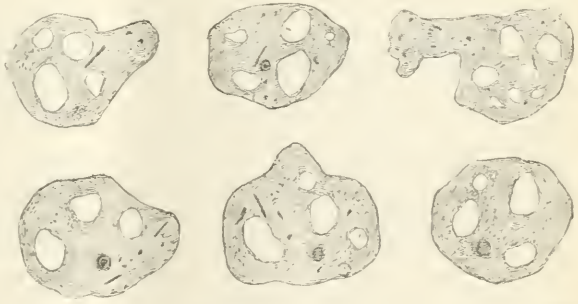

Fig. 2.—Amœba Coli, showing pseudopods and changes in form, drawn from a recent stool which had been rendered alkaline.

full quantity of four pints to be repeated four times a day. The diet during the day, on October 16th, was twenty ounces of arrowroot gruel and sixteen ounces of egg albumen; and the patient was allowed to swallow the juice of a small piece of steak which he chewed.

On October 17th, at 8:30 A.M., a rectal douche, 1 to 2,500, was used, and at 12:45 P.M., 4:30 P.M., and 8:30 P.M., rectal douches of 1 to 1,500 were given —or twenty grains of quinine to four pints of water.

On October 18th, I visited my patient at 11 A.M., and was told by the nurse that he had refused to allow the administration of any more rectal douches, and also was unwilling to take any more castor oil and salol capsules; said he could not digest milk, and insisted on trying meat and solid food in the shape of bread and butter. I objected to such a course, until microscopic examination should show the absence of the amœbæ from the stools, but all to no purpose, as the patient still adhered to his determination. Having explained to him emphatically the risk he was taking, I left him, returning at 5 P.M. on the same day, when I was informed he had eaten a piece of steak and a small piece of bread at 1 P.M., and had had no symptoms of indigestion; that he had had one small loose movement free from mucus at 7:45 A.M., and that he had taken two grains of quinine by the mouth about every three hours during the day, and a pill containing one grain of opium at 3 P.M. At 6:30 P.M. he ate a piece of steak and bread and butter, and suffered no inconvenience except a feeling of weight in the stomach, which was relieved by a small dose of pepsin.

October 19th, the patient was found in good condition, he had a well-formed passage at 9:30 A.M., streaked with blood, which was taken to the Carnegie Laboratory for microscopic examination, the result of which is told in the following letter:

"New York, October 19, 1896.

"Dear Doctor: I have examined the stool sent to the laboratory to-day, and by selecting out the little bits of blood-stained mucus am able to still find fairly active amœbæ; but in the general mass of the fæces they are found only in very small number. I am surprised at the quick and very remarkable improvement in the character of the stools.

"Very truly,

"E. K. Dunham (*per* Brooks)."

I now again urged the patient to resume the taking of the rectal injections, explaining to him the risk he was taking, as the mortality of the disease was reported to be fifty per cent., and he finally agreed to take one rectal douche of the strength of 1 to 1,500 at 6 P.M. His diet on this day consisted of a squab, a piece of beefsteak, arrowroot gruel, and egg albumen.

On October 20th I visited the patient at 11 A.M., and was told that he had refused to take the rectal douche and had discharged the nurse. He was sitting up and said he had had a stool partly liquid and partly solid at 4 A.M., and on close examination was unable to discover any blood or mucus. He said he had eaten beefsteak and bread and butter and had had no symptoms of indigestion. His general appearance was good, and his tongue was clean and red in color.

October 21st, I called on the patient at 10:30 A.M., and was told that he had had no passage from the bowels since 4 A.M. of the preceding day. He had taken a pill of one grain of opium in the early part of the morning.

October 22d, patient had one well-formed passage without blood or mucus or liquid material, which I took to the Carnegie Laboratory, and after it was subjected to a careful microscopic examination I received the following letter:

"New York, October 22, 1896.

"Dear Dr. Lockwood: I have carefully examined the fæces left this morning and fail to find the amœbæ in them; their general character seems very normal indeed. Very truly,

"E. K. Dunham (*per* Brooks)."

I concluded from this report that the amœbæ discovered in the fæces on October 19th were probably inert, having been rendered so by the previous injections of quinine, or by the improved vitality of the patient, and congratulated him on his recovery, advising him, however, as to the possibility of a relapse, and the importance of an occcasional microscopic examination of his stools for one or two months, to ascertain if there was any return of the amœbæ.

The points of interest in this case, it seems to me, are:

1st. The importance of the differentiation of this form of dysentery from the other forms.

2d. The importance of the microscopiçal examination of the fæces in all cases of obstinate diarrhœa, marked by remissions and exacerbations with a notable tendency to chronicity and anæmia, accompanied by the discharge of offensive brownish-yellow liquid stools, associated with the appearance of blood and mucus and colicky pains.

3d. The marked efficiency of rectal douches of bisulphate of quinine in destroying the amœbæ, and the rapidity of the recovery of this patient under their use, their administration in the strength, quantity, and frequency mentioned having sufficed for a cure in this case in five days.

4th. The importance of an early diagnosis in this class of cases looking toward the destruction of the parasite before it has penetrated the submucous tissues, since in that case it is impossible to reach it, and abscess of the liver is liable to occur from migration of the amœbæ.

5th. The danger of relapse after an apparent recovery, Dr. Illoway, of New York, having reported a case in which a fatal recurrence of the disease took place three months after a supposed cure.

6th. The probability of the kinship of the amœba to the germ of intermittent fever, when we consider the efficiency of quinine as a remedy.

7th. The question as to the use of acids as a remedy suggested by the effect of acids upon the vitality of the amœbæ.

8th. Is the long existence of digestive disorders a predisposing factor in the development of a favorable nidus for the amœbæ?

THE COMPARATIVE TREATMENT OF GONORRHŒA WITH PERMANGANATE OF POTASSIUM, PERMANGANATE OF ZINC, FORMALIN, AND NITRATE OF SILVER.

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The medical journals of our own and foreign countries are teeming with articles on the subject under consideration, and it seems as if there could be little said or added to this subject that would be of interest or importance to the medical profession.

The practice of late years has been to cure the disease as quickly as possible, and one reads of remarkable cures produced by some new drug, which upon careful trial does not carry out the written statements in regard to its promptness in effecting a cure. In the experience of the writer it seems a useless waste of time in trying the so-called "specific drugs" for the prompt and rapid cure of gonorrhœa.

In my private and hospital practice, I have used a line of treatment which has given good results. Nothing is here claimed for promptness in cure, although in several instances the cure has been surprising as well as grateful in its promptness. The treatment has been local in all cases, no internal treatment being administered. The diet was adjusted, and nothing but milk and water was allowed as beverages.

The drugs used were permanganate of potassium, permanganate of zinc, formalin, and nitrate of silver in solution. The method of using has been that of irrigation, the amount used being one quart at each sitting. The temperature of the fluid has been 110° F. This applies to all except that of nitrate of silver, of varying strengths, used as an injection with a hand syringe.

As a matter of testing the efficiency of the different drugs above mentioned, each drug was tried on five different patients and the results were noticed.

Permanganate of Potassium.—The solution of this drug used was in the strength of 1 to 500, 1 to 1,000, and 1 to 5,000; temperature, 110° F. The apparatus consisted of an ordinary fountain syringe holding one quart. To the distal end of the syringe was attached a glass meatus nozzle. The patient sat on a chair. The penis was drawn through a hole cut in a piece of rubber cloth about one yard square, which was allowed to fall into a pail placed to catch the fluid as it ran out of the meatus.

Case I.—A. W——, colored, aged twenty-eight, third attack. Discharge appeared three days after exposure. He consulted me two days later. Gonococci present. First irrigation with 1 to 500 at 9 A.M. He complained of pain and soreness, which disappeared before the second irrigation, which was given on the same day at 4 P.M.; strength of solution, 1 to 1,000. He was under observation for eighteen days, and for the first five days he received two irrigations, the morning one being 1 to 500 and the evening 1 to 1,000. The remaining thirteen days he received but one irrigation per day, the strength of the solution being 1 to 5,000. My notes state that on the morning of the fifteenth day after treatment had begun the "morning drop" was observed. The character of the discharge changed to a watery consistency. The permanganate solutions were discontinued, and a solution of boric acid, 1 to 5,000, was used for three days longer, when all evidence of discharge had ceased. He was kept under observation for one week longer, and allowed to eat and drink what he wished. In all, this patient had twenty-six irrigations, extending over a period of eighteen days.

Case II.—W. L——, white, aged thirty, fourth attack. Discharge appeared ten days after exposure. Gonococci present. He received treatment for twenty-one days. He had two irrigations a day for ten days, the morning one being 1 to 500 and the evening 1 to 1,000. The treatment was continued for eleven days longer, and for eight days the strength of the solution was 1 to 5,000 once a day, when the discharge became watery and only a slight gluing of the meatus was noticed in the morning on rising. For three days longer irrigations were continued, with a hot solution of boric acid, 1 to 5,000, when all discharge ceased. He was allowed to resume his ordinary diet, and at the expiration of two weeks his urethra admitted sounds up to 28 French, without the slightest resistance, passed at patient's request. At the end of the third week he was married. He called on me a few days ago, four weeks after his marriage, and reported that he had seen no signs of a discharge. In all, this patient received thirty-one irrigations.

Case III.—G. W——, white, aged eighteen, first attack. Discharge appeared five days after exposure. Gonococci present. Irrigation with 1 to 500 in the morning, and 1 to 1,000 in the evening, for five days; then 1 to 5,000 was used once a day for ten days longer, when the characteristic discharge in the morning was noticed. Irrigation was continued with boric acid, 1 to 5,000, for three days longer, when the discharge disappeared. He was told to call at the end of a week if no discharge appeared. He called at the end of the week and reported no discharge. The patient was under treatment for eighteen days, and received in all twenty-three irrigations.

Case IV.—G. C——, colored, aged nineteen, first attack. Discharge appeared on the second day after exposure. Saw the patient on the following day. Gonococci present. Morning and evening irrigations of 1 to 500 and 1 to 1,000, respectively, were used for four days. Then 1 to 5,000 was used once a day for twelve days, when the discharge was noticed only in the morning, and then the hot boric solution, 1 to 5,000, was used once a day for three days, when all discharge disappeared. He called at the end of ten days and reported no discharge. This patient was under treatment for nineteen days, and received in all twenty-three irrigations.

Case V.—C. L——, white, aged twenty, second attack. Discharge appeared three days after exposure. Saw the patient on the next day. Gonococci present. Morning and evening irrigations of 1 to 500 and 1 to 1,000, respectively, were used for five days, when the solution of 1 to 5,000 was used once daily for eight days, when the discharge became only a slight gluing of the meatus in the morning. Then the boric acid, 1 to 5,000, was used once daily for three days, when the discharge disappeared. At the end of two weeks he reported no discharge. This patient was under treatment for sixteen days and received in all twenty-one irrigations.

Permanganate of Zinc.—The following five cases were treated with permanganate of zinc. The strength was 1 to 500, 1 to 1,000, and 1 to 5,000. Irrigation was the method employed, given with the apparatus described by Dr. Valentine, of New York; temperature, 110° F.

Case I.—W. W. P——, white, aged eighteen, first attack. Discharge appeared three days after exposure. I saw him on the fourth day; gonococci were present in the discharge. Morning and evening irrigations of 1 to 500 and 1 to 1,000, respectively, were used for eight days, when the solution of 1 to 5,000 daily was used for fifteen days. On the twelfth day the discharge ceased, but the irrigations were continued for three days longer. He reported at the end of seven days no discharge. The patient was under observation for twenty-three days. In all, he received thirty-one irrigations.

Case II.—C. McC——, white, aged twenty-six, second attack. Discharge appeared five days after exposure. I saw the patient on the same day. Gonococci present. The morning and evening irrigations of 1 to 500 and 1 to 1,000, respectively, were continued for ten days, when the discharge warranted the use of the weaker solution, 1 to 5,000, which was used daily for fifteen days. On the thirteenth day only a slight gluing of the meatus was noticed on rising in the morning. The irrigations were continued for two days longer, when the discharge disappeared. This patient was under treatment for twenty-five days and in all he received twenty irrigations.

Case III.—J. T. F——, white, aged thirty-one, fifth attack. Discharge appeared three days after exposure. He consulted me on the next day. Gonococci present. The morning and evening irrigations were continued for seven days, when the solution of 1 to 5,000 was used daily for sixteen days. On the fourteenth day the discharge ceased, but the treatment was continued for two days longer. He reported no discharge at the

end of a week. This patient was under treatment for twenty-three days. In all he received thirty irrigations.

Case IV.—J. B——, white, aged twenty-eight, first attack. He contracted gonorrhoea six weeks previous, had been under treatment, and was discharged as cured two weeks ago, but he noticed after treatment had been stopped that there was a slight discharge in the meatus in the morning, but this gave him no concern, as his "friend," who had had gonorrhoea five or six times, told him that this would soon pass away. Two days before he consulted me he had been "out with the boys," although he denied having had intercourse. The discharge appeared on the following morning more profuse than at any time since he had stopped treatment. On the second morning it was still more profuse, and on voiding urine there was considerable smarting. Discharge could be expressed from the urethra. Examination with the microscope showed the gonococci, and on examining the urethra with the electric-light urethroscope a spot was revealed about one millimetre from the posterior margin of the fossa navicularis. The two daily irrigations of 1 to 500 and 1 to 1,000 were commenced and continued for twelve days, when the solution of 1 to 5,000 was used daily for sixteen days. On the thirteenth day the discharge was slight and was noticed only on rising. The treatment was continued for three days longer, when the discharge entirely ceased. He was under observation for fourteen days longer, visiting me twice a week. At the end of the first week he had resumed his regular mode of diet. He was under treatment for twenty-eight days and received in all forty irrigations.

Case V.—J. H. McG——, white, aged seventeen, first attack. He was brought to me by his father nine days after exposure, the discharge having appeared two days previous. He told his father on the eighth day, and on the following day they consulted me. Gonococci present. The morning and evening irrigations of 1 to 500 and 1 to 1,000 were used for six days, when the character of the discharge changed so that the milder solution, 1 to 5,000 was used daily for eighteen days. On the fifteenth day it ceased, but the irrigations were continued for three days longer. He was under observation for two weeks longer. No discharge appeared. I saw the patient a month later; he complained of no trouble. The patient was under treatment for twenty-four days, and received in all thirty irrigations.

Formalin.—In the cases treated by this drug, the following strengths were used: one per cent., or one ounce of formalin to two and one-half pints of water; one-half per cent., or one ounce of formalin to five pints of water; one-fourth per cent., or one ounce to ten pints of water.

Case I.—J. G——, white, aged twenty-one, first attack. Discharge appeared on the third day after exposure. Consulted me on the following day. Gonococci present. Morning and evening irrigations were commenced at once of one per cent. and of one-half per cent., respectively, and were continued for five days, when the discharge was modified so that we could use the weaker solution, one-fourth per cent., daily for seven days, when all discharge ceased and at the expiration of one week it had not returned. This patient was under treatment for twelve days, and received in all seventeen irrigations.

Case II.—C. A——, white, aged thirty-three, second attack. Discharge appeared eleven days after exposure. He consulted me on the thirteenth day. Gonococci present. Morning and evening irrigations of one per cent. and one-half per cent., respectively, were used for ten days. Then one-fourth per cent. was used daily for twelve days, when the discharge disappeared. He visited me ten days later and reported no discharge. This patient was under treatment for twenty-two days, and received in all thirty-two irrigations.

Case III.—M. McH——, white, aged twenty-eight, second attack. Discharge appeared two days after exposure. He was seen on the same day. Gonococci present. His occupation was such that he could be treated but once a day. The one-per-cent. solution was used for fourteen days; then the one-half-per-cent. solution was used for fifteen days longer, when the discharge ceased. He was seen ten days after treatment had been stopped and reported no return of the discharge. This patient was under treatment for twenty-nine days, and received in all twenty-nine irrigations.

Case IV.—A. B. T——, colored, aged twenty-nine, third attack. Discharge appeared two days after exposure. Gonococci present. Morning and evening irrigations of one-per-cent. and one-half-per-cent. solutions were used twice a day for ten days. Then the one-fourth-per-cent. solution was used for thirteen days, when the discharge ceased. At the end of two weeks he reported absence of all discharge. This patient was under treatment for twenty-three days, and in all received thirty-three irrigations.

Case V.—G. C——, white, aged twenty-five, second attack. Discharge appeared seven days after exposure. He consulted me on the third day, or ten days after contracting the disease. Gonococci present. The morning and evening irrigations were commenced at once and were employed for nine days, the strength of the solutions being one per cent. and one-half per cent., when the weaker solution, one-fourth per cent., was commenced and used daily for fourteen days, when the discharge disappeared. I did not see the patient again for three weeks. He reported no discharge in the interval. This patient was under treatment for twenty-three days, and received in all thirty-two irrigations.

Nitrate of Silver.—This drug was used in the following manner. The solutions were made by adding two grains of the drug to one ounce of water for the first, and then increasing by two grains to each ounce. The numbers ranged from two to twenty-four. The method of introduction was by the hand syringe, one drachm being thrown into the urethra and retained there for five minutes. The injections were given every other day, increasing two grains, at each sitting. The patient was instructed how to use the hand syringe and was told to inject the following prescription on the intervening day, viz.:

℞ Zinci sulph. ..... gr. i.
Hydrastis. ..... ʒ ij.
Aquæ dest. ..... ʒ iij.
M. S. Use night and morning after urinating.

Case I.—W. T. B——, white, aged twenty-one, first attack. Discharge appeared three days after exposure. He consulted me the same day. Gonococci present. Injection No. 2 was given and the above prescription, to be used as directed. On the second day the nitrate-of-silver injection was increased by two grains. This treatment was continued for eight days, when the silver nitrate was stopped and the prescription alone used, for one week longer, when the discharge ceased. This patient was treated by silver nitrate for eight days, receiving eight injections, and of the prescription fifteen injections.

Case II.—J. G——, white, aged thirty-six, second attack. Discharge appeared three days after exposure. Consultation on the same day. Gonococci present. This patient on alternating days received as high as twenty grains of the silver to the ounce. The prescription was employed for one week longer, when the discharge ceased. He received ten injections of the silver solution, and of the prescription seventeen injections.

Case III.—L. G. C——, white, aged nineteen, first attack. Discharge appeared on the second day after exposure. I saw him on the third day. Gonococci present. This case was treated as the above cases, the injections being carried up to No. 10, or ten grains to the ounce, in combination with the prescription on the day of interval. That is, five injections of silver nitrate were given, when the discharge was so slight that the nitrate was stopped, and the prescription used for seven days longer, when all discharge ceased. The patient was seen two weeks later and reported no discharge.

Case IV.—J. J——, white, aged eighteen, first attack. Discharge appeared on second day, and on the same day he consulted me. Gonococci present. The injections of silver nitrate were carried up to No. 8, or eight grains to the ounce, when it was stopped, and the prescription was continued for one week longer, and then stopped. The patient was seen two weeks later, and reported no discharge. The injections of the silver solution were used only four times, and the prescription eleven times.

Case V.—D. Q——, white, aged thirty-six, second attack. Discharge appeared on the fifth day. He consulted me on the next day. Gonococci present. The silver nitrate was carried up to No. 10, or ten grains to the ounce, when the discharge was so lessened that the prescription was used but for five days, when it ceased. He was seen seven days later, and reported no discharge. He received but five injections of silver nitrate, and of the prescription ten. Two weeks later he called on me to have some sounds passed, as he thought he had a stricture. Sounds up to 28 French were passed without any difficulty.

From the foregoing cases, I think that I am justified in stating that in the drugs used we have a treatment that comes very close to being the ideal one. It is such a marked improvement over the methods that were in vogue not more than ten years ago that its simplicity and efficiency must commend it to all who have much of this work to do. In all these cases the disease was confined to the anterior urethra and acute in form. In chronic cases, the seat of disease being in the posterior urethra, I use intravesical irrigations of permanganate of potassium and zinc, in the strength of 1 to 5,000, and also the silver salt, introduced by the Ultzmann-Keyes syringe, and also the hot boric-acid solution, 1 to 5,000. These cases require a longer time to cure, but the method is equally efficacious. Of the different drugs used I find that the least irritating of all are permanganate of zinc and formalin. The other two drugs need some milder solution to complete the cure.

The main point that I wish to lay stress upon in the treatment of gonorrhœa by this method is the doing away with the nauseating internal treatment: or, as a patient of mine so happily puts it: "It is a pleasure to have 'clap' in these days, as one does not have to take those vile teaspoonful doses of medicine, which always upset my stomach."

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The Best Method of Removing Large Calculi from the Bladder.—Dr. Freyer (*Lancet*, December 12, 1896) says that he has no hesitation in pronouncing Bigelow's method the safest and best for calculi of all sizes in patients of all kinds and conditions; that he would lay down as an absolute rule that no patient should be subjected to a cutting operation until after trial litholapaxy is found not to be feasible. When this method is not practicable, Dr. Freyer considers that calculi, up to about three ounces in the adult and a corresponding size in the child, are best removed by perineal lithotomy; beyond that suprapubically.

Progress of Medical Science.

Antipneumococcus Serum. — Washbourn (*British Medical Journal*, February 27, 1897, p. 510) gives an account of the immunization of a pony to pneumococcus infection, with the description of a method for estimating the protective power of the serum, and reports two cases of pneumonia treated with the serum. The pony first used was injected with broth cultivations of the pneumococcus which had been heated to 60° C. for an hour and subsequently with living cultivations. After being under treatment for nine months, the animal was suddenly seized with intestinal obstruction and died after a few days' illness. A second pony was injected with broth cultivations heated to 60° C. for an hour, then with living agar cultures, and finally with living broth cultivations. The injections were made into the subcutaneous tissues of the shoulder. During the process of immunization an abscess containing streptococci formed near the foreleg from some accidental cause and ruptured. The animal became very ill and it was feared that it would die, but as a result of great care the abscess gradually healed and the pony convalesced. Five months after the last injection the animal was bled and the serum was found to possess marked protective properties. The cultivations used were always made from the blood of an infected rabbit and were employed after from twelve to eighteen hours' incubation at 37.5° C. The inoculations were followed by local swelling, pyrexia, malaise, and loss of appetite. To preserve the virulence of the pneumococci, the surface of the agar medium was streaked with sterile rabbit's blood. In all of the experiments a loopful of the cultivation was made into an emulsion with a known quantity of sterile broth. By dilution any fraction of the contents of the loop could be obtained. Cultivations twenty-four hours old were always used. The virulence of the micro-organisms which were obtained from the blood of a mouse dead after inoculation with the sputum from a case of pneumonia, was established by nine passages through rabbits, with intermediate cultivation on blood agar. In testing the serum, measured quantities were mixed with ten times the minimum fatal dose of the cultivation and the mixture was immediately injected into the peritoneal cavity of a rabbit. The smallest quantity of serum that protects the animal under these circumstances is called a unit. Sera from horses not immunized to the pneumococcus and from other animals were tested and found to be without protective influence. Experiment showed that the serum from immunized animals possesses the power of protecting animals against infection when injected either at the same time or subsequent to inoculation. It could not be determined whether or not it possessed also antitoxic powers, as no satisfactory toxin has thus far been obtained from cultivations of the pneumococcus. Of the two cases of pneumonia treated with the serum, the one occurred in a stevedore, twenty-nine years old, in whom six hundred and sixty units were injected on the eighth and ninth days. The injection was followed in each instance by a fall of temperature and on the day after the second injection the crisis occurred. Inasmuch as this was on the ninth day, it is difficult to say whether or not the result was due to the treatment. The attack was a fairly severe one, but the pulse was good before the serum treatment was adopted. The second case was one of bilateral pneumonia in a law writer, of intemperate habits, twenty-five years old. An injection of six hundred and sixty units of serum was made on the third, fourth, and fifth days. The attack was a severe one, with a good deal of delirium and signs of dilatation of the heart. The serum appeared to exert

a beneficial effect. In both cases an urticarial rash was observed, similar to the rashes occurring after injections of antitoxic and antistreptococcic sera.

Traumatic Rupture of the Liver.—In the *Australasian Medical Gazette*, Dr. Someren reports a fatal case of hepatic rupture: A woman, aged thirty-six years, married, nullipara, was seated on a cart, next the driver, passing along a main road, when the driver found it needful to turn off the siding on to the road, and in doing so the cart was tilted suddenly and acutely to the side of the driver. The woman fell against the driver, who, seated on the extreme edge and unprepared, jumped off, thus removing the expected support from the woman, who then rolled helplessly and in a heap off the dray, and fell on her head, while her body lay just across the wheel track. By this time the dray had got on to the crown of the metalled road, and here the wheel went over her abdomen, she lying on her back. She was taken up and put on the dray, supported in a half-reclining position. A little blood issued from her mouth. She made the remark, "I feel faint," and lapsed into unconsciousness. The dray came back to a hotel, about three hundred yards from the scene of the tragedy, and she was taken out and put on a bed, and there she expired very shortly after. It should be mentioned that she seemed at first not to be breathing at all, but just before getting to the hotel she began to breathe better and more perceptibly. The doctor arrived upon the scene very soon after her death, which occurred within half an hour of the accident. There was a very superficial abrasion upon the forehead, just at the parting of the hair, and this was the only mark upon her person anywhere. Pallor was great, but not strikingly marked. From the history he judged that death was the result of rupture of an abdominal viscus, probably the spleen or the liver; but the statement that blood had issued from the mouth made him doubt whether the fall on the head might not have produced some rupture of a cerebral vessel. The coroner ordered a post-mortem. The doctor proceeded to open the abdomen first of all, prepossessed by the idea that he would discover there the cause of death. Beginning with the median incision, he then made a transverse one from the xiphoid cartilage to the right flank, and reflected the flap downward and outward, laying bare the right hypochondrium, and in the course of this came across a blood extravasation in the adipose tissue, which was most abundant, in some parts as much as an inch in depth. This extravasation was just at the edge of the cartilage of the ninth right rib. Further reflection disclosed a fracture of the ninth right rib, the posterior portion overriding the anterior. Opening the peritoneum, he came upon an enormous effusion of blood, and, raising the thoracic wall, the liver could be seen with several rents in Glisson's capsule, which seemed to proceed radially from posteriorly, principally in the right lobe. Passing his hand around the liver between it and the ribs, he ascertained that the overridden fragment of the fractured rib did not penetrate internally at all. Then pushing the hands over the convex surface of the liver backward, he came upon a pulpy mass of liver, merely held together by fibrous shreds. Almost the whole posterior border of the liver was thus macerated, including the whole right lobe and a great part of the left. The capsule was stripped off in all directions. The mass of blood was enormous. No other organ whatever was in the least injured, though all, naturally, were exsanguine. The concave surface of the liver was comparatively uninjured anteriorly and inferiorly; all the vessels, afferent and efferent, being intact. Approximately speaking, quite half the liver was broken up, and apparently this was accomplished by the posterior portion being crushed against the angle of the ribs and spinal column, and there macerated by the force applied anteriorly and from the right side externally. How a viscus with the characteristics of the liver could be thus extensively, deeply, and thoroughly injured, under the shelter of the ribs, by a force roughly calculated as equal to half a ton, and yet not the slightest abrasion or mark be present upon the skin even to indicate that such an external force had been applied, seems a problem in vital dynamics which calls for solution. The woman had on loose but fairly good corsets, her other clothing being of a very flimsy, slight character.

Fracture and Dislocation of the Second Cervical Vertebra as a Result of Muscular Effort.—Lobingier (*Colorado Medical Journal*, February, 1897, p. 41) has reported the case of a machinist, twenty-one years old, and an experienced athlete, who in the performance of some feat on the horizontal bar fell limp and lifeless. In "snapping under," instead of easily emerging on the opposite side of the bar and finishing in a graceful vault, the man's head fell upon his chest and his body forward, semi-prone. No sound was heard by the observers, as of the snapping of bones or ligaments, and it was insisted that his head struck nothing in passing beneath the bar. Examination of the cervical spine failed to disclose any deformity. The reflexes were abolished and only feeble cardiac activity persisted. The vertebral column was adjusted so as to prevent injury from a possible fracture, and artificial respiration was instituted and maintained for an hour. Respiratory and cardiac stimulants besides were given hypodermically and repeated at frequent intervals. Electricity was employed and inhalation of oxygen practised. Despite every effort the patient could not be resuscitated and death took place. Upon post-mortem examination no cerebral lesion was discovered, but the second cervical vertebra was found to be thrown forward and to the right on its articular bearings for fully an eighth of an inch. The anterior common spinal ligament was ruptured through its three layers. The lip of both the second and third vertebræ was broken off irregularly along the line of junction. On the right side this fracture extended into the inferior articular facet of the second vertebra. On removing the spinous process of the second vertebra the cord was found soft and degenerated for a distance of an inch. The greatest change in the cord existed at the point opposite the articulation of the second with the third segment of the spine, showing that the pressure of the odontoid process on the cord would not fully account for the softening. The neck of the patient measured sixteen inches in circumference and was intensely muscular, with an unusually large amount of ligamentous and aponeurotic tissue. It is believed that the lesions found resulted from violent contraction of the left posterior group of cervical muscles, with simultaneous and co-ordinate relaxation of the right anterior group, allowing the head to drop violently backward and to the left.

The Pathology and the Surgery of Intussusception.—In the Hunterian lectures delivered recently before the Royal College of Surgeons of England, d'Arcy Power (*British Medical Journal*, February 13, 1897, p. 381) stated that the evidence derived from anatomic, physiologic, pathologic, and clinical data renders it legitimate to assert that spontaneous ileocæcal intussusceptions occur when the colon is considerably larger than the ileum, and is so unduly movable that it readily allows itself to become invaginated when once the process has been begun. This variety of intussusception is essentially an affection of child-

hood, and such an undue increase in the width of the colon implies either a congenital abnormality or an unduly rapid growth, for at birth the diameter of the large intestine is practically the same as that of the ileum. Such a rapid increase in the width of the large intestine may, perhaps, in some instances render the ileo-cæcal valve less competent to guard the end of the ileum, because the valve is not capable of very rapid growth if it is to be firm, but this is probably a factor of very rare and subordinate importance. Though anatomic peculiarities are important factors in the production of intussusception, the physiologic factors are no less important, for they apply in all probability to every form of spontaneous invagination, whether it is of the enteric variety, the ileo-cæcal, or the colic. The physiologic factor is much less easy to specify than the anatomic, for it is almost certainly an individual peculiarity. It may be stated broadly, however, that, as regards the ileo-cæcal portion of the intestine, the increased mobility, coupled with the unduly rapid growth in the width of the large intestine, is probably associated with increased and irregular peristaltic movements of the large intestine. Everyone who has had much experience in watching children must have noticed how subject they are to an irregular twitching of the muscles, and how greatly such inco-ordinate movements vary in different children and in different families. They are most common at the instant when the child drops off to sleep and during the act of awakening. They occur both in the voluntary and the involuntary muscles, and are due, as physiologists think, to a contraction of the interfibrillar sarcoplasm, while the ordinary tetanus and twitch are caused by an additional shortening of the contractile fibres. This theory explains why the symptoms of intussusception so often appear at the instant when a child awakens; why it is that boys rather than girls, and the most active and the best-grown children, are attacked as often as those who suffer from chronic inflammatory affections of the alimentary canal. The muscular system in the active and well-grown is undergoing its greatest development, and its sarcoplasm is in as unstable a condition as in the puny in whom the attacks of enteritis have unduly heightened the irritability of the intestinal muscle, and have thus led to the irregular twitchings which, together with suitable anatomic conditions, may form the starting-point of spontaneous intussusception. The cause of intussusception is obscure, but clinical evidence shows that it may be produced mechanically, though the spontaneous form is the more common. Among such mechanical causes are direct injury to the belly, sudden and violent muscular efforts, gymnastic movements, jolting or dandling, paroxysmal coughing as in whooping-cough; or it may even be the reward of greediness, as in the cases of some men who were suddenly seized with symptoms of intussusception shortly after eating a quantity of cherries—stones and all. It is indeed no matter of surprise that such causes should produce an intussusception, for any of them might lead to a sudden and limited constriction of the intestine associated with an active peristaltic movement of a neighboring portion sufficient to draw the receiving layer of the gut over the contracted portion, which then becomes the apex of the intussusceptum. As soon as the intussusception has been started, the anatomic peculiarities again become of paramount importance, for they determine the character of the intussusception. In the ileo-cæcal forms, a wide colon, with few and simple ileo-colic folds, devoid of lymphatic glands, will allow the intussusception to run a chronic course, even though the amount of bowel invagination is very great. Complex fossæ, with numerous glands at the ileo-colic angle and prolongations of mesentery along the end of the ileum, will no doubt so far steady the ileum as to render its intussusception less likely; but if it should occur, the additional amount of tissue invaginated will render the impaction so peculiarly tight that, if gangrene is not produced at once, early adhesions will be formed and the intussusception will soon become irreducible.

An Afebrile Case of Scarlatina with Diphtheria.—Varnali (*Archiv für Kinderheilkunde*, B. xxi., H. v., vi., p. 358) has reported the case of a strong, well developed boy, three and a half years old, without hereditary predisposition, who was seized with a mild attack of scarlet fever. Two days later a small patch of pseudo-membrane was observed upon the left tonsil, and the adjacent submaxillary and cervical glands became enlarged. The child was somewhat somnolent and without appetite. The temperature was normal and remained so throughout the whole course of the illness, except on one day toward the close of the attack, when in conjunction with constipation it rose to 100.4° F., to decline again after the action of a dose of calomel. The false membrane extended to the soft palate, the uvula, the pharynx, and finally to the nares. On the fifth day the child was convalescent, although the membrane in the throat did not disappear entirely until several days afterward. In the course of another week desquamation had taken place, while œdema of the eyelids set in and albumin appeared in the urine.

Wandering Spleen.—Dr. J. Bland Sutton (*The British Medical Journal*, January 16th) says that splenectomy for wandering spleen is both a justifiable and highly successful operation, the rate of recovery being equal in skilled hands to that of ovariotomy. It has occurred to many that it would be desirable to secure the spleen in the left hypochondrium by means similar to those adopted for movable kidney. Dr. Pouwer has endeavored to carry this out in two instances, but from results it is evident that the patients ran greater risks and were confined to bed longer than though he had removed their spleens. The dangers from a wandering spleen are: (1) Rupture of the stomach or duodenum. (2) Intestinal obstruction. (3) Abscess of spleen. (4) Rupture of the spleen.

Breech Presentation with Extended Legs.—Drs. W. S. A. Griffith and A. W. W. Lea read a paper on this subject before the London Obstetrical Society on January 6th. Seventeen cases were briefly described and the following conclusions arrived at: 1. The extension of the legs in incomplete breech presentations may be either primary or secondary. 2. In the primary variety, which occurs before labor has begun, the breech engages readily in the brim, and the diagnosis can be made. 3. In the secondary variety the extension occurs during labor. This form is more frequent than the primary. 4. This complication is more frequent in primiparæ, namely, seventy per cent. of the cases. 5. The prognosis, with regard to the child, is not worse than is that in pelvic presentations in general. 6. Cephalic version is advantageous before labor is advanced. It is not usually possible in the primary, but may be so in the secondary variety. 7. Most cases are delivered naturally. 8. Prophylactic reduction of the leg is required only in exceptional cases. 9. It is probable that flexion of the leg on the thigh is preferable to bringing down the leg into the vagina. 10. If aid is required in the lower part of the pelvis, the soft fillet will usually effect delivery.

The Influence of Influenza on the Female Organism.—Gabrielle v. Engle (*Wiener med. Presse*, Nos. 43 and 44, 1896) writes that of the four clinical forms—the purely febrile, the nervous, the catarrhal, and the

gastric—women suffer most from the first two. Pre-existent disease, such as endometritis, congestive or infectious, shows exacerbations, while metrorrhagia and intermenstrual discharge are frequent. The author cites two instances in which a latent perimetritis was aggravated and followed by a fatal result in one case. Hemorrhage was noted in one instance in which the appendages had been removed and menstruation had ceased. In anæmic and chlorotic girls in whom menstruation had been irregular, the flow became regular after an attack of influenza. In some cases of premature climacteric there was a resumption of the menstrual function in consequence of influenza. Pregnancy and labor were often gravely affected, and many abortions and premature labors occurred during the recent epidemics. The advent of influenza in the puerperium simulated puerperal fever, and interfered with the secretion of milk. Statistics of birth, as shown by the author, indicate that the power of conception was lessened by the epidemic. Diminution of the number of births was due also to weakening of the male element in reproduction. The author concludes that influenza is an infectious disease having a serious effect on the genital organs, and capable even of leading to grave national and economic questions.

Spurious Constipation.—Dulberg (*British Medical Journal*, March 13, 1897, p. 653) reports three cases of what he designates as spurious constipation. No action of the bowels would take place unless aperients were used and no sooner was the use of these discontinued than constipation again set in. One of the cases occurred in a medical man, who had always had a regular movement of the bowels until he suffered from a sharp attack of diarrhœa, following which he was compelled to use an aperient to overcome his constipation. Upon the conception that the use of the aperient resulted in the expulsion from the bowel of any residuum of fæces within it, the saline was withdrawn, and the lower bowel resumed its expulsive function as soon as it contained a sufficient amount of residual fæces.

Syringomyelia in the Sequence of Traumatism.—Huismans (*Deutsche medicinische Wochenschrift*, February 18, p. 122) reports a case in which symptoms of syringomyelia appeared in the sequence of a traumatism, although it is not made clear that the spinal lesion may not have antedated the injury, which transformed a latent into an active process. The patient, employed as a driver, slipped and fell upon the left elbow. Upon the same day, toward night, he fell a second time, now striking the right shoulder. In the course of seventeen days he was able to resume his work, although shooting pains persisted in the right arm and the right shoulder. After the lapse of a year he ceased work entirely, the right shoulder having become greatly increased in size. In walking, the right leg was dragged somewhat. Gait and station were rather unsteady. Lancinating pains had never been present, although twitching of the legs took place in the recumbent posture. The knee jerk was increased upon the left and entirely absent, even with reinforcement, on the right. Percussion of the right patellar tendon resulted in adduction of the left thigh. The abdominal reflexes were feeble: the cremasteric reflex could not be elicited on either side; ankle clonus was not present. Slight nystagmus existed, but there was no difficulty in speech. The action of the sphincters was maintained, although there was some weakness of the detrusor urinæ. The circumference of the right shoulder measured forty-four centimetres, that of the left thirty-five centimetres. On the right side the deltoid, the infraspinatus, and the supraspinatus were in a state of pseudo-hypertrophy, while the muscles of the left shoulder were atrophied. The right deltoid was greatly enlarged and, together with other muscles, exhibited fibrillary contraction during rest. In raising the right arm some of the muscular bundles of the deltoid contracted, with the development of deep fissures, indicating that some of the fibres were atrophic and replaced by fat. The strength of the right arm was out of proportion to the size of the member. The small muscles of the hand had shown signs of atrophy for only a short time, and this was more marked on the left than on the right. The right lower extremity was smaller and weaker than the left. The muscular development of the right side of the face was better than that of the left side, and the folds and lines were better marked on the former than on the latter. The mobility of the face appeared, however, to be symmetric. The left half of the tongue was considerably smaller than the right, and the organ, when protruded, deviated toward the left. On movement of the shoulder-joints a coarse crepitus was appreciable. The osseous portions of the second joint of the right second finger were enlarged. There was kyphoscoliosis of the dorsal and lumbar regions of the spine. The faradic irritability of the muscles was generally preserved, but was lost in the median portion of the right infraspinatus; the galvanic irritability was markedly altered. Common sensibility was preserved, but the sense of pain was impaired, especially over the affected muscles. The temperature sense was profoundly affected, cold and heat being generally not distinguished. Heart and lungs were normal and the urine was free from albumin and sugar.

The Effects of Bicycle Riding on the Perineum.—Dr. M. E. Aldhuy (*Gazette Hebdomadaire de Médecine et de Chirurgie*, December 6, 1896) deals with the lesions of the perineum produced by the bicycle saddle, the action of the external genital organs, and acute traumatisms of the perineum and their etiology. He considers that the injuries to the perineum caused by the bicycle are of a very serious nature. Lesions such as cutaneous erythema, abscesses, hæmatoma, and a more or less profound anæsthesia caused by repeated pressure have been observed, as well as certain functional troubles, such as retention of urine in men and undue frequency of urination in women. Chronic inflammation of the canal and certain inflammatory complications may be produced or aggravatd by the bicycle. Occasionally the venous arrest due to compression of the perineum causes erection, but more often the perineal massage of the saddle produces temporary impotence. With regard to genital excitation there has been much exaggeration. Such results might be due to wrong posture or defective saddle. The most serious accidents are traumatic in nature and are produced by jolting over uneven roads or by falling on the rear wheel or framework. These falls need not be serious; sometimes there is only a slight tear of the urethra which heals rapidly. The author cites a case in which a fall on the wheel caused an enormous hæmatoma of the perineum and of the scrotum. The bloody tumor increased and the patient presented symptoms of internal hemorrhage; the integrity of the canal was determined by means of a catheter. An incision was made, which revealed a tear of the transverse artery of the perineum. A ligature was applied which arrested the hemorrhage. The urethra is sometimes completely ruptured, and in such case all the complications which usually follow a rupture of the canal may be observed. As the section of the urethra is here ordinarily very distinct, suture of the ends may be followed by union of the first intention. Poucet observed an instance in which seven years after complete rupture of the perineal urethra the patient did not show the least symptoms of stricture.

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IS MALARIA A WATER-BORNE DISEASE?

THE belief that water may contain the plasmodium of malaria and that infection may occur from the alimentary canal through water or the juices of succulent fruits grown in malarious regions is widespread. One fact of considerable weight in support of this theory is that it is firmly held by very many physicians practising in parts of this country where malaria is most rife, and who presumably therefore have had the best opportunity to study the disease and its mode of propagation. But this argument is negatived by another fact, that Italian physicians do not as a rule regard the water-borne theory of malaria as tenable.

In an interesting review of the pros and cons of this controversy, published in the *Bulletin of the Johns Hopkins Hospital* for March, 1897, Dr. Rupert Norton, of Washington, analyzes the reports of malaria on shipboard and in garrisons, upon which the partisans of the water-borne theory rest their case for the most part, and finds them far from conclusive, for no case, he says, among all those recorded as water-borne, gives a positive finding of the malarial parasite in the blood, certainly one of the most necessary proofs to show that the patient really had malaria. Furthermore, the symptoms in a large number of the reported cases supposed to be of malarial infection were not those of malaria, but of typhoid fever or of autotoxæmia of intestinal origin.

Dr. Norton rightly contends also that the only incontestable experimental demonstration of this theory is wanting. "To prove that malaria is water-borne in a given case demands conditions of a peculiar character: first the patient must never have had malaria, and must live and have lived in a district supposedly quite free of malaria; after drinking a certain supply of water and allowing for the proper period of incubation, the malarial parasite must be found in the patient's blood. In the mean time no soil should have been turned up in the patient's neighborhood, he should not have exposed himself to infection in any way, as by travelling into a malarious country, sleeping out at night, etc. Even if all these demands could be satisfactorily met, there would at the present time still be the proof lacking that the malarial parasite lived in the water." It may be found in water, in which case the probability of infection through drinking-water would be enhanced; but we may, on the other hand, find that it does not live in water for any length of time, and then the possibility of infection through this medium would be greatly diminished.

Another argument against the water-borne theory is that cases of malarial fever do not occur in groups in which the disease can be traced to single sources of infection, such as a special supply of water or milk; at least, the relation has never been so directly demonstrated as in the case of typhoid fever or cholera, for example.

As a result of his probing of the evidence that exists for and against the water-borne theory, Dr. Norton concludes that "though we cannot say that malaria is never contracted from drinking-water, yet the best proof is against this common belief. It is impossible to demonstrate that something never occurs, and we must be satisfied with showing that all the evidence that has been so far collected to confirm the water-borne theory is not of sufficiently exact quality to carry much weight."

The burden of proof distinctly lies on those who endeavor to show that the commonly accepted theory is incorrect, and we think most impartial critics will agree with the author of this paper that the necessary conditions of such proof have not yet been fulfilled.

THE LATEST EFFORT OF THE "REFRACTING" OPTICIAN.

AFTER a number of defeats of similar measures, a bill has been introduced into the senate of the State of New York, known as senate bill No. 1,001, which is designed to give the so-called "refracting" optician the legal right to prescribe for errors of refraction, after he shall have passed an examination in optics. It is to be hoped that this measure will meet with the fate of its predecessors. That no bill having such a scope ought to become a law must be patent to every physician, and will upon very little reflection and study become evident to every legislator. A great many objections can justly be urged against legislation of this sort. But the one great objection which stands out boldly and makes it a fatal mistake to confer such powers upon any but medical practitioners is the fact that such abuse would result in serious jeopardy to the safety and health of the public.

The most elementary knowledge of the eye and its functions teaches us that, in administering to this organ, we cannot separate it from the rest of the body. It is subject to the same laws, to the same diseases, and to the same risks. It is a well-known fact that the most skilful and successful oculists are those who have, previous to making a special study of the eye, laid a good and broad foundation with a comprehensive knowledge of general medicine. So much has been written concerning the connection of the organ of vision with the rest of the body that it seems superfluous to do more than allude to the existence of this important relationship. Many conditions causing an interference with sight and hence referred to the eyes are dependent upon some abnormal state of the

system, for which glasses will not only give no relief but may do harm. Certain grave diseases are recognized by an examination of the background of the eye; and the oculist is thus enabled to call the patient's attention to the existence of some disease of the body or one of its organs, refer him to the family practitioner, and enable him to avail himself of treatment at a time when interference may be the means of saving or prolonging life.

These facts are so indisputable and so important that it is somewhat surprising that proposed legislation of the sort alluded to can receive any attention at all. The protection of the public demands that he who prescribes for the eye in any form, whether through glasses or in any other manner, should possess the necessary medical knowledge. And since such necessary training includes proper education in general medicine preliminary to a special experience in ophthalmology, no one but a physician can prescribe glasses without exposing the public to the risks of error and other dangers.

The optician has his sphere, and it is a very useful one. He has it in his power to become skilful and eminent in his profession—that of grinding lenses according to the formulæ of oculists, and mounting these in frames so that they will not only have the desired optical effect, but will also correspond to the varying physical peculiarities presented by the faces of different patients. For the satisfactory execution of his work there is need of considerable knowledge of optics and mechanics. Let him perfect himself in these directions; and let him give up the idea that any one who is not a physician can ever prescribe glasses either properly or with safety to the patient.

A PROPOSED SUBSTITUTE FOR INTUBATION.

Despite the brilliant results of intubation of the larynx in diphtheritic obstruction of the glottis, there are certain disadvantages connected with its practical execution which prevent it from being accepted as an ideally perfect procedure, and which must continually stimulate to search after improved methods.

Dr. Charles Douglas suggests, in *Pediatrics* of March 15, 1897, a substitute for intubation which he describes as catheterization or swabbing of the larynx. During a severe epidemic in Detroit, in 1880, in the course of which he saw many cases of laryngeal diphtheria which he was unable to relieve by tracheotomy because of opposition from the parents, he hit upon the expedient of dislodging the membrane by means of a catheter passed into the larynx. A gum catheter was passed through the rima glottidis, and moved rapidly up and down, so as to loosen the pseudomembrane. The result was temporary relief in almost every case, but the dyspnœa almost invariably returned in the course of a few hours by reason of the reformation of the membrane, and so the operation was finally abandoned.

The introduction of the antitoxin treatment of diphtheria has emboldened Dr. Douglas to return to his former method, since, owing to the speedy control of the disease by the curative serum, the danger of a reformation of the false membrane is practically removed. He reports the case of a little patient treated in this way with gratifying success.

The membrane, three inches long, was quickly ejected after one treatment with the catheter. The patient was completely relieved of all distress and made a recovery without any tendency to returning dyspnœa. The free use of antitoxin, the writer believed, gave protection against a return.

We do not believe, and no more does the author of this method, that it will supersede tracheotomy or intubation, but it would seem to be a simple operation, and might be worthy of a trial, especially as failure would result in but slight delay, and intubation or tracheotomy could still be carried out if necessary.

The advantages which the writer in *Pediatrics* claims for his procedure are that: "(1) Any physician can generally meet this difficulty, even though he never intubated or performed tracheotomy; (2) The necessary instruments can be obtained at any drug store for a few cents; (3) No care or attention is required afterward, as in tracheotomy or intubation; (4) The patient has no difficulty in feeding, as in intubation; (5) It carries no horrors to the parents, is quickly done, and when successfully accomplished gives complete relief." So far, Dr. Douglas says, no harm has resulted from this treatment in his hands.

News of the Week.

Concerning Medical Journals.—A newspaper catalogue recently published by an advertising house in this city contains some interesting points in relation to the medical journals published in North America. According to this most recent authority, the medical profession of this country supports, directly or indirectly, 275 periodicals, of which 10 are issued weekly, 11 semimonthly, 225 monthly, 6 bimonthly, and 23 quarterly, with a combined yearly circulation of 16,017,200 copies. Estimating that there are in round numbers 120,000 medical men of all schools north of the Gulf of Mexico, of whom probably not over 80,000 subscribe to a medical journal of any kind, this vast amount of literature seems like an enormous burden to carry. It will occur to every one, however, that a good proportion of this immense circulation is made up of a very large number of periodicals which are published openly or covertly for advertising purposes by manufacturers of pharmaceutical preparations, and is practically gratuitous. One very serious result of this undoubted plethora of periodical medical literature is the encouragement it offers to laxity in the prompt payment of subscriptions to such journals as are published primarily in the interests of the medical profession, and which depend directly upon the payment of their subscription bills for their existence.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C., March 27, 1897. Changes

in the medical corps of the navy for the week ending March 27, 1897. March 22d.—Assistant Surgeon G. D. Costigan detached from naval laboratory and department of instruction and ordered to the *Vermont*. March 23d.—Surgeon C. A. Siegfried detached from the *Massachusetts* and ordered to the torpedo station; Surgeon S. H. Dickson detached from the *Texas* and ordered to the *Massachusetts;* Surgeon W. R. DuBose detached from the *Terror*, April 6th, and ordered to the *Texas;* Surgeon Oliver Diehl detached from the Philadelphia naval hospital, April 5th, and ordered to the *Terror*, April 6th; Surgeon T. C. Craig placed on the retired list, from March 12th; Passed Assistant Surgeon R. M. Kennedy detached from the Norfolk naval hospital, April 3d, and ordered to the Philadelphia naval hospital. March 26th.—Assistant Surgeon D. E. Carpenter detached from the *Franklin* and ordered to the *Raleigh*.

The Prevention of Tuberculosis in New York.—The health department of New York has taken the step of declaring pulmonary tuberculosis to be an "infectious and communicable disease dangerous to the public health." It has also ordained that notification of each case of the disease coming under the notice of medical practitioners in the city shall be made within a week of its first coming to the knowledge of the practitioners, and that public and private institutions and dispensaries shall also notify all cases heard of. . . . The medical members of the department regard it as quite feasible, even in face of the present estimate of 20,000 tuberculous citizens in New York, to restrict tuberculosis within the narrowest bounds, and eventually perhaps almost to exterminate it. Future comparative records from New York will prove to be of interest in this connection. To our way of thinking the whole scheme is Utopian.—*The Lancet.*

Regulating the Dispensary Abuse.—Upon the initiative of the New York Medical Society for Advancing the Practice of Medicine, a bill has been introduced into the legislature of this State by Senator Sullivan, to regulate the business of carrying on dispensaries, with a view to confine the benefits of dispensaries to the really poor and to prevent the despoiling of the private practitioner of his patients. After defining a dispensary as "a place, established by any person, persons, or corporation, for the practice of medicine and surgery, and to give medical and surgical aid or treatment gratuitously to poor persons who are unable to pay therefor," the bill provides that no person shall apply for such treatment in any dispensary, nor shall any person, persons, or corporation conducting such dispensary give treatment or medical aid to any person unless such person shall be a poor person and unable to pay for medical treatment. It also does away with the ten-cent and dollar-a-month abominations, by providing that all persons entitled to treatment shall receive such treatment free from charge, and shall also be supplied with the necessary medicines or appliances; and furthermore, that no one conducting a dispensary shall receive any pay whatever, directly or indirectly, for treatment, medicines, or appliances that may be required. All those applying for dispensary relief shall produce a certificate from the owner of the house where they reside, from the police captain of their district, from their alderman, or from any charity organization, to the effect that they are poor and unable to pay for medical treatment. The application for or obtaining dispensary relief, except in the case of an emergency, or the giving of a certificate when the person is not known to be poor, is to be made a misdemeanor. The act further provides for the appointment of a board for the supervision of dispensaries in the city of New York, and makes neglect to conform to the rules and regulations of this board by any of the dispensary authorities punishable by fine or imprisonment, or both. The closing section of this act provides that "the husband and wife shall be jointly and severally liable to pay for professional services of a physician rendered to them, or either of them, or any member of their family, and the joint or several property of the husband and wife shall be liable to levy and sale under an execution upon such judgment, except such property as may by law be exempt from levy and sale under an execution." At a meeting of the joint committee of the Medical Society of the County of New York, of the New York County Medical Association, of the Eastern Medical Society, and of the New York Medical Society for Advancing the Practice of Medicine, a committee was appointed, consisting of Drs. Washburn, Wiggins, McGowan, Stewart, M. J. Burstein, L. Cherurg, Gottheil, Landesmann, Tarler, and Lewinsky, to attend the hearing on this bill on March 30th.

"The Medical Buckeye Flyer" is the name of a special train which will start from somewhere in the West, the circular of information sent us does not say where, and will proceed to Philadelphia *via* Columbus, Ohio. In Columbus the train will be boarded by many of the military surgeons, who hold their annual meeting in that city shortly before the meeting of the American Medical Association. Any members of this association who desire to go by the "Medical Buckeye Flyer" may obtain further information by addressing Dr. R. Harvey Reed, at Columbus, Ohio.

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on March 24th, the president, Dr. James Tyson, in the chair. Dr. Albert E. Roussel read a report of "Four Cases of Glandular Fever in the Same Family, One in an Adult." Dr. H. A. Hare exhibited a man presenting great gouty deformity in the fingers of both hands. Treatment with dry hot air was followed at first by evidences of a widespread gouty storm, although subsequently marked improvement took place, the tissues apparently becoming softer and normal color of the surface being restored. A skiagraph showed only the bony deformity, but gave no indication of the deposits of sodium urate. Dr. Hare also read a paper entitled "The Value of Intravenous Injections in the Treatment of Toxæmia, chiefly Uræmic and Diabetic." He exhibited the apparatus employed, and detailed cases under his care that had been thus treated.

The Virginia State Board of Health.—Governor O'Ferrall has appointed the following members of the State board of health to serve for four years, from March 15, 1897: Drs Rawley W. Martin, Lynchburg; Paulus A. Irving, Hugh M. Taylor, and Landon B. Edwards, Richmond Vernon G. Culpeper, Portsmouth; John H. Neff, Harrisonburg; and Lewis E. Harvie, Danville.

A Medical-Practice Law.—The New Hampshire legislature has passed a law regulating the licensing and registration of medical practitioners. It provides that after September 1, 1897, no person shall have the right to the use of the title M.D., or Dr., or to advertise himself as a physician or surgeon, unless previously registered, or unless licensed and registered as required by this act. The examinations are to be conducted by three separate boards of medical examiners, of five members each, representing the New Hampshire Medical Society, the New Hampshire Homœopathic Medical Society, and the New Hampshire Eclectic Medical Society. The boards are to be appointed by the governor and council from a list of ten nominees submitted by each society for that purpose. The superintendent of public instruction is to be the regent of the board of medical examiners. Applicants examined and licensed by other State examining boards registered by the regent as maintaining standards not lower than those of the New Hampshire board, and applicants who matriculate in a New Hampshire medical school before January 1, 1898, and who receive the degree M.D. January 1, 1903, may, without further examination, receive an indorsement of their licenses or diplomas conferring all rights and privileges of a license issued after examination. Every person who is in the practice of medicine or surgery in the State prior to the passage of the act is entitled to registration on payment of a fee of $1.

An Ordinance Concerning Expectoration, which has been adopted by the board of health of the village of Saranac Lake, N. Y., reads as follows: "All persons who expectorate in consequence of any disease of the air passages (lungs, throat, mouth, and nose), are positively forbidden to spit or discharge such expectorated matter upon the floor of any house, store, church, schoolhouse, hall, or upon any sidewalk, or in any dooryard, or other place where such matter may be the means of communicating disease to other persons. Any person who shall violate the first section of this ordinance shall be liable to a penalty not exceeding $5 for the first offence, nor more than $25 for a subsequent offence, which penalty shall be imposed by and at the discretion of the board of health." Dr. McClellan, president of the board, writes that the moral support which the board has received in favor of its action is such that it has not been found necessary to impose a single penalty. A first notice usually brings the offender to a proper sense of duty, with the assurance of future good behavior.

The Hospital Saturday and Sunday Collection.—At a meeting of the distributing committee of this association in the city hall a few days ago, the treasurer reported that the collections for the year amounted to $61,500, or $2,500 more than the collections of last year. Of this sum $8,200 was set aside for special purposes, according to the wishes of the givers, and $3,300 was reserved for expenses. The sum of $50,000 was then allotted to the different hospitals in various amounts from $250 to $5,000, the only two receiving the latter amount being the Montefiore Home and Mt. Sinai Hospital. The German Hospital came next with $3,125.27, and St. Luke's was fourth with $3,045.29.

Dr. Douglass Ewell, of this city, died of pneumonia on March 22d. He was a graduate of the College of Physicians and Surgeons, and subsequently studied in Europe.

The Meeting of the American Medical Association.—Dr. H. A. Hare, chairman of the committee of arrangements, writes, calling the attention of those who are thinking of going to the Philadelphia meeting of the American Medical Association, that there will be at the same time a large mercantile convention, which will to a certain extent utilize a considerable number of the rooms in the various hotels. For this reason it is advisable that physicians who intend to be present at the meeting should write at once to one of the hotels engaging such rooms as they desire. If any of the visiting physicians prefer to take rooms at some good boarding-house, the chairman of the committee on reception and accommodation, Dr. G. E. de Schweinitz, 1,401 Locust Street, will be glad to send the addresses of good boarding-houses to those who will communicate with him, signifying their desire.

Antitoxin—American Pediatric Society.—The collective investigation (report) will be held open until April 10th, in order to secure returns of all cases beginning before April 1st. The committee desires to express its appreciation of the trouble and pains the profession has been willing to take in this matter. The blanks have been more understandingly made out than for the first report.

Orrhotherapy in Paris.—A hospital is to be built in Paris, near the Institut Pasteur, in which patients suffering from infectious diseases will be received and treated orrhotherapeutically. The money for the purchase of the site has been given by Madame Lebaudy.

Eastern Medical Society.—The second annual banquet and ball of the Eastern Medical Society was held on Thursday, March 25th, at the Lexington Avenue Opera House, the object being to promote social intercourse, and if possible to secure means for the development of a library. The following gentlemen responded to the toasts of the evening: Dr. Louis Fischer, Dr. H. B. Adler, Dr. William S. Gottheil, Dr. Carl Beck, Dr. Browd, Dr. Farler, Dr. H. J. Garrigues, Dr. Jur. Rudolph Loreck, Dr. G. W. Teschner, Dr. B. Gordon, Dr. L. W. Zwisohn, Dr. Ludwig Wein. Dancing followed the banquet and the arrangement committee's labor was amply rewarded by a financial success.

Boston Infants' Hospital.—At the opening of the new lecture room of the Boston Infants' Hospital, on March 17th, Dr. Northrup, professor of children's diseases in the Bellevue Medical College of New York, addressed by invitation the students of the Harvard Medical School on tuberculosis in children. The lecture was illustrated by lantern slides. The lecture was a great success and excited much interest.

Sixty Millions of Francs is the sum which a French paper has stated as the amount which the physicians of New York derive from their combined efforts.

Mütter Lectureship of the College of Physicians of Philadelphia.—The next course of ten lectures instituted by the late Prof. Thomas Dent Mütter, M.D., LL.D., on "Some Point or Points in Surgical Pathology," will be delivered in the winter of 1899–1900, before the College of Physicians of Philadelphia. The compensation is $600. The appointment is open to the profession at large. Applications stating in full subjects of proposed lectures must be made before October 1, 1897, to committee on Mütter Museum, John H. Brinton, M.D., chairman, northeast corner of Thirteenth and Locust streets, Philadelphia, Pa.

Japan is said to contain a greater number of thermal springs than any other country on the globe.

The Physicians of Bermuda propose to celebrate the Queen's "diamond jubilee" by the creation of a fund for the payment of two trained nurses to serve in the cottage hospital. These nurses can be obtained in London, on a three years' agreement, at the rate of £60 each per annum, and board at the hospital when unemployed. A very generous offer has already been made respecting the travelling expenses of these nurses from London, and there are reasonable grounds for hoping they will be sent out free as far as the hospital funds are concerned.

Non-Combatants and Bravery.—The line officers in the British army and navy snub the surgeons and sneer at them as "non-combatants," yet in the recent expedition to Benin the only officer killed was Surgeon Fyfe of the navy, who was shot while succoring a wounded comrade. A telegram announcing his death, which was read in Parliament, called him a naval sergeant.

A Memorial to Two Heroes.—A stained-glass window has recently been placed in St. Peter's Church, in Fernandina, Fla., by Dr. J. B. Upham, in commemoration of Drs. Welford and Herndon, who died there of yellow fever in 1877. When the epidemic was at its height and the sick were left to die unaided, because of sheer physical inability of the resident physicians to attend to so many, two physicians from Virginia came to the town and devoted themselves freely to the care of the sick. They did brave work, but were themselves numbered among the later victims of the disease. The inscription on the window which commemorates this sacrifice, runs as follows: "Francis Preston Welford, M.D., James Carmichael Herndon, M.D. Born in Fredericksburg, Va. Died, in the faithful discharge of their duty, at Fernandina, Fla., October, 1877. To whose memory, in grateful recognition of their noble lives and heroic death, this window is dedicated by a New England member of that profession which they so much honored and adorned."

Pilgrimages and Epidemics.—A resolution has been adopted by the delegates to the International Sanitary Conference, calling upon all governments to prohibit, or at least restrict, pilgrimages by every practical means in their power. The British delegate stated that the government of India had already decided to prohibit this year's pilgrimage to Mecca entirely. The member from Holland stated that pilgrims from Java were required to be provided with a personal certificate, stamped at departure and on return. The Persian delegate announced the prohibition of pilgrimages to Mesopotamia, and the representative of Egypt said that as far as it was possible pilgrims from Egypt would be prevented from going to Mecca this year. Russia reported that not only all Mohammedan but Christian pilgrimages had been prohibited. Turkey alone of all the powers maintained that pilgrimage was one of the cardinal points of the Mohammedan religion, and that therefore no pilgrim could or would be prevented from going to Mecca. As Turkey is the power that rules Europe to-day, the pilgrimages to Mecca will doubtless continue, plague or no plague.

The Eighth International Pharmaceutical Congress will be held in Brussels, from August 14th to 21st. In addition to questions of general pharmacy and applied chemistry, matters connected with hygiene, public health, and sanitary legislation will be discussed. The special attention of the members of the congress will be called to the subject of drinking-water. The preparation of antitoxic serums and of various organic substances which have recently been introduced into therapeutics will also be debated.

National Confederation of State Medical Examining and Licensing Boards.—The seventh annual meeting of this confederation will be held in the small banquet hall of the Hotel Walton, at Philadelphia, Monday, May 31, 1897, at 10 A.M. The following programme has been arranged: Address of welcome, by Dr. A. H. Hulshizer, of the Pennsylvania State board of medical examiners; response by Vice-President Reed; report of the committee on minimum standard of requirements; discussion and action thereon; report of the secretary and treasurer; annual address of the president; some practical experience with and results of the medical law of Pennsylvania, by Dr. William S. Foster, Pittsburg; the need for exact information as to the equipment, methods, and requirements of our medical schools, by Dr. J. N. McCormack, Bowling Green, Ky.; address by Prof. J. W. Holland, M.D., dean of Jefferson Medical College, Philadelphia; paper; miscellaneous business; election of officers; adjournment. The objects of the confederation are to consider questions pertaining to State control in medicine and to compare methods in vogue

in the several States, the collection and dissemination of information relating to medical education, and to consider propositions that have for their purpose advancement of the standards in the United States. A cordial invitation is extended to all members and exmembers of State medical examining boards, and to physicians, sanitarians, and educators who are friendly to the objects named, to attend the meeting and participate in its proceedings. Dr. William Warren Potter, of Buffalo, is the president, and Dr. A. Walter Suiter, of Herkimer, N. Y., secretary.

The Founder of the Red Cross Society.—Mr. J. Henri Dunant has been living in great poverty in Appenzell, Switzerland, and appeals have from time to time been made to philanthropists for contributions to remove this blot upon the name of a great philanthropic organization. His wants have at last been relieved through the charity of the dowager-empress of Russia, who has sent him a gift of $750 and has promised an annuity of $500.

Snuff Adulterated with Lead.—An unusual source of lead-poisoning was brought to light recently by the arrest of a firm of wholesale tobacconists. A case of plumbism, the origin of which was obscure, was finally traced to the use of snuff bought of the accused. An analysis of the snuff revealed, it is said, about six per cent. of bichromate of lead. There is a provision in the statute against selling adulterated or unwholesome food, but as snuff did not come under this provision it was found necessary to proceed against the firm for obtaining two cents, the price of the snuff, upon false pretences.

Payment of Life Insurance for Accidents.—It is said that in Austria a person who loses both his hands in an accident can claim the whole of his life-insurance money, on the ground that he has lost the means of maintaining himself. For the loss of the right hand he can collect from seventy to eighty per cent. of the total.

Dr. William Pepper, professor of the principles and practice of medicine in the University of Pennsylvania, and formerly provost, celebrated, on March 12th, the thirty-third anniversary of his entrance into the medical profession, by entertaining the present and some of the former members of the Pepper Medical Society, together with a number of the professors and younger instructors in the medical department of the university.

The Missouri State Medical Association. — This association will meet in St. Louis, May 18th, 19th, and 20th. All the first, the second, and the third day until noon will be devoted to the scientific programme. On the evening of the first day the association will as a body attend a session of the Illinois Society in East St. Louis. On the evening of the second day the Illinois Society will attend as a body a session of the Missouri Association, after which there will be a banquet and reception. On the third day both bodies will adjourn and join in a steamboat excursion on the river.

Fined for a Wrong Diagnosis.—A French physician has recently been punished by the courts for an error in diagnosis. He was called as an expert witness for the prosecution in the trial of a woman, who had been arrested on a charge of infanticide, and declared that she presented all the signs of recent delivery. Two days later, however, she was delivered of a child, and she therefore prosecuted the too confident expert, who was found guilty and fined 1,000 francs.

College of Physicians of Philadelphia.—A stated meeting of the section on gynæcology of the College of Physicians of Philadelphia was held on March 18th, Dr. John M. Baldy occupying the chair. A discussion on the use of antistreptococcic serum in the treatment of septic conditions was the subject of discussion. Dr. B. C. Hirst reported cases in which the serum had been used, but without good results, and he advised great circumspection in the selection of cases and the employment only of reliable serum. Dr. R. C. Norris reported a case of puerperal septicæmia successfully treated with the serum. The results in this case were striking and comparable to those observed from the use of antidiphtheritic serum in suitable cases. The case was complicated by an attack of recurrent erysipelas, upon which the serum appeared to exert little if any influence. Dr. G. E. Shoemaker reported a case of septicæmia following criminal abortion, in which injections of antistreptococcic serum were employed without avail. Post-mortem examination disclosed a conspicuous absence of inflammatory lesions and of evidences of septic infection. Dr. E. P. Davis reported a case of puerperal septic infection following self-induced abortion, in which marvellous results followed injections of antistreptococcic serum. In another case, seen at a late stage, a fatal result followed, but the integrity of the serum could not be vouched for. Dr. J. M. Baldy reported a case of acute puerperal lymphangitis and phlebitis treated with the serum, in which a fatal result followed in such a fashion as to lead to the belief that death was due to the treatment. Dr. J. B. Shober made a statistical report of cases recorded in the *British Medical Journal* and *The Lancet* for 1896, covering a total of twenty-one cases, with seventeen recoveries and four deaths.

A meeting of the section on general medicine of the College of Physicians was held on March 15th, the president, Dr. J. C. Wilson, in the chair. Dr. Wilson exhibited a case of horseshoe kidney. Dr. S. S. Kneass demonstrated Widal's method of serum diagnosis of typhoid fever. Dr. H. A. Hare made some remarks on the employment of capsicum for the purpose of stimulating the absorption of medicaments given by the mouth.

The Providence (R. I.) Medical Association, at its annual meeting on March 1st, adopted a resolution to place upon record its official opinion that the proper use of antitoxin is the best means we have of antagonizing the virus of diphtheria, and that the method of diagnosis of diphtheria by the bacteriological examination of swabbings from the parts suspected of being infected is the most accurate of all methods in use.

Plague Serum Ready.—It is stated that a hundred horses have been treated with the plague virus and immunized, so as to furnish a large supply of the pest antitoxin should the disease be brought to France.

Small-Pox in New York.—Several cases of small-pox have been discovered in this city, the first case being found in the New York Hospital in the person of a man who was taken to the hospital from a lodging-house in Park Row.

A Minister of Health.—It has been suggested in England that a minister of health should be appointed and that his department should include the following: 1, The registration department; 2, the local government department; 3, the factory and workshop department; 4, the analytical and chemical department; 5, the veterinary department; 6, the public works and prisons departments; and 7, the lunacy department. It has also been proposed to take the office entirely out of politics, by providing that the minister of health should be appointed for life—that is, he should not go out of office with the government, and that he should have a seat in Parliament. *The Lancet*, in commenting upon these suggestions, does not regard the latter as practicable. The health officer should, it thinks, enter Parliament by the ordinary method and have cabinet rank. Without being a cabinet minister, it says, his opportunities would be enormously diminished, and it is obvious he could not occupy this position if he were not in political sympathy with the government in office.

To Arrest the Hospital Abuse.—The agitation against hospital and dispensary abuse in Baltimore has resulted in the formation of a society to attempt to stop the abuse. In spite of this, however, St. Joseph's Hospital, which has recently received a large legacy, has opened a new dispensary; and the Hebrew Hospital has opened one directly opposite the Johns Hopkins Hospital. These two dispensaries have injured the practice of East Baltimore physicians.

Obituary.

ERNST BRAND, M.D.,

STETTIN, GERMANY.

On the 8th of March this distinguished physician and hygienist departed this life in Stettin, Germany. Dr. Brand was the pioneer of a systematic bath treatment of typhoid fever, by which the mortality of the disease has undoubtedly been reduced to a small percentage.

Being early in his medical career convinced of the value of water as a remedial agent in acute and chronic disease, Dr. Brand had an opportunity to apply the bath treatment in typhoid fever on a large scale among the French prisoners stationed in Stettin during the Franco-Prussian war. In common with others, Dr. Brand had found the expectant plan, which awaits the advent of grave or threatening symptoms and treats them as they arise, unsatisfactory and often fatal when least expected. He became persuaded that the physician who followed this method was, as it were, subject to the whims or accidents of the disease and had no positive basis for his treatment, because he rarely succeeded in successfully combating perforation, hemorrhage, and other complications after they had once been established. To prevent these was Brand's chief solicitude, and he devised a method of bathing which aimed to enhance the integrity of the nervous system and endow the organism with a resisting capacity that would enable it to meet the inroads of the toxæmia, which so undermines the vital power and enfeebles the heart that hypostasis in large organs and necrosis at the point of intestinal ulceration are permitted to ensue.

The method of Brand was an innovation upon all other methods of bathing, the chief and only aim of which was reduction of temperature. Brand was the first to recognize and teach that the true *rationale* of the cold bath in typhoid rested upon the shock and consequent reactive stimulus to the cutaneous nerves and vessels, which, being conveyed to the central nervous system, was beneficently reflected upon all the functions dependent upon the latter. He was the first to insist that friction of the skin is required to dilate the paretic cutaneous vessels, and that the entire aim of treatment should be prophylactic. For these and other reasons, upon which the enormous beneficence of the Brand method and its superiority over all other bath substitutes are based; for the persistency, earnestness, courage, love of his kind; for the polemic and logical brilliancy with which he battled for this method for thirty years, Ernst Brand is entitled to be regarded as a benefactor of mankind and as a worthy representative of a profession whose devotion to suffering humanity is its chief ornament. The latter is brilliantly illustrated by his kindness and humane attention to the enemies of his country who had fallen into his hands by the fortune of war, and by the historical fact that Dr. Glénard, an eminent member of the Lyons medical faculty, who was among these prisoners, became so earnest a convert to Brand's method that when he returned to France he became its pioneer and missionary in that country. Despite opposition, which for political reasons was extremely bitter, the Brand method is to-day more frequently applied in France than in Germany. A valuable monograph by Tripier and Bouveret, professors of medicine in the Lyons School and physicians to the Red Cross Hospital there, attests the confidence of French physicians in this method. This book offers a complete clinical vindication of Brand's views, and has been translated by Pollak into German. "A prophet is not without honor save in his own country."

While the Brand method of treating typhoid fever is far from ideal, it offers to-day the most successful mode of management, as attested by its advocacy by our best clinical teachers. Peace to the ashes of the man who has added a powerful weapon against a disease in the combat with which the physician has hitherto stood almost as a passive spectator, never knowing where or when the foe would strike his most effective blow. By the strict Brand method, applied early and systematically, the physician becomes master of this usually fatal disease.

Medical Examiners on Pension Boards.—Many physicians who have been diligently working for and confidently expecting appointments to positions as medical examiners on pension boards under the McKinley administration may be interested in knowing that the sweeping order of Grover Cleveland, placing many of the department appointments under civil-service rules (which went into effect January 10, 1897), applies to medical pension boards. Unless the law is suspended, those at present occupying positions on the pension boards will retain office unless removed for incompetency or through resignation, in which case their places will be filled by competitive examination.—*Fort Wayne Medical Journal-Magazine.*

Clinical Department.

A CASE OF DISTOMUM HÆMATOBIUM (BILHARZIA HÆMATOBIA).

By HENRY T. BROOKS, M.D.,

INSTRUCTOR IN HISTOLOGY AND PATHOLOGY AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; PATHOLOGIST TO BETH ISRAEL HOSPITAL; CONSULTING PATHOLOGIST TO H. S. G. S. ORPHAN ASYLUM.

The case presently to be considered occurred in the practice of Dr. George M. Edebohls, of this city, and is reported because of its rarity in this country and for its pathological interest.

The absence of any satisfactory description of this organism in American and English text-books on medicine, urinary diseases, and clinical microscopy may justify a short résumé of the biology and morphology of this parasite before entering upon the discussion of the case mentioned.

The parasite was discovered by Bilharz, in 1851, in Cairo, Egypt. It is found along the entire coast of East Africa, in Arabia, Mauritius, India, Abyssinia, South Africa, and Brazil. The sexes are separate. The female is 16.20 mm. long and is carried in a deep channel or furrow (*canalis gynæcophorus*) located upon the ventral surface of the male. The male parasite measures 12.14 mm. in length. The forepart of the body of the male is flattened, the posterior part cylindrical; the former bears two suckers situated not far apart. The intestine is simply forked, and reaches nearly to the hinder end of the body. The male genital organs, consisting of testicles and vas deferens, open behind the ventral suctorial disc. The female worm is cylindrical, thin. On the anterior part of the body are two suctorial discs. The female genital apparatus opens behind the ventral suctorial disc. The alimentary canal shows a bifurcation in front of the ventral suctorial disc. The two divisions, however, unite behind this disc into a single, somewhat undulating longitudinal stem. The ova, according to Lenharz, are 0.05 mm. broad, 0.12 mm. long, and carry at one end a long sharp spicule (ova with a lateral spicule are often seen); otherwise the surface is smooth. The ovum shell is moderately thick and without lid. Within the free ovum the embryo is visible and often manifests active movements. The ova are said to perish rapidly in impure water which contains decomposing vegetable or animal matters. In pure or salt water, however, the embryos soon break through the investing membrane longitudinally and swim freely about. They are somewhat wedge-shaped and covered with numerous cilia.

The fully developed worm inhabits the trunk and branches of the portal vein, the veins of the liver, mesentery, and spleen, and also the venous plexuses of the bladder and rectum. It is nourished from the blood. The ova, besides being found in the localities mentioned, also occur in the bladder wall, free in the bladder, and in the urine, which generally presents the signs of cystitis with hæmaturia. As the venous vessels are often densely filled with the parasites, congestion and stasis with escape of blood and ova occur. Catarrhal inflammations with great redness and swelling of the mucous membrane and submucosa develop in the rectum, bladder, and ureter. Numerous ova are found in the exudation which covers the mucous membranes, as well as in the underlying tissues. Later there may be ulceration, partial cicatrization, and in the bladder small cauliflower-like vegetations of the mucosa. During life, in addition to severe general disturbance of nutrition, the occurrence of blood, ova, and exceedingly minute fat droplets may be observed in the urine. Transmission very probably occurs through the agency of drinking-water, in which, as has already been said, the embryos escape from the ova within a few minutes. Whether the embryos first require an intermediate host, or not, is still unsettled (Lenharz). According to Sonsino,[1] however, the embryo penetrates into aquatic larvæ of some insects and into several species of arthropoda, and there becomes encysted. It does not undergo further development till it is liberated from its intermediate host within the human stomach. It bores its way thence, or from the intestine, into the portal vein. The animals which act as hosts are from seven to eight millimetres in length and three millimetres broad, and can, therefore, be removed from drinking-water by filtration.

J. A. R——, rabbi, aged thirty-two, married. Spent one year in South Africa, half a year in Port Elizabeth, Cape Colony, and half a year in Kimberly, returning thence to the United States in December, 1894. The journey occupied about six weeks. Three days after arrival in this country he noticed hæmaturia, which has been continuous to date (March 25, 1897), over two years. The great bulk of the urine was passed clear, but toward the end of micturition it became bloody and contained a number of larger or smaller coagula, varying in color from yellow white to blood red. He came under the observation of Dr. Edebohls on March 20, 1897. Examination at that time showed the general health fairly good. Neither kidney was palpable; there was no tenderness along the line of either ureter. By rectal exploration a little softness of the posterior wall of the bladder was made out, but there was no evidence of a tumor of any kind. A flat abscess, three inches in diameter and one inch thick, was observed in the right mamma. This abscess has been noticed within the last three weeks. A specimen of urine, passed in the presence of Dr. Edebohls, was voided clear, with the exception of a small number of blood-stained coagula and shreds, until the last few drops, which contained much blood. Microscopical examination[2] of this urine, made within half an hour of the time of voiding, showed innumerable isolated and partially decolorized red corpuscles, a large number of pus cells, occasional hyaline and finely granular casts of small diameter, and a number of small coagula and masses, composed chiefly of pus and blood embedded in fibrillated fibrin and mucus. In addition, there were observed within these coagula, and free in the field of the microscope, a number (two to fifteen to a field) of large ovoid bodies with one end gradually drawn out into a sharp spine, the other bluntly rounded. Examined under high power,[3] these bodies were seen to be composed of a moderately thick, homogeneous, transparent, highly refractive outer covering, enclosing an organized cellular structure, having a peculiarly arranged glandular apparatus made up of a tortuous duct ending by branches in an irregularly lobulated, opaque, and granular organ. This glandular apparatus was situated in the rounded end of the ovoid body. These bodies were at once recognized as the ova of some animal parasite, and by exclusion they were diagnosticated as those of distomum hæmatobium. To confirm this diagnosis, a fragment of a coagulum containing ova was placed upon a slide, gently crushed, and treated with plain water under a cover-glass. Almost immediately movements of a jerking, contractile character were observed at irregular intervals within the ova. After several minutes these movements became more and more active and violent, until suddenly the envelopes were rent asunder, the embryos escaped, and at once began to swim freely about. The embryo, when freed of its shell, was somewhat ovoid, lobulated, and provided

[1] Lancet, 1893, p. 621.

[2] Bausch & Lomb—Objective, two-thirds inch; ocular, one inch.

[3] Bausch & Lomb—Objective, one-sixth inch; ocular, one inch.

with a button-like knob located upon the cephalic end. The whole external surface was covered with innumerable actively motile cilia. The swimming movements of the embryo continued under the cover-glass at room temperature for from ten to twenty minutes, after which interval they gradually ceased. The cilia, however, continued their movements for a much longer period, and then, like the embryo which they formerly propelled, slowly came to rest. After the urine had stood for thirty-six hours, the ova contained therein no longer gave any evidence of life when treated with water.

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176 East Seventy-First Street.

CREOLIN AFTER ABDOMINAL OPERATIONS.

By J. MALSEED BELL, M.D.,

ST. JOSEPH, MO.

That fads travel in cycles is as well illustrated in the world of medicine as in that of society. The inhalation of medicated vapors, a therapeutic agent of no mean magnitude, has until recently been relegated to the realm of quackery or classed with the unscientific subdivision of "old granny" remedies. Inhalations were important agents with Hippocrates and Galen; Shakespeare refers to their curative properties in syphilis and a host of other ailments. Our American pioneers in medicine placed great store in the utility of vaporization, and in the first United States Pharmacopœia of Wood and Busch they were accorded a prominent place. During the past decade a vast tidal wave of new remedies swept the field, carrying with it many old and tried agents, leaving, instead, scientific compounds, precise and positive in action, elegant in appearance, and æsthetic in their exhibition. True, many of these have maintained a sphere of usefulness, and in the possession of some we feel we have progressed, but in none of them do we find an agent that at all times will take the place of an inhalation.

There is one class of cases, presenting irritability of throat, nose, or bronchi, accompanied with anorexia, which forbids the exhibition of internal dosing, in which there is no treatment possible other than inhalations; in others, while internal remedies are fairly well borne, comfort is maintained and convalescence facilitated by an adjunct in the shape of an inhalation; in all cases of nervous susceptibility with laryngeal and bronchial affections, any treatment is aided materially and many a night call prevented by the use of an inhalation.

In all such cases I find a charming remedy in ordinary commercial creolin, ten or fifteen drops vaporized twice or even once during the night, on a stove lid or on a tin plate over an alcohol lamp. But the field in which I value it most highly is in irritable conditions of the throat and lungs, existent with or occurring during the early convalescence of cases of abdominal section, hernia, and operations upon the scrotum—cases in which coughing, even slight, jeopardizes the safety of ligatures and stitches, and impairs, more or less, primary union. The following case illustrates the virtue of this agent in such conditions:

Mr. R——, aged twenty-two years, was brought to me, from Selden, Kan., in December, suffering with ulcerative appendicitis. The patient, when he arrived, had a distressing cough, but, the severity of the abdominal symptoms demanding immediate attention, no time was taken to ameliorate it. With the assistance of the family physician, Dr. W. H. Brown, an incision was made and an ulcerating appendix, three inches long, was removed. The cavity was drained and the patient put to bed, suffering with some shock. A hypodermic of strychnine nitrate, one-fortieth grain, developed some tetanic spasms, which with the incessant cough threatened the integrity of the wound, if not the life of the patient. By the second day the temperature had returned to normal, but the cough persisted, and with it an irritable stomach, that was a constant menace to convalescence. Creolin was vaporized in quantities of ten drops twice during the first day and twice during the night, once the second day and succeeding night, and until convalescence was so far established that other means could be employed. The patient sat up on the sixteenth day, and on the twenty-first went home.

The relief afforded by breathing an atmosphere at once moist and soothing is never more fully appreciated by the patient as well as the physician than in such a case as the one quoted. Not only does the creolin possess the virtue of relieving the patient, but its vapor in the room during the dressings tends to destroy the more or less pathogenic bacteria that must emanate from respiratory organs undergoing a pathological process.

THE RESULT OF A WESTERN "HOLD UP."

By EUGENE F. TALBOTT, M.D.,

FLANDREAU, SO. DAK.

On January 20, 1896, I was called out fourteen miles to see a case of gunshot wound. The patient, a young man aged twenty-two, had received five bullet wounds at 8 P.M., January 19th. On account of the distance from town I was unable to get there before the stated time.

After making an examination, I discovered that he had been shot five times with a 38-calibre revolver, as it afterward proved to be. The wounds were as follows: No. 1, perforating wound, two inches above and one-half inch to the right of McBurney's point. The bullet was located about four inches to the right of the vertebral column, and one and one-half inches above the crest of the ilium. It was quite deeply buried. No. 2, perforating wound, four inches to the right of the right edge of the sternum in the second interspace. The bullet which presumably caused this wound was located in the posterior part of the axillary space. No. 3, wound near the angle of the left inferior maxillary bone. The bullet followed a downward and inward course, and was located beneath the skin at a little to the left of the second dorsal vertebræ. No. 4, bullet took off a portion of the end of the nose. No. 5, bullet made a groove in the right cheek. Wounds Nos. 1 and 3 were made while the revolver was in close proximity, for the skin was considerably burned. The patient was suffering a minimum degree of shock, but more severely pain in the abdomen. There was no tympanites.

I gave him a hypodermatic injection of one-fourth grain of morphine sulphate to quiet the pain and peristalsis. I dressed the wounds with occlusive iodoform dressing. No probing was done.

The next day I found him resting easily. He had had an apparently natural movement of the bowels. The chest wound was emphysematous. He had expectorated small quantities of blood. Temperature,

99° F.; pulse, 90; respiration, 19; urine normal. There was evidently no perforation of the bowel, so I put him on small doses of magnesium sulphate. He made an uneventful recovery. Since then I have removed the three bullets which remained in his body, and he is apparently as healthy as before the injuries.

The case is given to show the apparent absence of pyogenic cocci in a comparatively new country, as you will see from the above that there was no suppuration in any of the five wounds. It is very likely, as the country becomes older, bacteria will be introduced by the surgeons (?) or others. Then we Western practitioners will of necessity have to practise true aseptic surgery in every sense of the word.

VULVO-VAGINAL ANUS.

By JAMES J. KEYES, M.D.,

BROOKLYN, N. Y.

I DESIRE to report the following case as one of interest: On February 14, 1897, I was asked to see Mrs. O'N——. I found her in the dilatation stage of labor, head presenting, membranes intact, cervix dilatable, with a generally contracted pelvis. The fœtal heart sounds could not be distinguished, and the woman claimed to have felt no fœtal movements for several days.

Mrs. O'N—— was born in Ireland, aged twenty-six years, married three years, and pregnant for the first time. She last menstruated on April 5, 1896. When making the vaginal examination the lower bowel felt as though it contained hardened fæces, and I gave instructions to have it cleared.

On my return to see the patient a second time the nurse told me she could not give the enema, being unable to find the anal orifice. Closely examining the patient, I noted the absence of the anus, although to the eye its presence was distinctly suggested by a depression and a circular puckering of the skin, darkened in color, situated about one and three-eighths inches from the posterior commissure. I discovered that the rectum opened into the vagina just within the remains of the hymen—a transverse slit admitting a large finger, possessing but little of the elements of a sphincter, the lips of the aperture being thicker than the rest of the recto-vaginal septum. The mass I had mistaken for fæces was the so-called perineal body, enlarged and rather firm in consistency, the apex extending to the middle of the coccygeal bone. The rectum was smaller than usual, tubular in shape, and with no marked dilatation.

Instead of dipping down at right angles to the vagina and forming the anal canal, it came in front of the perineal structures into the vagina. The remains of the hymen were plainly visible, more so at the sides and in front than behind, the termination of the rectum being just inside the point at which the hymen begins to protrude from the posterior wall of the vagina. The vulvo-vaginal outlets in every other respect seemed to be normal, and were undoubtedly the organs of a woman who had as yet not borne a child.

The patient, who was not very intelligent, was totally unaware of her condition, as were also the members of her family. Her mother, who had twelve children, is dead, and from all accounts was ignorant of her daughter's deformity. There was no history of incontinence of fæces, Mrs. O'N—— saying she had no trouble with her bowels, except to have a movement four or five times a day.

I called two physicians to see the case with me. We concluded that the child was probably dead, and decided to deliver with axis-traction forceps. Chloroform having been administered, the membranes were ruptured, liberating a dark, thick, grumous liquor amnii.

The vertex presented at the brim, the position being O. D. P., rotation occurring during descent of the head. The presence of a well-marked "retraction ring," the contraction of the birth canal, and the anomalous condition and unusual rigidity of the pelvic floor rendered the case a most difficult one, the delivery of the shoulders giving the greatest trouble. The birth of a decomposing child, weighing eleven pounds, was finally accomplished. The perineum was torn to the depth of about one inch, and for a short distance the partition between the vagina and rectum, the immediate repair of the parts not being attempted, partly on account of the exhausting character of the labor, both to the patient and attendants, and with a view to perhaps a more radical operation later on; otherwise the woman made a good recovery.

I do not usually make use of the rectum as an obstetrical aid; in this case, however, it would have materially helped, and I should have gladly used it had it been possible.

When I say that the confinement took place in the basement of a tenement house, it will be understood that the difficulties in the strict observance of the rules of antiseptic midwifery were almost insurmountable. Still a heroic attempt was made to conduct the case as cleanly as possible; and, while it would scarcely be satisfactory to a Garrigues, the subsequent non-septic course of the puerperium leads us to believe that our efforts were not unavailing.

The chief interest in the case lies in the ignorance of the woman as to the existence of the malformation.

THE EPIGLOTTIS AS A PINCUSHION.

By J. M. W. KITCHEN, M.D.,

EAST ORANGE, N. J.

À propos of Dr. Fulton's article on foreign bodies in the air passages in the issue of the MEDICAL RECORD of February 20th, and in further relation to the tolerance of the air passages to foreign bodies, the following experience may prove interesting:

A colored girl of about twenty years of age presented herself at my clinic at the Memorial Hospital Dispensary, saying that there was a pin in her throat. As she was not the least alarmed and had not the first symptom of such a condition, her statement was disbelieved. Examination of the pharynx gave no sign, but the laryngoscopic mirror at once disclosed that the point of a pin was embedded in the cushion of the epiglottis, and its head was pointing down "the wrong way." The instruments at hand were not adapted for the emergency. My fellow specialists will imagine the situation. If that pin dropped, where would it go? I took the girl to my residence as carefully as possible, quietly prepared for tracheotomy, and used all the forceps I had, but none was of the right shape to grapple with the pin in its peculiar situation. Finally, I made a piano-wire loop through a bent cannula, and, running it over the head of the pin, dragged it around to position transverse to the laryngeal opening. Then, by introducing the index finger, I was just able to pass the nail over the middle of the pin, and, bearing downward and forward strongly, the pin was dragged to the outer world, much bent and leaving pretty bad scratches in the girl's throat. But during all this proceeding there was not the slightest sign of irritation in the patient, either direct or reflex. No cocaine was used or needed. Evidently some human beings have less nervous irritability than others.

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 5, 1897.

GEORGE F. SHRADY, M.D., PRESIDENT PRO TEM.

Result after Operation for Carcinoma of Breast.—DR. CHARLES MCBURNEY presented a woman, about forty-five years of age, in illustration of the result of removal of the breast for carcinoma. The operation, performed about four weeks ago, was that known as Halsted's, whereby the entire pectoralis major was removed, with the exception of the clavicular fibres, and the whole of the pectoralis minor. In the present case the tumor was rather a large one, and the large wound area was diminished by purse-string suture. The first criticism which the bystander was likely to make was that the operation was a very mutilating one, and the question would be asked whether there was not too much crippling to justify the end. The case presented proved what little basis there was for either of these criticisms. The scar was a comparatively small one, and the patient was able to make all of the normal movements of the arm with sufficient power. The result of these operations had upset some anatomical notions with regard to the great importance of the lower half of the pectoralis major.

DR. SHRADY said he had performed this operation several times, and had been surprised to find how much motion was left in the arm. In one case, in which he removed the whole pectoralis major, the patient was still able to put the hand on the opposite shoulder, thus showing how much the anterior fibres of the deltoid had to do with that motion.

DR. MCBURNEY added that he had been much pleased at the facility with which one could accomplish the main object, that of dissecting out the axilla to the highest point. It could be done only by removal of the pectoral muscles.

THE PRESIDENT remarked that their removal laid bare all of the vessels, and shortened the operation very much.

Correction of Deformity Caused by Colles' Fracture.—DR. MCBURNEY presented a boy of about sixteen years, to show the result of an operation for the relief of deformity and impaired function caused by a Colles' fracture of the radius, one and one-half inches from the lower extremity. Perfect union had resulted after the fracture, with well-marked silver-fork deformity, loss of power of flexion at the wrist, partial loss of flexion of the fingers, a good deal of pain on motion. While recognizing the importance of doing something to give relief, he did not think he could with propriety attempt refracture without a cutting operation. Cutting down upon the bone, he divided this as nearly as he could in the line of the fracture, which ran somewhat obliquely. He was then able to put the parts up in proper position and retain them with a plaster-of-Paris splint. The splint had been removed a week since. There was very little deformity left, and the restoration of function had been extremely satisfactory. Replying to an interrogatory by Dr. Dana, he said the nerve had not been injured, but simply stretched by the displaced bones. Dr. McBurney added that it was common to see cases of this deformity, the doctor being apt to tell the patients that disability would gradually disappear. But it did not, and they went on indefinitely with great loss of function. The deformity was nearly as common as that left by Pott's fracture, and that was very common.

Case of Insanity Cured by Thyroid Extract.—DR. C. L. DANA made the following report: "The patient is a young lady, unmarried, twenty-eight years of age, with no especial neuropathic taint in the ancestry. One older brother had Basedow's disease from the age of thirty-five to thirty-nine, when he was cured, and has remained so; one younger sister had hystero-epilepsy; a second brother is of a nervous temperament, and suffers from insomnia; and another sister has migrainous attacks.

"The patient herself was a healthy girl until she reached the age of twenty-four. She was of a quiet and serious temperament, possessing good self-control and a good bodily physique. At the age of twenty-four she received a severe shock, and following it had a state of mental confusion, with some depressing delusions. For about five months she suffered from a mild form of confusional insanity, but recovered completely and went to work. Four months later she had a relapse, lasting about two months. In the spring of 1895 she again began to suffer from the same kind of mental disturbance that she had had two years before, she being then twenty-six years old. These symptoms increased, and she suffered much from insomnia; she had delusional ideas about an influence working upon her, and about things being wrong about her. She had at times hallucinations of hearing voices. She was unable to apply her mind to anything; talked incessantly, but in a confused, incoherent way. She at times was depressed and cried, but never became violent.

"As her malady increased, she showed signs of erotism in various ways, dwelling much upon the subject of marriage and upon her experiences with the young men with whom she had been acquainted. She did not lose her appetite or suffer in physical strength. She was taken to a 'rest cure,' and then to a quiet place in the country, where her symptoms remained about the same on the whole, becoming slightly worse, however, and at the end of about nine months she was placed permanently in Dr. Watson's sanatorium at Fishkill, where she has been now for nearly a year, so that her present mental trouble has lasted almost two years. During all this time there has not been any great variation in the symptoms, except that they were slowly getting worse, and the general clinical features of the malady are those of mental confusion, with a tendency to depression at times, and a general tendency to dementia.

"It was thought at one time that some disorder of the pelvic organs might be at the basis of her trouble, and she was examined by Dr. E. Cushier, who reported that everything was perfectly normal. Blood examination showed some anæmia, but nothing very marked. There was no disturbance of the functions of the kidneys. On account of the steadily progressive character of the trouble and the apparent evidence of serious degenerative changes coming on in the brain, the question finally arose as to whether an operation for the removal of the ovaries should not be attempted. The patient was seen several times by Dr. Allan McL. Hamilton and Dr. B. Sachs, of this city, and was for a long time under the care of one of the latter, while at the sanatorium. I advised, before attempting any such operation—which was only suggested as the very last resort—that the patient be placed upon the thyroid extract. Physically she presented none of the symptoms of myxœdema, except that she had been growing stout and that her face had a white, pasty look. But she had no falling of the hair, dryness of the skin, or myxœdematous deposits in the body at all. The thyroid gland could be felt, and did not seem to be specially small. I should state that she had, at the end of the first year of her trouble, been treated with thyroid extract, but without any results. This time it was determined to push the drug to the point of tolerance, and see if any improve-

ment could be obtained. This was done, treatment having been begun about five weeks ago, and being carried on by Dr. Watson, of Fishkill, in whose care the patient was. The five-grain thyroid tablets were given, beginning with fifteen grains a day, and gradually increasing the dose until she was taking sixty grains a day. At the end of two weeks symptoms of improvement appeared, and at the end of four weeks she seemed almost entirely rational. There was then a slight relapse, but at the present time, three months from the beginning of treatment, she has become thoroughly sane. She talks intelligently and coherently, has no delusions, and writes a sensible and well-worded letter. The improvement has been so striking and progressive, and so definitely associated with the use of the thyroid, that there can be no doubt as to its being the cause of the change. Along with this improvement there has not been much alteration in her physical condition. She has lost ten pounds in flesh, her pulse rate has gone up at times to 90 or a little over, and she is physically somewhat weak, showing this especially in going upstairs; but there has been no increased flow of urine, and no change in the urinary secretion in any way. Her appetite has continued good.

"The interest of this case is twofold: In the first place, it is a very striking illustration of the therapeutic effect of thyroid extract in a case of insanity in which none of the ordinary symptoms of myxœdema were present. The insanity had been pronounced to be a degenerative one, and a bad prognosis given. In the next place, the fact that a brother suffered from Basedow's disease in a very typical way is a curious illustration of what I might call a thyropathic 'tendency' in the family."

The accompanying table, prepared by Dr. Watson, shows the progress of the case during the first two months:

RIVER VIEW SANATORIUM, FISHKILL-ON-HUDSON, N. Y.—CASE OF MISS ARKUST.

Date.	Weight.	Temperature.	Pulse.	Urinalyses. Color.	Specific Gravity.	Reaction.	Albumin.	Sugar	Miscellany.	Quantity.	Treatment Thyroid Extract).	Remarks.
Dec. 12, 1896	....	....	..	.....	....	. .... .	.....	.....	. . ..	....	Gr. v, 4 times a day.	
" 19, 1890.	179	98⁵/₈	80	....	....	. .....	.....	.....	. . ..	....	.....	Attack of diarrhœa: nausea at intervals; complaint of fulness of head and pounding noise in head.
" 23, 1896	178	98½	90									
" 27, 1896	177	98⅜	90									
" 29, 1896.	....	....	..	... .	....	.....	.....	... . .	.....	....	Gr. x t. i. d.	
" 31, 1896.	177	99	90									
Jan 4, 1897.	177½	99½	100	. ...	....	.....	.....	....	.....	....	Gr. xv t. i. d.	
" 7, 1897.	....	....	..	.....	....	.....	....	.....	.....	....	Gr. xx t. i. d.	
" 8, 1897	178½	99	100	Dark yellow.	1.014	Strongly acid.	Negative.	Negative	Trace of bile, excess of urea.	48 ℥		
" 12, 1897.	177½	98	104									
" 14, 1897.	174½	98	95	Dark yellow.	1.022	Strongly acid.	Negative.	Negative.	Trace of bile, excess of urea.	48 ℥		
" 18, 1897.	176	98	95									
" 21, 1897	176	98	95	Yellow, cloudy.	1.028	Strongly acid	Negative.	Negative	Excess of urea	48 ℥	Gr xv, t. i. d	Owing to depression in temperature treatment was reduced.
" 26, 1897.	178	98½	90									
" 30, 1897	177	98½	90	.....	..	.....	.....	.....	. .....	....	Gr xx, t. i. d.	
Feb. 3, 1897.	177	99	90	Yellow, slightly cloudy.	1.026	Strongly acid	Negative.	Negative	Excess of urea.	48 ℥		
" 5, 1897.	176½	98½	110									
Mar. 15, 1897.	166	....	100	....		..... .	.....	. .....	.....		Gr. xv t. i. d.	

In What Cases of Insanity is Thyroid Extract Useful?—Dr. F. P. Kinnicutt believed, with the author, that the treatment of insanity with thyroid extract had not been very encouraging in this country. Therefore the case reported was the more interesting. Dr. Kinnicutt had seen the treatment tried, and had himself employed it in cases somewhat resembling Dr. Dana's so far as the mental symptoms were concerned, but without improvement. He thought the very fact that in a large majority of the cases the treatment was without effect, while now and then it was so strikingly successful, would indicate that in the latter the trouble was probably connected with diminished or perverted secretion or function of the thyroid gland. It was known that there might be interference with the function of the gland and that structural change might even exist without any anatomical signs being detected during life. That fact was sometimes illustrated in exophthalmic goitre. All knew how extraordinary was the improvement in the mental symptoms, as well as in all the other symptoms, in myxœdema. He repeated that it seemed fair to assume that in the cases of insanity in which the extract was of benefit, there was destruction or perversion of function in the thyroid gland.

Dr. Weir, referring to the influence of thyroid extract in disease of the thyroid gland, said all would remember how Kocher had startled the world by the announcement that he treated goitrous tumors by this extract, when formerly it had been his custom to operate. In this country there had been little experience in this line. Dr. Weir had used the extract in three cases with marked benefit, in all the tumor having been of considerable size, in two chiefly parenchymatous, in one more like an adenoma. On the other hand, four cases in which it had been pushed to the degree of producing constitutional effects showed no improvement whatever.

Dr. Dana replied to Dr. Kinnicutt's interrogatory that he thought the cases of insanity in which thyroid extract proved beneficial probably were cases in which there was some derangement of the thyroid gland. In one instance he had to give up the drug, on account of its erotic effect—the young woman wanting to marry the nurse or anybody else. He had seen the pulse run up under its influence to 160, but in no case had it caused any serious results.

Loose Cartilage in Knee-Joint Shown by X-Ray Photograph.—Dr. Weir presented x-ray photographs, showing, to his surprise, two loose cartilaginous tumors in the knee, one being free in the joint, the other connected with the bursa of the biceps tendon. The latter had hampered motion most, and was removed. The piece in the joint showed most plainly under the x-ray, and probably contained some bone.

Asepsis of the Hands.—Dr. R. F. Weir read the paper (see p. 469).

Dr. William T. Bull did not doubt that all had

felt that some improvement on the bichloride method was desirable. The varying reports from culture tests had been rather bewildering. He felt himself under obligations to Dr. Weir for testing these methods, and he was disposed to try the one recommended, and for which there had certainly been a very favorable showing. Perhaps one criticism could be made. At least, it would have been more convincing had clinical cases been reported, showing the result of wound behavior under the different methods. It was known that there were some germs which existed in the epidermis and on the hands, which apparently did not interfere with primary union, so that while it was very desirable to have a method of disinfection which answered all the laboratory tests, yet it was a satisfaction to know that a method need not be absolutely perfect when tested by cultures in order to give excellent clinical results. He inquired of Dr. Weir whether he had obtained primary union in a larger percentage of cases by the method which showed absence of cultures from the hands in ninety-seven per cent. than by the old bichloride methods.

Dr. McBurney said he would not repeat the views expressed by Dr. Bull, as he was about to do. Doubtless, however, the laboratory tests were in themselves of great value. Speaking alone of his own experience, some time ago he had taken up the permanganate-of-potassium and oxalic-acid method, but after some time became, as others had, very tired of the permanganate. It was disturbing to the finger nails and difficult to remove even with the use of oxalic acid. The hands were kept continually in a state of roughness and discomfort, and for that reason were probably more difficult to sterilize next time. While giving up the permanganate, he liked the influence of oxalic acid very much. It seemed to do what no other agent had done, namely, take away rapidly and very perfectly every particle of loose epithelium and left a smooth condition of the hands, which was one essential to asepsis. To some hands, however, it was irritating. On giving up permanganate, Dr. McBurney began to use ammonia to a large extent, and had found it of great value. The laboratory tests had not been sufficiently numerous to enable him to speak of its absolute germicidal powers, but the clinical results had been extremely satisfactory compared with other experience. Adding a drachm of ammonia to an ordinary bowl of hot water rendered it softer and infinitely more cleansing in combination with soap than was water without ammonia. In all writings on sterilization of the hands, he had failed to find much reference made to cleansing them after operations, yet it seemed to him that clinically such practice was of great importance. It made a great difference whether the hands were cleansed immediately after an operation with respect to the result on the next operation, and yet it was often neglected. If the hands were washed immediately after an operation, particularly if ammonia were used, every particle of blood would be gotten rid of with the greatest facility, for ammonia broke up the blood almost on contact. If the hands were not sterilized at once, the process would be much more difficult at the next operation, and meanwhile a good culture medium would be present for any germs that might get upon the hands. The effect of ammonia water upon blood under the nails or on any part of the hands was remarkable, and would astonish anybody who had not made use of it. The blood would disappear almost instantly, and the nails, which had been quite reddened and soiled, whitened within a quarter of a minute while being brushed in ammonia water. Being asked what was the germicidal power of oxalic acid, Dr. McBurney said he thought its chief value was mechanical.

Dr. Beverley Robinson recalled the fact that in his early student days Nélaton, of Paris, washed all of his amputation wounds with alcohol. We had been told this evening that alcohol was useful in rendering the hands aseptic. If useful on the hands, why not in wounds? A few weeks ago he had witnessed Dr. Biggs inject some antitoxin, and before making the injection the latter drew some alcohol into the syringe and let it burn. It had impressed him as a convenient way to render the syringe aseptic. If alcohol was not one of the best disinfectants, still one could see many ways in which it could be utilized by the general practitioner, who usually had some at hand. He would ask why surgeons had given up Labarraque's solution. It was formerly used a great deal.

Dr. George L. Peabody said the reminiscences brought forward by Dr. Robinson reminded him of observing Recklinghausen, many years ago, dip his fingers into acetic acid after making an autopsy, and was told that he invariably did so when he feared infection. Dr. Peabody followed that practice for years afterward when making autopsies at the New York Hospital, first washing the hands with soap and water and then with acetic acid. It had always prevented, it seemed, the development of anything like an infected wound. On one occasion he went directly from the autopsy room to the ward, and there found a woman bleeding profusely, almost exsanguinated, from retained placenta. Hasty action was demanded, and without any further washing of the hands he passed one up to the fundus of the uterus and removed the adherent placenta. The bleeding ceased, the temperature did not rise, the woman made a good recovery. Acetic acid had an agreeable effect upon the skin. It softened the epidermis and left the hands in a smooth condition. Twenty-five per cent. of acetic acid and the rest glycerin constituted an excellent application for chapped hands and face in the winter.

Dr. Wyatt Johnson, of Montreal (invited guest), said they had in the hospitals at Montreal made some laboratory tests as to the efficacy of the sterilizing methods used during operations, and some of the difficulties spoken of by Dr. Weir were noticed, the chief one being that the more effective methods of sterilization were hard on the hands. The surgeons in the Montreal General Hospital, and also those in the Victoria, still used permanganate of potassium and oxalic acid largely, also corrosive sublimate in water and in alcohol. Alcohol alone had not been tried very much. He was glad to hear of a method which offered prospects of good germicidal results without injurious effects on the hands. Regarding the germicidal properties of chlorine, he believed this agent constituted one of the ingredients of some secret preparations, which had been put up in a form not to irritate the hands.

Dr. L. A. Stimson, invited guest, thought he could give some of the clinical testimony which Dr. Bull had considered desirable for establishing the value of the method described by Dr. Weir. He had been using it about four years, both at the New York Hospital and at the House of Relief. During the last two years he had collected the statistics from his own service in the two hospitals. In the House of Relief there had been no case of wound suppuration during the two years. In the New York Hospital there had been but one case of wound infection, and in that instance, as appeared from his report published a year ago, the infection was probably independent of the hands. The clinical test, therefore, had been favorable to the use of this combination of chloride of calcium and carbonate of sodium. Dr. Stimson had been rather surprised to hear Dr. Weir speak of the cooling of the cream as an indication of the time to throw it aside and take the other agent, for he had himself noticed a cooling effect on its first application, which, however, soon gave way to a feeling of warmth in the hand.

He crushed the crystals into the size of a pea. A powdered preparation must be avoided.

Dr. Weir made some closing remarks. He said Dr. Stimson had answered the question put by Dr. Bull, that there were clinical results to support the laboratory tests. His own opinion was that the demand for laboratory tests had been carried to an extreme degree. In answer to Dr. Robinson's inquiry he would say that alcohol was not used in fresh wounds, for the reason that it was not desirable to meddle with such wounds. They would heal without it. If they were infected, alcohol was one thing which could be used, but it was not so good as some other things. Regarding acetic acid, mentioned by Dr. Peabody, it had been used, and in Germany vinegar was employed. It was also a deodorizer. As a disinfectant it had not great power.

Regarding the cooling effect of the soda, he had referred to the second, not the first cooling effect. It was merely a house surgeon's dodge, and was observed so frequently that he had thought it worth while to call attention to it, as an indication that the rubbing with this agent had been continued long enough.

Appendix with Large Concretion.—Dr. Charles McBurney presented the specimen with the following history of the case. A man, twenty-three years old, was well until three months before he saw him, when he had for the first time very severe abdominal pain ushered in by chill. The pain soon located itself in the right iliac fossa, persisted, and the patient remained abed for two weeks. Up to the time Dr. McBurney saw him, which was three months later, he at no time was free from a sense of soreness on touch over the region of the appendix, but there was no fever and no other sign of ill health. Dr. McBurney inferred from the history and the presence of some pain that there must have been a considerable degree of inflammation at the appendix, that adhesions had probably been left, and perhaps septic material was in the appendix. Consequently he operated, but found rather a curious condition of the appendix. There was no peritoneal involvement whatever, but the appendix, which was coiled upon itself, was distended throughout, except at its attachment to the colon, with a concretion which easily broke up when the appendix was opened after removal. The vascular condition of the appendix was normal and macroscopically he could detect no change in the mucous or other coats.

Dr. McBurney believed that appendicitis always depended upon some interference with drainage from the appendix, whether the obstruction was brought about by a concretion or other cause. As soon as the exit of the secretions into the colon was interfered with the conditions became favorable for the development of bacteria. He supposed the concretion in the present case began to form at the distal end, and gradually increased until the entire lumen was filled to near the colon.

Gangrenous Ovary Caused by Twisted Pedicle; Simulation of Appendicitis.—Dr. McBurney presented a gangrenous ovarian tumor caused by twisting of the pedicle. The young girl had been ill for a week with no antecedent history. The onset of her symptoms was very sudden, and presented all the usual signs of a sharp attack of acute appendicitis—localized pain, distention, vomiting, constipation, etc. When he examined the patient the abdomen was rather distended, yet the signs were thoroughly satisfactory to him of a rapidly forming abscess having pretty well defined walls due to appendicitis. When, however, he opened the peritoneum he found no adhesions in that neighborhood at all, but came immediately upon a black-looking tumor where the appendix should be, and which was found to be the ovary with a complete twist of its pedicle.

Dr. Bull had met with a similar case. The symptoms were acute; the tumor was a little lower than the ordinary position of the appendix. The girl had not reached the age when ovarian tumors were common, and vaginal examination had not been made. The history pointed clearly to appendicitis, but on opening the abdomen he came upon a black-looking tumor of moderate size, which was the ovary with twisted pedicle. Some of the putrescent contents escaped, but the patient made a good recovery.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, March 25, 1897.

S. Marx, M.D., Chairman.

Nephrectomy for Tuberculous Kidney; Two Cases.—Dr. John O. Polak presented two kidneys showing almost complete tuberculous destruction. One was removed from a patient aged twenty-six years, with tuberculous family history, no pulmonary tuberculosis, pain for four years which a doctor called hepatic colic. When he was seen by Dr. Polak there were blood and pus in the urine. He performed lumbar nephrectomy, and the patient died six days later of acute uræmia.

The second specimen showed a similar condition, but the pelvis of the kidney was greatly dilated, and another physician had made the diagnosis of ovarian cyst. A provisional diagnosis of cyst of the kidney was made in the hospital. Anterior incision was made, the kidney was removed, and the patient made a good recovery. An interesting fact was that in both cases intravenous infusion of saline solution was resorted to, but in the second case it was done during the operation and the kidneys acted at once, whereas in the first or fatal case, the infusion was not made until the second day, when almost absolute suppression had already taken place. But this injection and one subsequently caused the remaining kidney to act, the first time excreting twenty-six ounces, the second time thirty-six ounces of urine. In spite of this, coma developed and the patient died.

Dr. Polak also presented the uterus which formed the subject of his paper read later.

Cyst of the Urethra in a Female Infant Two Weeks Old.—Dr. H. C. Coe reported the case of his youngest gynæcological patient, a female infant two weeks old, who, when he was called to her, had been straining at intervals for two days, and was supposed to be suffering from some bowel difficulty. Before that everything had been perfectly normal. The temperature went up to 103° F., and suddenly a small tumor appeared at the vulva. During the next twelve hours it protruded still more, attaining the size of a large grape. Its appearance was that of a blood clot. The patient was still having the attacks of tenesmus. The question arose whether there was inversion of bladder or uterus, whether there was blood clot or other condition not easy to determine. The tumor ruptured and thick bloody fluid escaped. The bladder, which was distended with urine, could be palpated. The vagina was normal. After considering for some time, he decided to excise the mass for diagnostic purposes, although he afterward regretted it, fearing he might have excised the bladder, for the mass had the appearance of the bladder with the two ureters entering it. But his fears proved unfounded, for the patient's symptoms disappeared; she passed water normally for the first time in a number of hours, the distended bladder contracted, and there was no further trouble. He thought the tumor must have been a congenital cyst of the urethra.

Case of Hysterectomy for Septic Puerperal Metritis; Recovery.—Dr. Polak read the history of the case of which he had just presented the specimen. The patient was a Pole, age thirty-three, confined by a midwife, admitted to the hospital twenty-three days later in a state of marked sepsis, rigors occurring several times a day. Her appearance was characteristic of sepsis. There was evidence of septic pneumonia in the apex of the left lung. Vomiting, abdomen tympanitic, pain exquisite in the left iliac fossa, uterus enlarged; the cervix large, soft, lacerated bilaterally, thick purulent discharge escaping. The temperature rose to 102° F. in the afternoon; pulse, 120 to 140. The pneumonia improved in the hospital. Treatment supporting and stimulating; vaginal and intra-uterine irrigations. The septic symptoms continuing, after some days, January 23, 1897, hysterectomy was performed by the vaginal route. During gentle preliminary curettage the anterior wall of the soft uterus was punctured. The appendages were removed with the uterus. Clamps were employed. The operation lasted thirty-two minutes. The uterus was very friable. The temperature remained high several days, then fell, and convalescence went on uninterruptedly. During the first twenty-four hours there was almost complete suppression of urine, and this continued to a degree for a week. Saline infusions were resorted to. An interesting fact was that sepsis had extended to the broad ligaments, while the tubes were not involved, showing that the extension was by the lymphatics. On pressure pus exuded freely from the walls of the removed uterus.

The chairman, Dr. Marx, thought Dr. Polak had been very fortunate in saving his patient. Let what would be done the patients usually died. He had himself not been able to save any by hysterectomy.

Dr. Coe said the difficulty which he had always found in selecting cases of puerperal sepsis for hysterectomy was in deciding whether the sepsis was confined to the uterus. He had seen several cases in consultation in which the question of hysterectomy arose, and in all it was concluded that the sepsis had extended too far, although in one instance the patient was placed on the operating-table, and at the last moment it was decided not to operate, as it was believed she would die if the abdomen were opened. Yet this patient recovered, as did two or three others whose condition had seemed hopeless. He had removed the puerperal uterus several times for other reasons, and could confirm the statement that its removal was easy in spite of its vascularity.

One patient had a very severe form of infection which had continued two weeks, during which time he had curetted several times. Life was despaired of. The uterus was movable, no exudate around it. It was simply a case of severe sepsis, the foci being limited, as proven by subsequent events, to the uterus. He curetted again and was about to discontinue, when the curette slipped into an abscess cavity within the uterine walls about two inches, most offensive pus escaped, and from that time the patient went on to recovery.

Dr. E. B. Cragin said there were two facts favorable to success in the case reported: (1) It belonged among the cases of rather long duration of the septic process. (2) There was thickening of the field outside the uterus. This was the class of cases of puerperal sepsis most likely to terminate in recovery after vaginal hysterectomy. Dr. Cragin had performed hysterectomy in four such cases, two with recovery, two with death. But the difficulties of determining the points stated by Dr. Coe, whether the source of infection was limited to the uterus, and whether the general infection had gone too far to save the patient, were so great that mistakes must be made, and some cases would be allowed to pass without operation which might have been saved, and others would be submitted to operation which ought not. In puerperal sepsis the hysterectomy ought to be vaginal, and clamps ought to be employed. The case reported in the paper was also interesting in that it furnished further proof that suppurative cellulitis did sometimes occur in the pelvis.

Dr. Vineberg took the same ground as the last speaker, that there was a great difference between septic cases running an acute course and those running a chronic course. He had had one case at least in which vaginal hysterectomy could not have been done as well as abdominal, owing to involvement of other organs in addition to the uterus. The sepsis had been going on two months. This patient recovered. Another case was mentioned in which abdominal hysterectomy failed to save the patient. In one instance he had had an experience like Dr. Polak's perforating the soft walls of the uterus during curettage.

Dr. A. P. Dudley would confess that he had never done vaginal hysterectomy for puerperal metritis, but had saved ten cases by minor pelvic operations. He did not undertake hysterectomy for the reason that he regarded it as an extremely dangerous procedure in these cases, adding the shock of anæsthesia and of a grave operation to an existing formidable disease. One should resort to milder measures if possible. He would do hysterectomy only in case there was commencing general peritonitis, indicated by tympanites, etc. Prior to that he would evacuate any local collections of pus which could be found, and apply cold pack, and give antifebrin or other coal-tar preparations for elevation of the temperature.

Dr. Gallant believed in taking the uterus out before septic pneumonia or any form of distant sepsis developed. He regretted not having done hysterectomy in one case before the development of double pneumonia, which caused the patient's death.

Dr. Polak said it was because of the localization that he operated in his case. Pus poured from the uterus. There was some thickening of one broad ligament and pus in the other. It was for metritis, not endometritis or peritonitis, that one removed the uterus. If there was only a local abscess it was sufficient to empty it without doing hysterectomy. He would certainly have to differ from Dr. Dudley if he treated peritonitis with coal-tar products.

Further Remarks on Septic Peritonitis, with Special Reference to the Antistreptococcus Serum.—Dr. Egbert H. Grandin read the paper (see page 473).

Dr. Johnson, of Boston, being invited to open the discussion, related a case which he had sent to the hospital, where the abdomen was opened for pus tube and abscess of the ovary. The abscess ruptured and the peritoneum was soiled. On account of adhesions the operation lasted about three hours. After forty-eight hours there were symptoms of sepsis; pleuro-pneumonia developed on the right side. Antistreptococcus serum was employed, and the symptoms of sepsis had disappeared, although the patient had yet fully to recover from her pleuro-pneumonia.

Dr. Paul Gibier, having been invited to be present, spoke of the production of antistreptococcus serum. It had been supposed that large doses of it were dangerous, or that the agent employed to make it antiseptic might cause poisoning if large doses were used. Dr. Gibier, however, had devised a method whereby the serum could be prepared and kept without the use of an antiseptic, and in such a manner that the serum was innocuous, but retained its antistreptococcus powers. It was for that reason that Dr. Grandin could inject nearly two ounces with impunity. It was difficult in the horse to produce the antistreptococcus serum of

such a strength that a comparatively large amount was not required at a dose. Hence the advantage of so preparing it that it could be used without danger from the quantity employed.

Dr. Coe said he had seen Dr. Grandin's second patient when he operated, and thought the recovery could have been due to early cleansing out of pus cavities. Having in hospitals seen many cases of diffuse septic peritonitis, and never having seen one subject recover, he remembered that the question arose whether Dr. Grandin's case was one of true diffuse septic peritonitis. We must make a distinction between multiple abscesses, no matter how extensive, and diffuse inflammation of the peritoneum. It was sometimes difficult to differentiate between the two, even with the abdomen open.

Dr. Vineberg had seen antistreptococcus serum used in two cases. One case was his own; the patient had septic peritonitis, but died within two days in spite of the serum. The other patient, not his own, also died, the case being one of septic peritonitis from appendicitis in a child of five years. But the serum was now before the profession, and the public asked with regard to its value. This would have to be determined by experience. Personally he doubted whether it would cure really bad cases. But it did not make the patients worse. He had not seen any depressing effects on the heart.

Dr. Richards read the history of the case of puerperal sepsis in which the patient had recovered under Mamorek serum, and which he had referred to at another meeting recently.

Dr. A. L. Fisk thought it was a very important question whether any given case was one of general septic peritonitis. He remembered a paper of Dr. McBurney's, read before the Academy of Medicine, in which he reported a number of cases of apparently general septic peritonitis from appendicitis, and Dr. Grandin's, he thought, was very similar to those. Dr. Fisk had himself seen some such cases, and upon examination they were found to be cases of large collection of pus in the pelvis walled off from the general peritoneal cavity. Or the pus might cross over and form a collection in the opposite iliac fossa, or reach certain other localities, and yet not invade the general peritoneum. It had been Dr. Abbe's practice not to flush in these cases, but to wipe out. In fact in all cases he had given up, and Dr. Weir and others had given up, the habit of flushing the abdomen, for the feeling was that in flushing the danger of spreading the infection more than offset the value of the cleansing, especially as the latter could be better accomplished by wiping.

Dr. P. A. Harris thought physicians should encourage rather than discourage those who were willing to try a method which offered some prospect of saving cases generally recognized as desperate and claimed by some to be uniformly fatal. Personally he had some fear of antistreptococcus serum, and had not had the courage to try it, but in view of the good accomplished by diphtheria antitoxin there was reason to hope that good would come from it.

Dr. R. A. Murray said he had not used antistreptococcus serum, but he saw no reason why it should not be employed as soon as it was concluded that any given case had passed beyond the reach of surgery and before it had become desperate from systemic infection. Or, after using proper surgical means, but unsuccessfully, resort might be had immediately to the serum. For his own part he had never seen a case of general diffuse septic peritonitis end in recovery.

Dr. A. P. Dudley said with regard to the character of cases that there was less danger when there was pocketing of pus, and this existed in considerable quantity; that the patients most likely to die were those with dirty liquid containing little thick pus. In his opinion, Dr. Grandin would have lost his patient in spite of the serum had he not drained thoroughly.

Dr. H. L. Collyer said that through the courtesy of Dr. Grandin he had seen the case of recovery from the time of operation until convalescence, and it reminded him of those post-mortem cases after laparotomy and sepsis, in which there was a stinking pus the characters of which nobody could mistake. Indeed it had all the different characters of pus seen in the post-mortem room, from a creamy pus to a gray and brown septic fluid. If any case presented a fatal appearance, this one did. To be sure, all surgical means were employed early, but there were some abscesses which could not be opened early on account of being under the intestines. He hoped that by resorting to the serum early they would be rewarded by a reduction of the mortality fifty per cent.

The Chairman said he had used antistreptococcus serum in five cases and all had ended fatally. In looking over a large amount of literature on the subject, he had found that nearly all of the subjects who had recovered gave the following history: High temperature on the third or fourth day after the confinement; stinking discharge, relatively low pulse, symptoms indicative of sapræmia; treatment by curettage, drainage, and use of antistreptococcus serum. But they knew that nearly all of those subjects would recover without the serum. Regarding the nature of the bacteria, he had used the serum in one case, in which bacteriological examination by an expert showed colon bacillus and streptococcus; serum used within thirty-six hours; death within a week; no effect from the serum. In a second case, only the pure yellow streptococcus was present: serum was used within twelve hours in heroic doses, yet acute endocarditis, pneumonia, and hip-joint plegmon developed, and the patient died within the week. Surgeons had reported good results from the serum. Their cases, however, differed from puerperal cases. They could better remove the primary source of infection, and he was convinced that in puerperal cases there was some additional element.

Dr Grandin in his closing remarks expressed his conviction that his was a case of general septic peritonitis. The formation of pus pockets was not against this view. No doubt such pus pockets would be seen oftener post mortem in fatal cases of diffuse septic peritonitis, if the patients had lived long enough. Regarding sponging, he thought no amount of sponging would do any good when pus collections existed everywhere among the intestines. He thought the proper treatment was to open the pockets, and flush, even take out the intestines if time permitted and fold them in a towel containing hot salt solution while thorough cleansing was made. Regarding the value of the serum, he had heretofore lost all of his cases of diffuse septic peritonitis, whereas under the same treatment plus the use of the serum he was enabled now to report one successful case.

Lupus Erythematodes.— Dr. Ehrmann demonstrated at the Vienna Medical Club on November 18, 1896, a case treated by removal of two to three millimetres of the thickness of the skin down to the stratum reticulare cutis. When a layer to this depth only is removed the new formed skin takes on normal healthy features. The speaker had performed the same operation in six instances and no recurrence had taken place. The operation can be done under local anæsthesia with methyl chloride. With one cut an area of four or five centimetres can be removed. Directly after the operation a powder bandage is applied and upon the following day emplast. saponat. salicylicum.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PUERPERAL FEVER IN PRIVATE PRACTICE—DR. CULLINGWORTH'S ADDRESS—STATISTICS—MEDICAL DEFENCE—TEMPERANCE HOSPITAL—SIR B. RICHARDSON'S LATS WORK—MEDICAL DINNER—DR. COLLINS—BOTANIC SOCIETY—DIPHTHERIA—DEATH OF OLIVER PEMBERTON, F.R.C.S., J.P.

LONDON, March 16, 1897.

DR. CULLINGWORTH'S inaugural address to the Obstetrical Society may be regarded as a fitting pendant to his predecessor's farewell address. You will remember that the last utterance, which I duly reported to you, showed what had been done to diminish the mortality of lying-in hospitals. Now, following the pæan on that point, Dr. Cullingworth tells us that the mortality from puerperal fever throughout England and Wales remains undiminished, and he asks how it is that in general practice this condition of things continues. If, as shown the other day in Dr. Godson's address, puerperal fever is practically a thing of the past in our lying-in hospitals, it is impossible now, says Dr. Cullingworth, to ignore the fact that there has not been a corresponding diminution of the disease in private practice. If it was hardly to be expected that those who had been long in practice would at once accept the revolution established by the antiseptic methods, it was to be hoped that when a younger race succeeded a mortality which had been proved to be preventable would show signs of diminution. How is it that this hope has not been realized? Either the profession is not convinced of the possibility of stamping out puerperal fever by the methods proposed, or it has failed to carry them out with sufficient thoroughness. Dr. Cullingworth asserted his firm conviction that by antiseptic precautions conscientiously adopted puerperal fever might be as rare in private as in hospital practice, and he asked some searching questions as to the teaching on this subject in the schools. If the responsible teachers, he said, and he is himself one of them, are not careful to inculcate the necessity of the most rigid antiseptic precautions, their pupils may forget how much depends on minute detail and discharge their consciences by pouring a few drops of carbolic acid, or a drachm of tincture of iodine into the water in which they wash their hands, or even by simply bidding the nurse to administer a similarly prepared solution as a douche. This is no imaginary picture of his, for he declared that many who glibly assert that they use every precaution are content with methods so crude and imperfect as to be a ludicrous travesty of true antiseptic midwifery.

It is nearly nine years since Dr. Cullingworth published a plea for antisepsis in midwifery and he was half disposed to apologize for returning to the subject: but although he found the temptation great to choose a newer topic, he declared that the more he reflected on the matter the more did he feel it a duty once more to raise his voice on behalf of the mothers of this country. He even commended the advice of a female writer on the subject, to the effect that women should satisfy themselves beforehand that both the doctor and the nurse will conscientiously use these safeguards. If puerperal fever is now generally regarded as preventable, it must be admitted that it ought to be prevented, and it is to be hoped Dr. Cullingworth's address will contribute to this consummation.

It is not, however, to be supposed that no protest will be raised as to Dr. Cullingworth's views. In fact, Dr. Robert Rentoul has already challenged them, and seems to regard them as a slur upon or an insult to general practitioners. He gave evidence before the select committee of the House of Commons to show that the statistics of lying-in hospitals are very unreliable, as they really relate only to selected cases, some of the most dangerous classes being ineligible: besides which many women leave the hospitals from seven to ten days after delivery, and are therefore lost sight of. The consequence of this must be that deaths within thirty days of delivery are not all certified, as they should be according to the rules.

Besides this and other points raised by Dr. Rentoul, I am struck by a difference in the statistics submitted by Dr. Cullingworth between the London and provincial figures. In the country he cites mortality, but in London notifications. He says conclusions would come out the same if deaths were counted all round, but that remains to be seen, for certainly the two sets of statistics are not of an identical kind, and the comparison between them may possibly lead to error. No doubt those most interested in the subject will detect this flaw in the argument, and we shall probably be soon flooded with fresh statistics.

The defence scheme of the British Medical Association has received a decided check. The Metropolitan Branch at a special meeting has voted against it. Yet this branch, last year, voted the other way. It is difficult to account for this action, unless it is due to the small number of members who take the trouble to attend. Out of some twelve hundred members an attendance of fifty or sixty is as much as can be obtained. Even on such a momentous question as defence has been held to be by both sides, not a hundred can be gathered together. It is, therefore, less surprising for one meeting to rescind the resolutions of its predecessors. I am assured that a similar state of things prevails in other branches.

The annual meeting of the London Temperance Hospital was held on Monday, the Duke of Westminster presiding. The report stated that eleven hundred and fifty-seven in-patients were received in the past year. The death-rate seems to have been only 7.6 per cent. The death of Sir B. Richardson, who accepted the physiciancy in 1892, was referred to in suitable terms in the report.

By the way, Sir Benjamin's last work, completed only three hours before the apoplectic fit which proved fatal, has now been published under the title "Vita Media: Chapters of Medical Life and Work." It consists of the author's reminiscences of various stages of his life, with reflections of a characteristic kind, and will be greatly appreciated by his professional and literary friends.

On Saturday the Medical Society celebrated its one hundred and twenty-fourth anniversary by a dinner, which was as successful as the many others at these annual gatherings.

Dr. W. J. Collins has been elected chairman of the London County Council.

It has been proposed for the Royal Botanic Society to establish an institution for teaching purposes, such as many foreign cities possess.

The deaths from diphtheria in London have declined, but are still in excess of the corrected average of the week for the decade of 1887-96.

Influenza shows some signs of recrudescence, but the total of deaths from all respiratory diseases is much below the average.

Birmingham mourns one of her most prominent medical sons. Oliver Pemberton died on Sunday, in his seventy-second year, respected and honored by all who knew him. He began his career as a student at the local school and followed that up at St. Bartholomew's Hospital. After qualifying he returned to

his home, passed through the offices at the hospital, became surgeon in 1852, and held the office till 1891, when he resigned to become coroner for the city. In 1886 he was elected to the council of the Royal College of Surgeons. He took a great interest in the public life of his city, and was a justice of the peace for the county. You will remember his "Clinical Illustrations of Cancer," 1867, his "Ingleby Lectures," on the same subject, 1884, and his other surgical productions. He had always felt great interest in medical jurisprudence, and therefore was naturally a model coroner.

HYPNOSIS IN NAUPATHIA.

To the Editor of the Medical Record.

Sir: I wish, through you, to lay before the profession a thought which occurred to me on my last trip across the Gulf; and as I have no opportunity, at present, while thousands are daily presented in your city, of making a test of this idea, I hasten to bring before you what may prove a blessing to the unfortunates who suffer from seasickness.

With a deep sense of the personal equation involved in a case of mal de mer, it strikes me that hypnosis offers a sure preventive, a powerful palliative, or a possible cure for those who go down to the sea in ships.

H. M. Folkes, M.D.

Panzos, Guatemala, February 25, 1897.

THE COMMUNICABILITY OF TUBERCULOSIS AND SPECIAL HOSPITALS FOR PULMONARY CONSUMPTION.

To the Editor of the Medical Record.

Sir: Will you allow a constant reader of your esteemed paper the privilege of contributing a few lines on one of the vital issues of the day? In asking this privilege I would claim that I have made, I believe, a careful study of pulmonary tuberculosis, in its sanitary aspect, for a number of years in this country and abroad.

I have been watching with the most profound interest the controversy now going on between the board of health and the medical profession at large regarding the question of tuberculosis. I have refrained from again expressing an opinion on the subject, for I had defined the position I take in this matter before the Academy of Medicine, on the very evening Dr. Biggs spoke in justification of the action of the board of health, and Dr. Hance described his investigations regarding the infectious nature of dust taken from the rooms of consumptives living in tenement houses.

In all the declarations on the part of individuals or societies thus far published in New York medical papers concerning the subject under discussion, I have not, up to yesterday, found one which was in contradiction to the views I expressed. But when a body of medical men representing an important scientific institution (West Side German Dispensary), to which is attached a medical school for post-graduates (New York School of Clinical Medicine), comes out with statements such as were published yesterday in two of the leading medical papers of this country (New York Medical Record and *Journal*), I think it is time to make a protest; not in the interest of the New York or any other city board of health, but in the interest of science, medical honor, and true humanity, the very things which the medical board of the West Side German Dispensary feels called upon to defend against the intentions of the board of health.

Here is what can be read in its preamble:

"*Whereas*, On January 11, 1897, representations have been submitted to the health commissioners of New York by two officials in the health department, which are inaccurate and misleading in several important particulars and call for an unnecessary and dangerous extension of the powers of the health department, as follows:

"1st. That the statement embodied in the first paragraph of the above report, namely, 'that it is now the universal conviction that tuberculosis is a communicable disease,' is not entirely correct and is not the opinion of many distinguished clinicians."

I fail to see what is the application of the words "not entirely correct." Is there a pulmonary tuberculosis without tubercles and bacilli? Are the experiments of Villemin,[1] Weber,[2] Koch,[3] Tappeiner,[4] Cornet,[5] Krueger,[6] Grancher,[7] Straus,[8] Prudden and Hodenpyl,[9] and many others worth nothing? Have not these men, the highest authorities on the subject, demonstrated beyond a doubt that the tuberculous expectoration, dried and pulverized, floating in the air, is the most potent factor in the propagation of the disease, and that pulmonary tuberculosis is a communicable disease *par excellence*?

I ask the gentlemen who passed those resolutions if they would be willing to expose themselves or their relatives to the inhalation of dried particles of tuberculous dust, or if they would be willing to live with a consumptive individual of whose scrupulous and conscientious cleanliness in regard to his expectoration and other secretions they could not be thoroughly convinced?

To make statements such as are contained in the above-mentioned preamble is certainly a very dangerous thing for a large and influential body of medical men, who have under their care at their free dispensary, no doubt, a large number of tuberculous patients still able to walk about, and each one expectorating daily his millions of bacilli, sometimes into a vessel and sometimes wherever he pleases, since his doctor has declared that it is not the universal opinion that his disease is communicable.

What is written in the medical papers may often be repeated by the daily press. The mind of the public has happily been educated, to a certain degree, to the danger arising from carelessly expectorating consumptives, and we should all willingly and gladly recognize the efficient service done in this direction by the present board of health. If the same public, just beginning to realize how necessary it is to be careful when living with a consumptive, or when afflicted with the disease, should read that the statements previously made to that effect were not entirely correct, all that has been laboriously accomplished in voluntary and public prophylaxis may be suddenly lost, only to be regained after great struggles on the part of the sanitary authorities.

To show that I do not agree with the further statement of the medical board of the West Side German Dispensary that there is no need of special hospitals for consumptives, I will merely repeat what I said

[1] Villemin: "De la Prophylaxie de la Phtisie Pulmonaire," Union Médicale, 1868, p. 150.

[2] Weber: "On the Communicability of Consumption from Husband to Wife," Clinical Society's Transactions, 1874, t. 7, p. 144.

[3] Koch: "Die Aetiologie der Tuberkulose," Mittheil. a. d. k. Gesundheitsamte, Bd. 2, 1884, p. 79.

[4] Tappeiner: "Ueber eine Methode Tuberkulose zu erzeugen," Virchow's Arch., 1878, B. 74, p. 393.

[5] Cornet: "Die Verbreitung der Tuberkelbacillen ausserhalb des Körpers," Zeitschr. für Hagg., 1888, t. 5, pp. 191–332.

[6] Krueger: "Einige Untersuchungen des Staubniederschlages der Luft in Bezug auf Tuberkelbacillen," Dissert. inaug. Bonn, 1889.

[7] Grancher: "Maladies de l'appareil respiratoire," Paris.

[8] Straus: "La Tuberculose et son Bacille," Paris, 1895.

[9] Prudden and Hodenpyl: "Studies on the Action of Dead Bacteria in the Living Body," New York Medical Journal, June 6 and 20, 1891.

that evening when I had the honor to address the academy—that the prophylactic, hygienic, and dietetic treatment of consumptives can be carried out successfully by any physician in private practice, providing his patient is willing, obedient, and socially so situated as to have the comforts and surroundings which the treatment demands. I pleaded for municipal sanatoriums for poor consumptives, and I believe I have demonstrated their need beyond a doubt. Judging from a considerable experience among this class of patients in large cities, I believe I do not exaggerate when I say that I think them the most unfortunate of the unfortunate, and as long as they live in densely crowded tenement houses they not only reinfect themselves constantly but form veritable centres of infection for others.

That our present hospital facilities do not suffice, when the majority of hospitals supported by private charity refuses admittance to consumptives, is too well known to need any further argument, and that most of our general municipal hospitals are ill adapted to carry out successfully the proper treatment of consumptives all those who have studied modern phthisiotherapeutics must certainly admit.

The statistics I gathered for my work on tuberculosis show that in England, where hospitals for the exclusive treatment of consumptives have been in operation for many years, the mortality from tuberculosis has been reduced from twenty-four hundred and ten in a million inhabitants in 1870 to fourteen hundred and sixty-eight in 1893.

In the face of such figures the utility of special hospitals for consumptives can hardly be disputed.

S. A. Knopf, M.D.

349 West Fifty-Eighth Street.
March 21, 1897.

THE TUBERCULOSIS QUESTION.

To the Editor of the Medical Record.

Sir: The recent order of the health board of this city requiring the report of all cases of pulmonary tuberculosis has certainly aroused a good deal of adverse feeling in the profession, though unfortunately but little public discussion of the subject from a scientific standpoint. The advocates of the measure appear to have taken it as granted that the profession agreed with them in regarding sputum as the preponderating influence in the spread of the disease, or else determined to force their convictions on the profession before it was prepared by a preliminary education to accept them without protest.

It certainly seems to me that it would have been wiser for those favoring the measure to prepare public and professional sentiment by a careful array of demonstrated facts calculated to sustain their position. Personally I have had but little experience in practical bacteriology, and my clinical experience in pulmonary tuberculosis is but slight. These facts, however, have not debarred me from reading much that has been written on the subject.

That tuberculous infection may occur through the medium of bacilli contained in dried sputum admits of little doubt; but that this is a greatly preponderating influence hardly appears to me to have been satisfactorily proven. The influence of contaminated food has received a certain amount of attention in this connection; the possibility of infection through the medium of ingesta being, I believe, admitted by all. The tuberculin test applied to dairy cows has revealed an astounding prevalence of the disease in certain localities, many herds of milch cattle being found to contain from twenty-five to seventy-five per cent. of contaminated members. The affected animals have been destroyed, the premises have been disinfected, and the disease has disappeared for a time, sometimes to reappear after a longer or shorter interval. It has been generally assumed that the disease has spread through a given herd as a consequence of the introduction of a tuberculous animal; and that the bacilli contained in the secretions of its air passages have been the medium of contagion. Comparatively little attention has been given to what I believe to be a much more frequent cause of contamination. In former times each farmer made his own butter, and if he made more than his family required it was taken to the country store and bartered off for some of the merchant's goods. Except in remote and thinly settled districts this has been pretty much given up, and quite a different system of butter making has been inaugurated. Assuming that the local conditions are favorable for the industry, a creamery is established at a central point, and the milk supply is provided by neighboring farmers. As butter is not made direct from the fresh milk, but only from the cream, two systems of procuring this are practised. Some creameries use "gathered cream" and others procure the cream by centrifugal separation. In this latter case the farmers, usually termed "patrons" draw their milk to the creamery, where it is weighed and then passed through the separator. The cream is reserved for butter making, and the skimmed milk is run into a large vat, which receives the total amount brought during the day or during certain hours. This vat then contains the mixed milk from a number of herds. If now any of the herds are tuberculous, their milk is liable to contaminate the entire contents of the vat. It is the custom for each patron to draw away from the creamery the proportion of skimmed milk that he is entitled to, taking it direct from the vat. This milk he later feeds to his calves and pigs. In a centrifugal separator the milk is poured into a large bowl which is then rapidly revolved, and the cream, being lighter, remains near the centre. The skimmed milk, dirt, and bacilli, being heavier, are thrown outward, and a certain amount of slimy matter coats the interior of the bowl. The skimmed milk and the slime, therefore, contain most if not all of the bacilli. Inasmuch as butter made by the separator process usually brings a higher price than that made from "gathered cream," it is not surprising that the former method has rapidly superseded the other. We can now understand how readily tuberculosis in a single herd may contaminate the calves and young cattle belonging to the dairy herds of the other patrons of the creamery. The heifer calves thus contaminated will in time become milch cows, while the males will be raised for the butcher. This danger has already been recognized by the farmer, and some creameries are reverting to the "gathered-cream" system, as "the much-talked-of tuberculosis makes the raisers of dairy calves uneasy about receiving the milk of different herds" (*Practical Dairyman*, March, 1897).

The report of the Copenhagen Experiment Station states that at a Danish creamery where centrifuge slime was fed to swine, all of these proved tuberculous, and warns against the use of slime for this purpose without its being previously boiled or heated toward the temperature of boiling water. The prevalence of tuberculosis among swine in certain parts of Germany has been attributed to this system of feeding (Woll). Many other examples pointing in the same direction might be quoted.

In view of the facts above stated, it would certainly seem that the bacteriological advisers of the health department have taken quite too narrow a view of the subject, and that broader researches should be undertaken in regard to all of the modes by which tuberculosis may be spread.

There are, I believe, no separator creameries within the jurisdiction of the city health board, but the State board of health could with propriety undertake an investigation of the manner in which skimmed milk is distributed, and propose legislation calculated to diminish the evils referred to. The feeding value of skimmed milk as compared with other cattle food is at the present time about fifteen cents per hundred pounds, and it would therefore be a hardship to compel the farmer to throw it away. Much good, however, could be accomplished if there was a statute forbidding the distribution of skimmed milk to the patrons unless it had been previously boiled, and requiring all separator slime to be burned.

H. G. PIFFARD, M.D.

THE DISPENSARY ABUSE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: May I be permitted to suggest what seems to me a rational remedy for the "dispensary abuse"? After having read in a previous number of the MEDICAL RECORD a rather impracticable mode of ridding ourselves of this "abuse," the following arrangement has occurred to me as simple and feasible. Let the dispensary doctor discriminate between those who can and those who cannot pay. Every man who has done any dispensary work knows how easy it is to do this, not alone from observation, but from what the patients often say unguardedly. Why pay inspectors who cannot do the work properly, when the poor doctor is already provided and can do this sifting process thoroughly? The dispensaries are maintained for what purpose? The relief of the poor. Then, if people are treated who are in a condition to pay, the object is defeated. No dispensary doctor would refuse to treat a patient who he even thought could not pay a physician; those who can pay should not be wanted at the dispensary, and, if they are refused treatment, the object is attained. I contend that the clinics could be purified in this way with no injurious effects. What benefit is derived from statistics showing so many thousand patients treated? None. The injury to the profession is enormous and is increasing, and the evil applies to the younger physicians especially, the very men who are only too glad to get work in the dispensaries that take the bread out of their mouths. From my experience with the doctors who work with me, I can safely say I do not think such a trust as the discrimination between needy poor and those undeserving patients would be abused. Even if it is abused, if a doctor does get a patient to come to his office and secures a fee, that is proof that the pateint does not need the charity so freely dispensed. At the Vanderbilt Clinic, which is maintained for the benefit of the students, the well-to-do patients are almost always those who refuse to enter the amphitheatre or be examined by the classes. They are not too proud to take charity, but are too proud to have their diseases demonstrated. Without exaggeration, between one-third and one-half the patients treated at the above-named clinic are capable of paying a doctor's fee. Why cannot the evil be remedied?

H. H. RODMAN, M.D.

1 WEST SIXTY-NINTH STREET.

Rebellious Neuralgia originating in the eighth posterior cervical root, with pains occupying with marked precision the cutaneous territory supplied by this root, was operated for by opening the vertebral column and resecting the root at fault within the dura mater. The intradural resection constitutes the ideal treatment, the sensitive filaments alone being implicated.—CHIPAULT, *Gaz. des Hôp.*, January 21st.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 27, 1897:

	Cases.	Deaths.
Tuberculosis	194	110
Typhoid fever	8	0
Scarlet fever	225	7
Cerebro-spinal meningitis	5	7
Measles	177	11
Diphtheria	237	33
Laryngeal diphtheria (croup)	15	9
Small-Pox	2	2
Chicken-pox	16	0

The Utility of Sterilization of Milk in some instances is shown by experiments of Schottelius (*Centralblatt für Bakterologie*) proving fresh milk to be an exceptionally favorable medium for the development of diphtheria bacilli, while in sterilized milk the multiplication is much less marked.

A Costly Epidemic.—The rinderpest has been creating great devastation in Bechuanaland, hundreds of cattle dying daily. It is estimated that the cost of the plague before its ravages are over will exceed $25,000,000.

Tweedle Dum and Tweedle Dee.—According to the *Journal of Practical Medicine*, it is wrong for a man to print on his cards "Especial attention given to diseases of the eye and ear," but perfectly ethical to print "Practice limited to diseases of the eye and ear."

A Remarkable Statement.—The animal functions have their nerve supply in the posterior portion of the brain. The brain vaa!raKS?Eelu ,rT p(i-ral,mHffgngrcpl must have room to grow, and not be compressed by faulty position of the infant during its period of development.—*Woman's Medical Journal.*

New York Polyclinic.—The *Dublin Journal of Medical Sciences* makes reference to the faculty of the New York Polyclinic Hospital as a school for practitioners only, where the teaching is clinical and no lectures are given. The critic seems to be of the opinion that this institution has a superabundance of officers. The faculty consists of 30 professors, 14 adjunct professors, 31 lecturers (whose duties are a mystery, as there are no lectures), 24 instructors, and 58 clinical assistants. The hospital contains 70 beds.

Statistics of Medical Men.—Russia with a population of 110,000,000 has only 18,334 physicians, or one to each 6,000 of the inhabitants. In Germany, France, and England, the ratio is one to 3,000, 1,800, and 1,500, respectively. Or, in other words, there are twice as many medical men and women in proportion to the total population in Germany as there are in Russia, and four times as many in England as in Russia and twice as many as in Germany. France having more than Germany, and fewer than England. There are in the United States, with its population of 75,000,000, 120,000 physicians. The European land in which the proportion of physicians is greatest is Scotland. There are, in proportion to the population, more doctors in Ireland than in England, and many more in Spain than in Italy.—*Southern Medical Record*, February.

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Original Articles.

STRICTURE OF THE URETHRA IN MALE CHILDREN.[1]

BY L. BOLTON BANGS, M.D.,

CONSULTING SURGEON TO ST. LUKE'S, THE CITY, AND THE M. E. HOSPITALS; VISITING GENITO-URINARY SURGEON TO ST. MARK'S HOSPITAL; FORMERLY PROFESSOR OF GENITO-URINARY DISEASES IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THE subject of stricture of the urethra in male children is not a new one, for reports of cases have appeared from time to time in the journals and brief mention of the lesion will be found in some of the text-books devoted to surgery and to pædiatrics. The majority of the cases reported has been congenital malformations, either at or near the meatus; others have been described as agglutination of the urethra occurring before birth; and others, again, have been due to traumatism. But the subject of acquired stricture as a result of a post-natal pathological process (other than trauma) has not received deserved attention, for I am led to believe that cases of enuresis and of dysuria in children may be due to this unsuspected cause.

In order to be clearly understood, I beg leave (to quote from my paper on "Stricture of the Urethra and its Treatment") to define stricture as any unnatural narrowing of the urethra in any part of its whole length. At various times attempts have been made to demonstrate the normal urethra as a "closed valvular chink with certain natural or physiological widenings and narrowings in different parts of it." It seems to me that the canal should be looked upon as a living organ, supplied with muscles and nerves for the physiological purposes of carrying away from the body the urine and, after puberty, of ejecting the seminal fluid. Anything in the canal, therefore, that will interfere with the proper performance of these duties or that irritates the nerve relations, disturbs the harmonious action of the organ and must be regarded as pathological and unnatural. Whether it be a deformity resulting from imperfect pre-natal development, or the result of post-natal disease, it occupies the same place in relation to the natural condition of the organ. It is, then, manifest that to arrive at a clear conception of an obstructed urethra its normal state must be appreciated, and, therefore, each urethra must be studied by itself. Observation has shown that these principles may be applied to the urethra of the child as well as to that of the adult. Many of the symptoms in the latter take place in the boy, but with additional features which make the treatment difficult, and, on the other hand, with favorable features, due to the fact that the softer tissues of the child are more amenable to radical cure than those of the adult.

In order that this paper may not extend beyond the limits proper to such an occasion, and in order to define your discussion, it will be devoted chiefly to a consideration of acquired stricture. But, in view of the importance of the subject of traumatic stricture, permit me to call your attention to the fact that there are cases on record of children, from two years of age and upward, who, having suffered traumatisms of the urethra either by blows upon the perineum or by lacerations of the urethra by impacted calculus, have presented later in life symptoms of extreme gravity. Therefore it has seemed to me that the time for treatment of such cases was immediately after the injury, and that, if possible, physiological rest should be obtained for the tissues of the urethra by perineal incision and drainage.

In a paper entitled "A Plea for External Urethrotomy in Minor Traumatisms of the Urethra," I called attention to the necessity for a perinal urethrotomy as soon after the injury as possible, and the abstinence from the passage of sounds and catheters. By perineal drainage nearly absolute rest is assured to the muscles of the perineum, the function of the urethra in most of its length is abrogated, inflammatory complications are prevented by irrigations, and physiological rest for the whole region is almost as nearly obtained as is the case when a splint is applied to a broken leg. The passing of sounds and of catheters through a lacerated urethra interferes with the normal process of repair, irritates the locality of the lesion, and induces an amount of cicatricial deposit which subsequently becomes a source of misery and often of danger to the life of the patient. Even in the youngest subject and in apparently minor traumatisms, I counsel such a procedure, but the anterior portions of the urethra must not be overlooked at the time of the operation.

It is sometimes remarkable with what rapidity evidences of severe and intractable stricture follow an injury upon the perineum of a child, if it is not properly treated. Retention of urine is, of course, often reported immediately; but within a short time after the "apparent cure of the stricture by soundings," incontinence, the formation of fistulæ, and distressingly frequent urination make their appearance.

Not long since I was called to see in consultation a lad of fourteen, who, a year before, had fallen astride a fence, and who had complete retention of urine immediately after the injury. He had been operated upon through the perineum at the time by a local physician, who made the error of not including the anterior edge of the damaged area in the incision. The urethra at the latter point, say half an inch behind the perineo-scrotal junction, had remained strictured; the stricture rapidly narrowed, and from the time of the operation no urine had passed, excepting through the perineal sinus. After some difficulty and in two operations I succeeded in reaching the bladder and in restoring the continuity of the urethra.

In regard to the subject of acquired stricture, it should be observed, first, that the etiology of these cases is often very obscure. In some we are able to obtain a positive and direct history of gonorrhœal infection: in others, vague statements from parents point to some "inflammation" of the parts: while in many no catarrhal or blennorrhagic antecedent condition can be ascertained. From the observation of certain cases of stricture in young adults, I have been led to form the opinion that many of these obscure cases will be found to be due to an extension into the urethra of a balano-posthitis. This opinion, I will ad-

[1] Read February 11, 1897, before the pædiatric section of the New York Academy of Medicine.

mit, is not based upon conclusive evidence, but I have had under my care young adults with the subjective and objective signs of stricture of the urethra who gave a long history of dysuria and of memories from childhood of inflammations about the prepuce, but of no disease acquired from nurse or others.

Of course, it is easy to cast a cynical doubt upon the statements of these individuals and suspect their chastity, but, being interested in the subject and having had some experience in regard to stricture of the urethra in boys, I have been led to make the closest possible investigation with an unbiassed mind and with the determination to arrive at a just conclusion. I have therefore been compelled to believe their statements and to attribute their strictures to a non-venereal source in childhood.

It is interesting to find, from the recorded literature upon this subject, the ages at which boys have given evidence of stricture. Permit me to quote briefly a few cases, with reference especially to the age of the child and also to the etiology:

Dr. Poynter reports a case of a boy, three years old, who was infected with gonorrhœa by a vicious girl (colored) nurse, sixteen years of age. Two years later the child had stricture, which was treated with dilators.[1]

My colleague, Dr. Abbe,[2] reported a case of four strictures of the urethra (three in the penile and one in the membranous portion), requiring external and internal urethrotomy, in a boy three years of age, who had previously been under my care for gonorrhœa acquired from a vicious girl. In this case the gonococci were perfectly distinct, and I treated the boy with weak bichloride irrigations. Six months later, my tour of duty having ended, he came into the service of Dr. Abbe for the relief of retention of urine, which required the operation as stated.

Dr. McMunn reports a case in a child, aged five years, who had had at two years of age a thick, yellow, urethral discharge, lasting ten months. Close questioning failed to elicit a positive cause of the urethritis, but the mother said that the child's nurse had suffered from a yellow discharge at the time. She was sure there was no traumatism. The urethritis was, of course, the cause of the stricture, for symptoms of the affection had existed for three years. There was extreme difficulty in micturition, and the urine was constantly dribbling away. A No. 4 millimetre bougie was firmly obstructed and held at the commencement of the deep urethra. The meatus was ample and the urethra not sensitive. The stricture was very rebellious to dilatation, but, as treatment progressed, a conditional cure was arrived at by means of tapering metal instruments.[3]

In Northrup's American edition of Ashby and Wright's "Diseases of Children" is reported a case of a boy, four years of age, who had always been well previously, who complained of pain in the penis and hypogastrium, and who had dysuria and a discharge from the urethra. The edges of the meatus were glued together and acted like a valve to cause retention of urine. The meatus was incised, the child catheterized and relieved. No opinion was expressed as to the cause of the discharge in this case.

Another boy of five years of age, with a history of discharge for three years, supposed to be gonorrhœa though no microscopic examination is mentioned, is also reported by the same authors. Both cases are looked upon by the reporters as congenital meatus stenosis, but in view of the presence of urethral discharge, especially of long duration, it would have been well to examine the remainder of the urethra. No mention is made of this procedure.

[1] New York Medical Record, November 14, 1885.
[2] New York Medical Journal, December 20, 1890.
[3] British Medical Journal, 1894.

A boy of six years of age, together with an eight-year-old brother, were reported by a Dr. Himowich[1] as cases of probable gonorrhœa. This was stated to be the cause of failure of treatment of "the strictures," no measurements of which are given.

Fleming,[2] in a very interesting article on this subject, reports two cases of impermeable stricture in boys of three and five years respectively, with signs of extravasation into the penis and scrotum. He could give no cause, but suggested that the stricture might have been due to a minute angular calculus which had escaped detection. He reports another case of a child, seven years of age, who for two years had had uneasiness in micturition, a tense, turgid penis, and suffered great agony. There was no hæmaturia. He gives no cause for this case, but concludes, after a very interesting consideration of all the facts, that it was "strumous."

Among other cases of doubtful cause, King[3] reports one of a child who had suffered from early infancy from stricture of the urethra, and who was cured by operation.

The case of a boy of seventeen is reported,[4] who had had gonorrhœa at eleven years of age and again at that time, and who had a stricture in the bulbous urethra of No. 18 Charr. It is interesting to note in this connection that this same author, S. Rona, reports sixteen cases of urethritis, mostly specific, in boys between fifteen months and thirteen and one-half years, but he makes no mention of stricture in these cases.

The case of a boy of eleven, with stricture of the urethra of doubtful etiology, is reported by Bokai.[5] This child had a bad urethritis a year before, followed by symptoms of general syphilis. The child was brought to the physician for the latter disease, and Bokai therefore considered the cause of the stricture undetermined.

Another case in a boy of eleven years, cause not stated, but apparently gonorrhœal, no particulars being given, is reported by E. Desnos.[6]

Another case of doubtful cause is reported by Gärtner.[7] A boy, six years of age, with a stricture of the urethra (location and measurements not given). The dysuria was relieved temporarily by drugs and, relapsing, was treated by catheter. There were hemorrhage and complete retention. External urethrotomy was performed, and the boy recovered with cystitis.

Masturbation has been given as a cause of organic stricture of the urethra. S. W. Gross, in his "Disorders of the Male Sexual Organs" (fourth edition, edited by Sturgis in 1890), mentions a number of cases, notably that of a boy of thirteen years, an epileptic, with a stricture of No. 17 F., at six and one-half inches from the meatus.

Dr. J. W. Thompson[8] mentions the case of a boy of fourteen years with an organic stricture, in his opinion due to masturbation.

In Daniels' *Texas Medical Journal* for March, 1887, a case is reported of a boy, ten years of age, with a history of "spraying" and a small stream since birth. Cystitis was present, and he had three strictures, one posteriorly. The strictures were incised and dilated. This may have been a congenital case, but I agree with Dr. J. William White,[9] who thinks that the history is insufficient and doubts the congenital origin of this affection.

[1] Medical Record, November 25, 1893.
[2] Dublin Hospital Gazette, 1855, ii., pp. 67–69.
[3] Monthly Journal of the Medical Sciences, London, 1853.
[4] Archiv für Dermatologie und Syphilis, 1893, II. i. and ii.
[5] Gerhardt's "Kinderkrankheiten," 4 Band, 3 Abtheilung, S. 186.
[6] Annales des Maladies des Organes Génito-Urinaires, 1891.
[7] Med. Corr.-Blatt der Würtemberg. Aerzte, 1892, p. 132.
[8] Louisville Medical News for 1897, No. vii., p. 137.
[9] Keating's "Encyclopædia of Diseases of Children."

To these cases, derived from a careful search of the literature, for which I am indebted to Dr. Berkeley, I wish to add two in my own experience. I beg leave to report them with some detail, because they may serve as a contribution to the literature of this subject and add to our knowledge of the treatment of the lesion.

Case I.—A boy, three years and five months old, was brought to me by his father with the following history: He had had none of the usual diseases of children, but, on the contrary, had always been strong and healthy and without serious illness until the present one. When about two years of age, he had an attack of diarrhœa, after which he developed a constant pain in the region of the bladder, and on attempting to pass urine it was found that he could pass only a drachm or two in spurts. At first there was no frequency of urination, but as time went on the attempts at urination were repeated frequently, the number of times in the twenty-four hours being indefinite. The efforts to urinate were accompanied by great pain. He would be taken up at night, crying with the desire to urinate, and when placed on the urinal he would sit and strain until a small quantity of urine was discharged. This would be repeated several times during the night. About once in two weeks there would be an exacerbation of these symptoms, during which the amount of mucus and pus in the urine would be increased. During the paroxysms of pain he would cry and seize the glans penis, which suggested vesical calculus, for which he was examined, with negative result.

When brought to me, the child had a robust, hearty, and vigorous appearance in spite of his sufferings. His urine was opaque, extremely alkaline, and putrid. Its specific gravity was 1.020, and it contained about two per cent. of albumin. The sediment was a mass of translucent mucus, many broken-down pus cells, and many small triple-phosphate crystals and bacteria. The symptoms of stone seemed so positive that it was decided that an appointment should be made to anæsthetize him and examine him carefully. In the mean time the condition of the bladder was to be improved by irrigation, etc. This was done by his father, a medical man, a No. 14 F. silver catheter being used. To his surprise, he found that the child's bladder would hold twenty ounces of the irrigating fluid. As may be imagined, the washing was undertaken with great difficulty, the child crying and resisting. Finally, on account of swelling of the penis, the washing was discontinued, and, blood appearing in the urine, the child was brought to me for operation.

He was placed under ether narcosis and a careful exploration of the bladder for stone was made. No calculus could be detected, but the bladder was found to be of large capacity for his age, extending quite up to the child's umbilicus. It was evidently in a condition of overdistention and atony, manual pressure being required to empty it. It seemed to me, therefore, that some obstruction to urination, probably in the urethra, had been operating for an indefinite period to produce this change in the muscular wall of the bladder. Accordingly I explored the urethra, and found a stricture of No. 14 F. just within the meatus. This was incised, and, on inserting the next size bougie à boule, viz., No. 15 F., it was distinctly obstructed by two stricture bands, one one and one-fourth inches and the other two inches from the meatus. They were not tough or fibrous in structure, but apparently soft and yielding, so I thought it well to test the question of their cure by dilatation. The meatus was still further divided to No. 20 F., and the bladder was emptied and irrigated. No untoward symptoms arose, and the father was instructed to continue the emptying of the bladder by means of the catheter and to leave the dilatation to me. The latter was persevered in by the passage of soft instruments up to No. 20 F., and the condition of the child gradually improved, the blood disappearing immediately after the relief of the overdistention of the bladder. The latter gradually regained its power, the frequent and painful urination ceased, and the urine assumed a more natural condition. I have not seen the child in two years, but recently I received a letter from his father, who says: "It is with pleasure that I can report him normal as to urination. He does not have the least trouble, so far as we know. There is absolutely no pain. He urinates on an average four times daily, and almost never gets up at night for the purpose. He is developing, we believe, evenly in all directions."

The etiology of the strictures in this case is evidently obscure. I could obtain no history of urethral discharge, but on closely questioning the mother I learned that in his early infancy he had some form of "skin eruption" and some irritation of the prepuce, which was very redundant. The latter had been "dilated" from time to time by means of pocket forceps, for at the time he seemed to have some dysuria. How much importance to give to these symptoms I am in doubt, but in view of the statement in regard to the foreskin it is possible that he had a balano-posthitis which subsequently infected the urethra. Although this is problematical, the conclusion seems warranted that, as he was apparently a perfectly healthy child from birth up to the onset of the painful urination, it was a case of acquired urethral stricture and not due to any condition before birth. The blood in his urine just prior to the operation was an interesting feature. At first it was dark in color, was intimately mixed with the urine, and there were no clots. Subsequently it became bright and clotted, and sometimes merely tingeing the urine. At the time of the operation I injected eight ounces of clear boric-acid solution into the bladder, and after manipulating the right kidney and ureter withdrew twelve ounces of a bloody effluent. The same procedure on the left side produced only the amount which had been injected. I drew the conclusion that there had been a dilatation of the right ureter and pelvis, but this may be only speculation and I have no positive explanation of the symptom. At all events, the blood suddenly ceased when the bladder was relieved.

Case II.—The second case was that of an intelligent lad of fifteen, who gave me the following history, supplemented by statements from his father: For some years (the time could not be definitely stated) the boy had had considerable trouble in urinating; that is, his urine when passed would scald him, and whenever he "caught cold" the act of urination was accompanied by pain. When thirteen years of age he had an attack of complete retention of urine, to relieve which he was given ether and a catheter was passed. It was necessary to repeat this operation, aided by an anæsthetic, each day for a week. In the second week it was done every third day. As he had a long foreskin, this was considered the cause of the retention, and he was circumcised. After that he was etherized and catheterized "a couple of times," then was given some internal medication, and finally got so that he could urinate with but little pain. Following the catheterizations he had a discharge from his urethra, which was described as greenish-white and which stained his clothing yellow. This discharge persisted for nearly a year and a half, when a doctor prescribed an injection for him which was used twice a week, with the result that the discharge ceased and he found himself able to urinate with more comfort. Still, if he had what he called "a cold," he immediately had a return of the difficult and painful urination. At times he had had a thin watery discharge from the urethra.

To quote from the record made at the time: "At present he has no frequency of urination. According to his statement, he urinates but 'three times' during the day, usually once during the night, and sometimes he will go for a period of three weeks without any nocturnal urination. On examination the urinary organs appear to be normal. The discharge described in his history is not now present. He urinates in my presence in a fine, dribbling stream with straining, and evidently it requires considerable effort to empty the bladder. Examination of the urethra shows a stricture of No. 10 F. a short distance within the meatus. The locality is excessively sensitive and further examination is impossible. It is therefore deemed advisable to put him under an anæsthetic, explore the urethra thoroughly, and do whatever is determined by the examination."

Accordingly, after antiseptic preparation, he was anæsthetized, the meatus and the first stricture were divided to No. 26 F., and then three distinct, tough, fibrous bands of No. 12 F. were found between the meatus and a point two and three-fourths inches from the latter. The remainder of the urethra was normal. These bands were divided by the Maissonneuve urethrotome, followed by the Otis dilating urethrotome, until a No. 26 F. bougie à boule passed smoothly and easily. On the following day, under primary ether narcosis, a No. 26 F. bougie was passed, and subsequently the sound was passed once in four or five days. Two weeks later he was sent home to his doctor in the country, with directions to pass the sound once a week until all bleeding ceased, but not to pass any instrument if the urethra was irritated or inflamed by its use. A recent inquiry in regard to this patient, of the medical friend who sent him to me, elicits the information that the boy has remained perfectly well, urinates without trouble, and thus far has shown no evidence of recontraction.

Again I am compelled to admit the doubtfulness of the etiology. It is true there is no history of infection by nurse or others, and no history of balano-posthitis could be obtained; but as these strictures were firm and fibrous, such as follow urethritis in adults, it seems to me that the etiological factor must have been forgotten and that in all probability it related to the prepuce. The only urethral discharge referred to in the history was probably due to infection from the repeated catheterizations. No examination of it was made, and I was unable to make any because there was none present when he came to me: moreover, speedy relief was imperative, and therefore the operation was at once undertaken.

You will observe the difference in the severity of the symptoms in these two children. The younger child, although his urethra was not so much strictured relatively as was that of the older boy, had the most violent symptoms and suffered far more, and yet regained with remarkable rapidity the tone of his bladder. You will observe also the contrast in the treatment. In one case, the strictures being soft and yielding, a good result was arrived at by intermittent dilatation; while in the other it seemed to me better judgment to apply the principles of internal urethrotomy to secure, if possible, a radical and permanent cure.

What the permanent results will be in these cases I am unable to say, but it is my intention to keep them under observation and to obtain from time to time re-examinations of the urethra. At present they are both beyond my reach, and I am able to report only the statements as to their general well-being.

Army Dentists.—The Ohio State Dental Society has voted to petition the government to appoint dentists for regular service in the army.

FLUOROGRAPHY FOR DETERMINING THE POSITION, SIZE, AND MOVEMENTS OF THE HEART.[1]

By THOMAS E. SATTERTHWAITE, M.D.,
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THERE has always been some diversity of method in mapping out the heart. But the recently revived interest in the treatment of chronic heart disease has stimulated some of us to devise new methods promising greater accuracy. Most of the work, however, has been confined to radiography, or getting shadow pictures by means of the photographic plate; but these results have not been altogether satisfactory, for several reasons. One of them is that the radiograph requires more or less prolonged exposure to the Crookes tube, varying from one minute to forty minutes or more; while during this period the alternate movements of the heart cause the picture to represent, so far as the outline is concerned, only the fullest expansion of the organ. Besides, owing to the divergence of the *x*-rays as they pass over the edge of the opaque heart, that organ is still further magnified. This matter will be alluded to again farther on. A better idea, however, of the heart, is obtained by the unaided eye. For, if a silhouette of the organ is thrown on the fluorescent screen in a darkened room with a cap over the Crookes tube, the relative position and movements of the organ can be observed with considerable ease. But it is not so easy to register them accurately on paper.

So far as I know, indeed, the first effort made in this direction was by Dr. H. Campbell Thompson, of the Middlesex Hospital, London. In a letter published in *The Lancet* on October 10, 1896, and in an article in the same journal on December 12, 1896, he described a "practical application of the Roentgen rays in diseases of the heart and great vessels," stating that the size and shape of the heart could be estimated by means of the Roentgen rays and a fluorescent screen, and also that with a little trouble a tracing of the heart could be obtained. I have conducted a series of experiments in the same line and have verified many of Dr. Thompson's statements, while others I have not found tenable. Dr. Thompson states that when the focus tube is placed behind the person, so that the rays pass through the thorax, (the fluorescent screen being presumably placed on the patient's chest), the bones are very clearly marked out, while the heart is seen as a definite shadow in contradistinction to the light area around it. He further adds that not only can the outline of the heart be clearly seen but its pulsating movements detected. He also observed the rise and fall of the diaphragm. These are important points, and of some clinical value, for what we need especially at the present time is a view of the borders of the heart, and particularly its lower line, which is practically determined by the level of the diaphragm. Now the heart can be seen when the screen is placed on the patient's chest or on his back, but the silhouette is best when the screen is placed on the chest. The three illustrations that accompany Dr. Thompson's article admirably illustrate in a diagrammatic way the silhouettes that he saw, but unfortunately no such pictures are actually obtainable, for the ribs and other bones of the thorax, which he shows as encircling the heart, are not usually seen and did not appear clearly in any cases that I have seen; or, if they appeared at all, darkened the picture so that the heart was quite invisible. For ordinarily the bones are quite invisible when the heart is brought in clear relief, the spine alone showing itself. Dr. Thompson's pictures of the heart are also of nor-

[1] Read before the Section on general medicine of the New York Academy of Medicine, March 6, 1897.

mal size, while in reality they should have been considerably magnified. In fact, if the Crookes tube is placed opposite the centre of the heart, which usually corresponds to the left transverse process of the seventh dorsal vertebra, the outline of the heart as thrown on the screen should be magnified from one-quarter to one-third, owing to the divergence of the rays as they pass over the borders of the opaque heart. The nearer the heart to the tube, of course the greater the distortion.

Dr. Thompson's method is as follows, briefly: His patient stood before the tube with the screen on his chest. The tube was placed against the left transverse process of the seventh dorsal vertebra, and the whole outline of the heart on the screen was then seen by the naked eye. The edges were shadowy, but still they could be outlined and a pulsation of the chambers clearly seen. Indeed, when the heart is magnified in this way, the excursions of the chambers are seen to unusual advantage; but, as the adjacent landmarks formed by the ribs and sternum are not distinctly seen, the picture is unreliable and useless for ordinary clinical purposes.

The method which I call *fluorography* is destined to overcome this difficulty, reducing the silhouette of the heart to its actual size. My routine is as follows: I make a map of the heart on the anterior chest wall; then I mark on the back with a dermographic pencil the angles of the heart, taken from a pattern of the map, either taking the seventh verebra for a centre, or, which is better, placing the apex and other angles on the same level and in the same relative position behind as in front. Then I apply the Crookes tube to each successive point behind and the silhouette will be found to correspond closely with the outlines of the heart as mapped out by percussion. But it will be more satisfactory. Skilful percussion marks out accurately the curved line of the right side of the organ. It also shows the left side by indicating the border from the sternum diagonally downward and outward; but it often fails to give the contour in the vicinity of the apex, and does not give the lower line. To gain accuracy in this method you may have to use a cardiometer and a level, or chest callipers, so that each angle behind is brought precisely opposite each angle in front and in the same relative position. Now attach a piece of tracing-paper, with rubber bands, to your fluorescent screen and bring the Crookes tube to bear against the several angles of the heart: as the tube passes from angle to angle, you may be able to note two lines, corresponding to the limits of contraction and expansion of the heart. Connect the outer series of these lines and then the inner series. Then note the level of the diaphragm. Carry your pencil along this line and you have the lower line of the heart. In this way you have a fairly accurate tracing of the heart both in contraction and expansion, and you may now compare it with the outline as mapped out by percussion on the skin of the chest. Even allowing for slight movements of the screen and the inexperience of a draughtsman working in an unusual light, you find that your fluorograph and the map drawn on the skin are wonderfully in agreement, but the former is more complete. If, however, you need a silhouette with the natural landmarks, you have to adopt another method which is a little tedious. First, make a tracing of the chest on tissue paper, showing the two nipples, the episternal notch, ensiform cartilage and the ribs and sternum or intercostal spaces. Mark these landmarks with the heaviest tin foil, say from one-eighth to three-eighths of an inch wide, and fasten them down to your tracing paper with rubber plaster. You have now a mask of the chest. Apply it accurately, sternum to sternum, rib to rib, and fasten it in place by broad bands of rubber plaster. Now make a separate tracing of the chest. This you apply to the fluorescent screen with rubber rings: next apply this tracing and screen to the mask, landmark to landmark, and when the focus tube passes round the heart you mark on the tracing-paper the several angles of the heart, and if conditions favor you have a register of the size, position, and excursions of the chambers with their natural landmarks. This you can now put away in your case book for future reference, and you have a guide by which you can note any change in the form of the heart as the result of your treatment.

But the advantages of this latter plan are more or less offset by its disadvantages. It is true that you have the landmarks plainly in view, but they to some extent cut off the light and therefore make the outlines shadowy. Therefore the strips of tin foil should be quite narrow, your tube of the best, as also your screen. Nor can this method always be applied; when the chest is deformed, the sternum is bent, or the lower ribs are crowded together, it may be impracticable. In such case, a simpler plan is advised. Run a strip of tin foil of heaviest make, not wider than three-eighths of an inch, possibly less, down the centre of the sternum. Fasten it with rubber plaster. Run a similar strip from nipple to nipple; attach this also. Then run two similar strips vertically through the nipples, or on the line of them: attach them with plaster. These rectangular lines may prove to be landmarks of sufficient accuracy.

It is pretty generally known that various plans are in use for mapping the heart, adapted to the skill of the physician in percussion. Some are able to outline the extreme borders of the heart with great accuracy; others are not, and fall back to taking flatness as the guide to the heart's dimensions. Now, these areas of flatness as a rule fall more or less within certain artificial right-angled triangles. Of these cardiac triangles there are two, the larger including the smaller. The larger triangle has for its vertical side a line let fall perpendicularly from the episternal notch; for its base, a horizontal line drawn to meet it from the upper border of the sixth costal cartilage at its junction with the rib. Both vertical and horizontal lines are of the same length. The hypothenuse connects their extremities, meeting the vertical line at the upper border of the second costal cartilage; the apex of the heart is supposed to be at the junction of the base line and hypothenuse. The lesser triangle is formed of the same vertical and same base line, but the hypothenuse, leaving the vertical line at the level of the third costal cartilage, passes downward and parallels the other hypothenuse. The areas of dulness and flatness are supposed to be found within the larger triangle, flatness within the smaller triangle; but in reality this is not so, and flatness is of course no proper guide for the dimensions of the heart. These flat areas change with every breath, as the to-and-fro movements of the lungs alternately diminish and enlarge them. Another class of practitioners do not attempt to delimit the heart, but simply indicate by vertical lines the extreme right border and extreme left border and apex. In women and in stout people there is of course manifest difficulty in all these matters, but fluorography shows that in a male of ordinary build the heart can be mapped out accurately in its entire contour up to the origin of the great vessels; while in stout people it may be seen with sufficient clearness to warrant a belief that with improved appliances and a better current any heart can ultimately be fluorographed. Still this fluorographic method is, I believe, capable of achieving more accurate results than any other at present in use, if used with skill, proper appliances, and the necessary precautions: so that there is a strong probability in my mind that fluorography will at some future time be

used to map out the heart for ordinary clinical purposes. At the present moment this method has a special interest because our remedial agencies in chronic heart disease are chiefly directed toward contracting a dilated heart, and if a Crookes tube can be made to throw an accurate picture on a screen we have a new and reliable method of determining whether a given line of treatment is accomplishing any good result or not.

In conclusion let me emphasize the point that I am not at present prepared to state that fluorography will supersede percussion in mapping out the heart; though I can conceive that the size, position, and measurements of the heart *may* be determined by fluorography without either percussion or auscultation. But, given the position of the apex and a few more prominent points in their relation to the anterior chest wall, and fluorography will define the rest, giving us a more complete outline of the heart than any other method known to us.

504 Fifth Avenue.

THE SERUM DIAGNOSIS OF TYPHOID FEVER.[1]

By C. A. ELSBERG, M.D.,

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Up to the present time, the diagnosis of typhoid fever has been based upon the presence of a number of signs, *e.g.*, characteristic temperature, enlarged spleen, roseola, etc.—signs which vary considerably both as to the time of their appearance and the duration of their presence. In the search for a more rapid diagnostic method, most of the work has been in the direction of the discovery of improved means for the differentiation and recognition of the specific cause of the disease, the typhoid bacillus. The difficulty which has been encountered is that the bacterium coli commune, which is to be found in every human intestine, normal and pathological, has no known qualities by means of which it can be differentiated with certainty from the typhoid bacillus. A little more than a year ago, Elsner[2] recommended that one per cent. of iodide of potassium should be added to the medium used for the cultivation of the typhoid bacillus. In an acid nutrient medium of potato gelatin, to which has been added one per cent. of iodide of potassium, only the typhoid and the colon bacilli will grow, all other organisms being inhibited. The colon bacillus grows more rapidly than the typhoid bacillus, so that in twenty-four hours the colon bacillus will already form small colonies appreciable to the naked eye. After forty-eight hours at room temperature the colon bacillus forms large colonies, while the typhoid bacillus forms small colonies. A number of observers have, however, found that some of the small colonies may consist of the colon bacilli; hence the test may often fail. If one makes a mixture of colon and typhoid bacilli and inoculates the same on Elsner's medium, the typhoid bacillus will sometimes not grow at all. These facts have caused us, as well as a number of other observers, to give up the use of Elsner's method, although the knowledge that we can isolate the colon and typhoid bacilli from all other organisms by this means, constitutes a distinct advance in bacteriological methods.

The Widal reaction is based on an altogether different principle than that just mentioned, depending upon the changes that occur in the blood of patients who have or have had typhoid fever. While one generation ago the study of the cell was occupying the attention of investigators, in the last decade a great deal of attention has been paid to the body fluids and, above all, to the blood. Numerous careful studies have been made of the changes in the blood as brought about by disease. Yet we must always remember that, however great the changes found in the blood, these changes are the direct and final result of cell activity, and that in this way blood pathology and cellular pathology are inseparably connected.

A study of the human blood has shown that it contains, under normal and under pathological conditions, substances which act to protect the organism against the invasion of bacteria. In the first place, the blood serum contains substances which are directly antagonistic to germ life. These substances, the alexins of Buchner, have been found in healthy human and animal blood serum, but are present in considerable quantities in the blood of human beings or animals that have acquired natural or artificial immunity against some particular disease, the alexins in this latter case acting powerfully against the bacteria that caused the disease in question. Thus Buchner found alexins in the blood of healthy men; two French observers' described alexins against the bacillus pyocyaneus, the bacillus of green pus, in rabbits that had been rendered immune to this organism.

In the second place, the blood contains substances which act against the poisons produced by the bacteria. These are the antitoxins, and for a large part of our knowledge concerning them we are indebted to Behring. Russian and German observers[2] have found antitoxic substances in the serum of healthy persons. These antitoxins, however, act against the poisons produced by all bacteria, and seem to be altogether different from the specific antitoxic substances found in the serum of an animal or human being immune to a particular organism. That antitoxins and alexins are not identical has been beautifully shown by Behring, when he demonstrated that the strongest diphtheria antitoxic serum, of which the smallest part of a drop suffices to neutralize what is otherwise a poisonous dose of a culture of the diphtheria bacillus, this same serum is a very good culture medium for the Klebs-Loeffler bacilli.

In the third place, if the blood serum of an animal protected against a certain organism is injected, together with a virulent culture of the organism in question, into the peritoneal cavity of a normal animal, and at intervals the peritoneal fluid be examined under the microscope, the bacteria are found to undergo rapid degenerative changes. They become granular, swell, break up, and gradually become dissolved in the serum. These changes are brought about by the bacteriolytic substances that were contained in the blood, substances for which Fraenkel[3] has recently proposed the name "lysogenic substances." This "lysogenic" power of the blood has formed the basis for Pfeiffer's work on the specific cholera immunity. Pfeiffer[4] injected the serum of guinea-pigs which had been rendered immune against the experimental cholera infection, together with what was otherwise a fatal dose of cholera culture, into the peritoneal cavity of healthy guinea-pigs. By means of small capillary pipettes, he withdrew at short intervals small quantities of the fluid from the peritoneal cavity. On microscopic examination of this fluid, he found that the bacilli, that had previous been moving rapidly, became clumped together very quickly, and soon underwent degenerative changes. This reaction Pfeiffer

[1] Read before the County Medical Society, March 22, 1897.

[2] Elsner: Zeitschrift f. Hygiene, 1895, xxi., 25.

[1] Charrin and Kager: Comptes rendus de l'Académie des Sciences, November 9, 1889.

[2] Wasserman: Zeitschrift f. Hygiene, vol. xix., p. 405. Orlowski: Deutsche med. Woch., 1895, p. 401. Abel: Deutsche med. Woch., 1894, Nos. 48, 50.

[3] Fraenkel: Deutsche med. Woch., 1897, No. 3, p. 33.

[4] Pfeiffer: Zeitschrift f. Hygiene, 1894, vol. 18, p. 1. *Ib.*, vol. xix., p. 194. Pfeiffer and Kolle: *Ib.*, 1896, vol. xxi., p. 203.

found to be an absolutely specific one; that is to say, the cholera serum had this effect on the cholera vibrio and on no other organism; and he offered this "specific cholera reaction" as a method for distinguishing the cholera bacillus from all other organisms. Pfeiffer[1] and several other observers then found that the clumping of the bacilli took place to the same degree when serum and culture were mixed outside the animal body, in the test tube. Later, Pfeiffer and Kolle[2] showed that typhoid serum had the same selective action for the typhoid bacillus as had the cholera serum for the cholera vibrio.

In this manner, then, it was demonstrated that just as there were specific alexins, specific antitoxins, and specific lysogens, so there were also specific clumping substances or "agglutinins" in the blood. The clumping or agglutination had, however, been described some years before Pfeiffer's publications by a number of observers working with a number of organisms. Thus, in 1889, Charrin and Roger[3] published an account of their researches on the agglutinative action of the sera of animals rendered immune to the bacillus pyocyaneus, and in 1894 two Russian observers[4] described their experiments with the vibrio Ivanoff. To Gruber and Durham,[5] however, we must give the credit for the first careful description of the phenomena of agglutination. When the serum of an animal immune to typhoid infection is added to a bouillon culture of the typhoid bacillus, the diffuse moirée cloudiness of the bouillon gradually disappears. The bacilli form small clumps, at first adhere to the sides of the tube, and then gradually sink to the bottom, leaving the bouillon above perfectly clear. To this process of clumping Gruber applied the term "agglutination." In his researches Gruber showed that the blood serum of patients that had just had typhoid fever gave the same reaction as did the serum of immune animals, and hence he considered this a reaction of immunization. This, then, was an excellent method of ascertaining whether a patient had just had typhoid fever, by determining whether he had in his blood serum the specific agglutinating substances against the bacillus of Eberth. Widal,[6] in June of last year, then showed that this agglutinative action might be found as early as the first week of the disease, and that the reaction was one of infection and not of immunization. As a result of further researches, Pfeiffer and Kolle then declared that the agglutinins were in no way related to the immunizing substances, and thus agreed with Widal.

Widal obtained the blood of typhoid patients by withdrawing blood from a vein of the arm by means of an aspirating needle. The blood was allowed to clot, and the serum thus obtained was used. Eight drops of this serum were added to four cubic centimetres of a twenty-four-hours old bouillon culture of the typhoid bacillus. In periods varying from three to twenty-four hours, the bacilli became clumped and gradually fell to the bottom of the tube, leaving the fluid above quite clear. Or, he added the serum to a fresh-bouillon tube, and then inoculated the mixture with the typhoid bacillus and kept the tube at 100m or body temperature. After twenty-four hours this tube presented an appearance similar to the first. Or, in the third place, he declared that one might add one drop of the serum to ten drops of the bouillon culture, and then examine a drop of this under the microscope. The bacilli become immobilized and clumped at once or in periods varying from a few minutes to twenty-four hours. Widal recommended a dilution of 1–10 in this last method, because in a dilution of 1–2 or 1–5 he sometimes noticed slight clumping when he used normal serum. After Widal, Fraenkel,[7] Délepine and Sidebotham,[8] Grunbaum,[9] Haedke,[4] Breuer,[5] Kolle,[6] and numerous others published reports of observations made with the test-tube method. One difficulty in the tube test, however, was that it necessitated a considerable quantity of blood serum, which it was often difficult to obtain. Widal, Délepine,[7] Fraenkel,[7] and others then recommended the microscopic test, most of the writers advising that the blood be obtained and preserved in capillary tubes which were sealed by heat after they had been filled with blood. In general use, however, capillary tubes are apt to be broken, both in obtaining the blood and in preserving the same; hence methods such as that of Délepine are not practical. Wyatt Johnston,[9] of Montreal, then proposed that dried blood should be used for the test. Widal had in his original communication declared that he had obtained the reaction from dried serum. All that was necessary, according to Johnston, was that a few drops of blood derived from a clean finger should be allowed to dry on a slip of sterilized paper or a glass slide, and this then sent to the laboratory for examination. Little work has as yet been done with this method. Johnston and McTaggart, of the Montreal board of health, Biggs and Park,[10] of the New York health laboratory, and Pick,[11] of Vienna, are the only ones who have made careful studies of the dried-blood method. The observations on which this paper is based were made to a large extent with dried-blood specimens.

The finger was well cleansed with ether, was then pricked with a needle, and a few drops of blood thus obtained were allowed to dry on a clean glass slide. With a platinum-wire loop one millimetre in diameter a drop of sterilized water was added to one of these dried drops of blood, and the blood dissolved by rubbing with the loop or by allowing the water gradually to soak up the dried blood. A loopful of this is mixed on a cover glass with three loopfuls of an eighteen to twenty-four hours old bouillon culture, or of an emulsion of a twenty-four-hours-old agar growth. This is then examined as a hanging drop. The bacilli, which previously were moving across the field with rapid motion, are found to have become immobilized and clumped together in a peculiar loose characteristic manner. There is usually absolute cessation of movement at once, so that all motion has ceased by the time the slide is placed under the microscope. There often remains a slight struggling motion, just as if the bacilli were bound to each other by their flagella, the cell bodies being free.[12] I have attempted to stain the clumps of bacilli in order to examine the appear-

[1] Pfeiffer and Kolle: Deutsche med. Woch., 1896, No. 12.
[2] Pfeiffer and Kolle: Zeitschrift f. Hygiene, vol. xxi., p. 203.
[3] Comptes rendus de l'Académie des Sciences, November 9, 1889.
[4] Isaeff and Ivanoff: Zeitschrift f. Hygiene, 1894, vol. xvii., p. 122.
[5] Gruber and Durham. Wiener klin. Woch., 1896, Nos. 11, 12.
[6] Semaine Médicale, 1896, p. 259. See also *ib.*, pp. 294, 295, 303, 393, 410, etc.
[7] Fraenkel: Deutsche med. Woch., 1897, No. 3.
[8] Délepine and Sidebotham: Lancet, 1896, vol. ii., Nos. 23, 24.
[9] Grunbaum: Lancet, 1896, vol. ii., No. 25.
[4] Haedke: Deutsche med. Woch., 1897, No. 2.
[5] Breuer: Berliner klin. Woch., 1896, Nos. 47, 48.
[6] Kolle: Deutsche med. Woch., 1897, No. 11.
[7] Loc. cit.
[8] Loc. cit.
[9] Johnston and McTaggart: British Medical Journal, December 5, 1896.
[10] Biggs and Park: American Journal of the Medical Sciences, March, 1897.
[11] Pick: Wiener klin. Woch., 1897, No. 4.
[12] When the dried-blood solution contains many small masses of fibrin, the bacilli will often cling to these, thus forming clumps and giving a pseudo-reaction. A number of moving bacilli always remain, however; and besides, with a little care one can always recognize that these clumps consist mainly of fibrin.

ance of the flagella, but thus far have been unsuccessful, as the presence of the serum presents a number of technical difficulties.

At times the bacilli do not all become clumped at once; the clumping may be delayed, the bacilli simply being immobilized at first. In the large majority of cases the clumping is complete at once. In some cases it is delayed for some minutes, or there are still a few moving bacilli. I believe that for a positive reaction the agglutination and cessation of movement must be complete in less than fifteen minutes, usually in from two to five minutes. Whenever I have waited longer than this, I have been in doubt as to the reaction. It is a very interesting fact, also, that a beautiful reaction can often be obtained when one uses a culture of non-motile or even dead bacilli.[1]

Inoculation of a fresh agar or bouillon tube, from a reaction in the test tube or from a microscopic reaction, will always give an abundant growth of bacilli, showing that in the reaction these are simply inhibited in their growth and not killed. Indeed, after forty-eight to sixty hours the reaction in the tube will disappear, the bacilli again begin to grow, and such a tube after five or six days will present almost the same appearance as any five or six days old culture of the typhoid bacillus.

On examination of the reaction in the hanging drop after several hours, one can often see that the clumps of bacilli are undergoing degenerative changes. They become pale and swollen at their ends, and then break into pieces. This phenomenon has seemed to me to occur most often when solutions of the entire blood are used, as in the dried-blood method. This fact has also been noted by Johnston and McTaggart.

In order to determine whether the dried-blood method was anyless certain or delicate than the fluid-serum or the macroscopic tube test, I have made the following comparative examinations: Thirty cases were examined, of which number sixteen had typhoid fever, and fourteen were suffering from other febrile diseases. Of the specimens from the patients with typhoid fever, seven gave no reaction when examined by either the dried-blood, the fluid-serum, or the test-tube method. All these specimens were taken from patients early in the disease. The remaining nine cases gave a positive reaction with all three methods. Of the fourteen non-typhoid patients, not one gave any reaction with either of the methods. To judge then from these examinations, few as they are, one would say that the dried-blood test was as certain as the other methods. In addition, in several cases in which the reaction did not appear until late, I made the tube test in the hope that the reaction might be present in the tube when it was not present in the fluid-serum or dried-blood microscopic tests. But in every case in which there was no reaction with dried blood there was no reaction with fluid serum.

It is true that the dried-blood method does not allow of accurate dilution, the importance of a sufficient dilution having been mentioned above. A little calculation will show that a dilution such as I make must be at least 1–8. And as in this dilution I have not been able to note any clumping with normal serum, it seems to me that for general use the dried-blood method with this dilution would be a practical and generally useful test.

In the examinations I made use of bouillon cultures of Eberth's bacillus from twelve to twenty-four hours of age, or emulsions of agar growth of the same age. I have found no advantage in the blood-serum growth as recommended by McWeeney.[2] Fresh agar tubes were inoculated every fourteen days, and daily cultures on neutral bouillon or agar were made from these.

Three cultures were used in my work. Two were of a low grade of virulence, as tested on the guinea-pig according to Pfeiffer's standard. Both animals remained well after the injection, their blood showing a good agglutinative action after five days. The third culture was one of high virulence, one-fifth of a milligram of a moist agar culture being sufficient to kill a guinea-pig of three hundred and twenty grams weight in about sixty hours. I found the two attenuated cultures to give the best results.

Regarding the dilution in which the serum is still active, I have few data. In four cases, the reaction was still present in a dilution of one part of serum to one hundred of culture; in one of the specimens it was still present in a dilution of 1–200.

When the albuminoid substances are removed from an active blood serum, the serum loses its agglutinating power. Widal declares that the serum albumin contains no agglutinins, but that the fibrinogen, the globulins, and the leucocytes contain considerable. The agglutinins are dialyzable, and both this and their easy solubility would point to their being perhaps crystalloid in character. The agglutinins are to be found not only in the blood but also in the saliva, tears, urine, blister fluids, bile, milk, and slowly appearing inflammatory exudations. Achard has found in two cases that the blood of infants, born of mothers who had or had just had typhoid fever, gave a good reaction.

Our experience extends over a series of four hundred and ten observations. Of these two hundred and sixty-two were made on patients with typhoid fever and one hundred and forty-eight on patients with other febrile diseases or in health. Owing to an epidemic among the nurses in the training-school connected with the hospital, I have been able to make a number of repeated examinations early in the disease. Specimens of blood were examined daily until the reaction appeared, and once a week thereafter. I must here express my acknowledgment to Dr. N. E. Brill, the attending physician, for the interest he evinced in the work, and the assistance he gave me in obtaining specimens, as well as to the members of the house staff of Mt. Sinai Hospital.

The two hundred and sixty-two examinations were made in thirty-six cases of typhoid fever. The reaction appeared:

In	1 case	on the	4th day.
"	2 cases	"	5th "
"	20	"	7th–12th day.
"	8	"	12th–14th "
"	2	"	14th–17th "
"	3	"	24th, 27th, 32d day, respectively.

Thus we see that in eight per cent. of the cases the reaction was present in the first week of the disease: in eighty-six per cent. it appeared before the end of the second week; and in fourteen per cent. it appeared after the fourteenth day. In no case in the series did we miss the reaction, but I can well understand how those who made but one or two examinations have reported cases without reaction.

In general the reaction appears suddenly, it being absent on one day and marked on the next, though for several days before the reaction appeared and after the reaction disappeared I have often noticed slight clumping.

The reaction may persist for only a short time: thus in one case the reaction disappeared in eight days, in another case after twelve days. The reaction may disappear soon after convalescence begins: thus in one case it disappeared at the end of the fifth week. In the large majority of cases, however, it

[1] A French writer has recently proposed that one keep stock tubes of bouillon cultures of the typhoid bacillus that have been killed with formalin for the test, thus to obviate the necessity of daily reinoculation of the cultures.

[2] McWeeney: Lancet, December 12, 1896, p. 1,717.

persists for at least several months after the disease has run its course; thus of the thirty-six cases of typhoid in our series, the reaction disappeared in one case after the fifth week; in two cases three weeks after convalescence; in eight cases the reaction was still present when the patients were discharged one month after convalescence.

Of the twenty-two cases still under observation, in all the reaction is still present, periods of three weeks to two months since the disease. In one patient, who had typhoid fever five months ago, the blood still shows a marked reaction. This patient has had an osteomyelitis of the inferior maxilla since four months, perhaps due to the typhoid bacillus, and this may have been the cause of persistence of the reaction.

Thayer,[1] of Johns Hopkins Hospital, offers a similar explanation in a case of "typhoid osteomyelitis," in which he found the reaction sixteen months after the attack of typhoid fever.

Three patients of our series died, and in all three the characteristic lesions were found at the post-mortem examination. I found no reaction in eight individuals who had had typhoid fever from six months to ten years ago.

Of the thirty-six cases, four had relapses, one of these having two relapses. Of these four cases, in one the reaction appeared on the sixteenth day, and remained throughout the disease and relapse up to the present time. In the other three cases, the reaction appeared late—on the twenty-fourth, twenty-seventh, and thirty-second day, respectively, of the disease—and disappeared again on the thirty-sixth, forty-second, and forty-eighth day. In two of these three cases, the reaction again appeared on the fourth day of the relapse. In the third case the reaction did not appear in the relapse, but the patient had a second relapse, on the fourth or fifth day of which the reaction again appeared. Here then we have three cases. In two there was incomplete immunization, as shown by the occurrence of a relapse, and brief presence of agglutinins, as shown by the short duration of the reaction. The third case is still more interesting. In this there was incomplete immunization, and small amount of agglutinins during the attack. The patient then had a relapse, but was not yet sufficiently immunized, nor were there sufficient agglutinating substances present in the blood to give a reaction. It was only in the second and last relapse that the reaction appeared. I recognize that these cases are too few for me to draw any conclusions from. However, they are so striking that one cannot but suspect that the agglutinins are in some way related to the immunizing substances in the blood.

I have not been able thus far to find any relation between the severity of the attack and the time of appearance and duration of presence of the reaction. In fact, in several of the severest cases we have seen the reaction appeared late.

Of the one hundred and forty-eight patients whose blood was examined, who were well or were suffering from other diseases, in one hundred and forty-seven the reaction was absolutely negative. Among these patients were cases of bronchitis, pneumonia, influenza, intermittent fever, colitis, pleurisy, phthisis, cystitis, rheumatism, nephritis, endocarditis, anæmia, leukæmia, exophthalmic goitre, osteomyelitis, diabetes, appendicitis, peritonitis, carcinoma of stomach, intestines, gall bladder, lung, breast, uterus, kidney, etc.

In one case in which the diagnosis, though at first doubtful, was later considered to be biliary calculi, we obtained a positive reaction. The history of the case is as follows:

[1] Thayer: Johns Hopkins Hospital Bulletin, vol. viii., No. 72, p. 55.

Bertha D——, thirty-five, housewife, married, admitted to Mt. Sinai Hospital, January 20, 1897. Previous history negative; never had typhoid fever: had rheumatism six months ago. Present history, of three months standing, began with headache, loss of appetite, vomiting, and cramps in the abdomen. The vomiting persisted off and on for two months, while the headache and the pain in the abdomen came on in attacks. Bowels are always constipated. Never was jaundiced. No pulmonary, cardiac, or urinary symptoms. Has lost thirty-five pounds in weight, and since three weeks has felt very weak and been confined to bed. Was seen by several physicians, who suspected malignant disease of the stomach. Now complains of paroxysmal general abdominal pain and weakness. On her admission to the hospital, her general condition was poor; she was emaciated and anæmic. Physical examination of lungs and heart was negative. Her spleen was not enlarged. The liver dulness extended from the fifth rib to two and one-half fingerbreadths below the free border of the ribs. She had considerable tenderness in the right hypochondriac region. During the seven weeks the patient remained in the hospital, she had a number of attacks of pain in the right hypochondriac region with chills and fever up to 102°–103° F. during the attacks. Examination of the gastric contents revealed nothing abnormal. There was no Ehrlich diazo reaction. One week after her admission her spleen was aspirated for diagnosis and cultures were made from the blood obtained. No typhoid bacilli were found. The diagnosis of biliary calculi seemed finally certain, but the patient refused operation, and left the hospital. A number of examinations were made of this patient's blood by all the methods, and every time a positive reaction was obtained. At one time it was thought possible that she might have had a mild attack of typhoid fever in the three weeks preceding her admission to the hospital. A careful study of her symptoms has convinced us that this case must be put down as positively not a case of typhoid. Whether the patient, who was very ignorant and stupid, had had the disease during the the months previous we do not know.

A study of the results I have obtained has led me to come to the following conclusions:

The reaction can in no sense be considered an absolute diagnostic method early in the disease. In only eight per cent. of the cases was the reaction present in the first week of the disease, and in fourteen per cent. its appearance was delayed until after the second week of the disease, by which time a clinical diagnosis had already been arrived at. The test is of undoubted value in irregular and doubtful cases. Thus, in our series we had two cases of the disease, occurring in patients of about sixty and seventy years of age, in which many of the symptoms pointed toward pneumonia and in which the presence of the Widal reaction made the attending physician suspect typhoid fever. Both patients died, and in both cases the post-mortem examination showed the presence of the characteristic typhoid lesions. In another case the patient was sent to the hospital and operated on for appendicitis, a large abscess being evacuated: a reaction was found and the disease ran a typical typhoid course. In hospital practice, in which cases are often seen for the first time as late as the second week of the disease, the test is also of value. If the reaction is present, we may be fairly certain that the disease is typhoid fever. The absence of the reaction does not prove that the patient is not suffering from that disease.

In the second place, we must recognize in the test a valuable aid for the differentiation and rapid recognition of the typhoid bacillus, especially from the colon bacillus, the "psittacose" bacillus, and other kindred organisms.

In the third place, the Widal reaction affords us additional proof that the Eberth bacillus is the specific cause of typhoid fever.

We are justified in hoping that the idea involved in the Widal reaction may be proven to be applicable to the study of other diseases. It might thus be possible that during an epidemic of cholera, one could by means of a "cholera reaction" differentiate true cases of cholera from the cases of "cholerine" which so frequently accompany epidemics of that disease. After this paper had been written, an article appeared in *The Lancet*, by two English observers,[1] in which they describe how they have successfully applied the methods of serum diagnosis to the diagnosis of Malta or Mediterranean fever, and demonstrated that the serum of patients who had this disease had the sedimenting action on bouillon cultures of the specific organism.

This and other questions offer a wide and promising field for further research, and we must look to the future for the solution of the many interesting problems which a study of the principles of the serum diagnosis of disease has laid before us.

A REPORT OF THREE CASES OF THE CRETINOID CONDITION IN THE SAME FAMILY, TREATED WITH THYROID EXTRACT.

By C. S. CAVERLY, M.D.

RUTLAND, VT.

Thyroid therapy has lent additional interest to cases of cretinism and myxœdema, always interesting from their rarity. The three cases here reported seem noteworthy, because the patients are brothers and sister. The two older are marked cretins, Eddie, the younger of the two, being quite a typical case, while the baby has the cretinoid tendency well marked, and would undoubtedly in time become as decidedly cretinoid as the older children. These cases came under my observation during the latter part of April last. This was the family history elicited:

Mrs. R—— (the mother) is thirty-five years old; born near Dublin, Ireland; reared in Scotland. Her father and mother are both dead, the former by an accident, the latter of "kidney trouble." Five brothers died in infancy, the cause of their deaths being unknown. One brother living has been an inmate of an insane asylum. She is a large fleshy woman, somewhat inferior intellectually, and gives no history of any injury or unusual illness during her pregnancies, or at other times. Her labors have always been normal.

Mr. R—— (the father), thirty-five years old, was also born near Dublin, Ireland. His father and mother are both living and healthy. One healthy brother is living. He is a temperate, hardy-appearing man, and is so reported by his employer, for whom he has worked as gardener for seven years.

These parents know of no case of cretinism or of goitre in their native place in Ireland. They have lived in Vermont about fifteen years. Their family consists of these children, all apparently healthy and normal at birth; Thomas, eleven years, a normal boy; James, nine years eleven months, a cretin; Eddie, eight years three months, a cretin; Michael, seven years, a normal boy; Willie, five years, a normal boy; Elizabeth, one year four months, cretinoid.

The history and present condition of the cretins, as noted at this time, was as follows:

James was apparently a healthy baby for the first six months. After this he did not grow and develop like other children. His first teeth, which he still retains, appeared at three years. He has never talked.

Fig. 1.—James (nine years eleven months).

Fig. 2.—Eddie (eight years three months).

Fig. 3.—Elizabeth (sixteen months).

[1] Wright and Smith: Lancet, 1897, vol. i., No. 10.

He can stand by taking hold of pieces of furniture, but cannot walk. He has a large head, flattened on top; coarse red hair, very thin: coarse features, with thick lips and heavy eyelids, and he usually protrudes his tongue. His disposition is not unamiable. He makes a grunting sound when disturbed, but has when at rest a more agreeable, or, more correctly, a less repulsive facial expression than his next younger brother. His arms and legs are heavily built and rather crooked. The belly is full, and the navel protrudes. Height, thirty-two and one-half inches: pulse, 84; temperature (axillary), 96.5° F. Lips blue and skin cold, mottling on exposure. The skin is dry and rough to the touch. There is no appreciable swelling over the clavicles, nor can the thyroid gland be felt. He is clumsy and awkward in all his movements.

Eddie: The above description applies to this child as well, except that all the cretincid characteristics are emphasized in his case. He has a more repulsive face, constantly protrudes his tongue, and his disposition is more ugly. He resents any disturbance, and gives utterance to loud animal cries. He cannot walk or even stand, has his baby teeth, and shows an utter lack of intelligence. He is thirty-one and one-half inches tall, and has an axillary temperature of 98° F.

Elizabeth grew normally up to the end of the first year. Since January she has been getting more and more like the two boys. She is evidently tending in the same direction, mentally and physically. She has no teeth, no use of her legs, the same coarse features, thin red hair, protuberant belly, heavy limbs, and mental stupidity, though in less degree, as the two boys. She measures twenty-six and one-fourth inches. The photographs of these children, taken before they were put upon the thyroid treatment, are here reproduced. One group shows all three together, and the other the two older beside a normal brother, five years old.

Fig. 4.—James and Eddie beside a normal brother of five years.

The children were at once put upon the thyroid treatment. At first they were given the dry powder of Parke, Davis & Co. The initial dose was one grain daily, and this was regularly increased to ten grains daily in the cases of the boys, and to five grains daily in the case of the baby.

Eddie, whose cretinoid condition was most marked, bore the treatment best. It produced some excitement in all at first, and their faces would become flushed after taking it. James had wakeful nights, derangement of the stomach, swollen glands in the neck during the early part of the treatment, though it was doubtful whether these symptoms all depended upon the thyroid. The boys' mouths were sore, but the decaying milk teeth seemed at least partially responsible for this. After two months the thyroid preparation was changed to five-grain tablets of Fairchild Bros. & Foster. The baby cut her first teeth in August. She had a severe attack of gastro-intestinal disturbance also during this month, beginning with a series of convulsions. She was taking five grains of the thyroid daily at this time, which was decreased for a time but gradually restored to that dose as she got better. She walked in September.

The first and most noticeable effect of the treatment in all these cases was an improvement in the circulation, their temperature becoming quite normal, and their extremities warm and the skin of a more natural color. The next effect noticed was a steady loss of flesh, which was very noticeable, though I never succeeded in getting them weighed. They soon began to use their limbs, and the boys walked within two months. Their minds did not keep pace with their bodies, but they learned such words as "mamma," "horse," "chair," etc. It was evident, too, that they attached correct meanings to these words. The baby became more diffident, and acted more like a normal child of a year and a half. The boys made good use of their legs in running away and otherwise taxing the patience of the parents.

Their present condition (March 20, 1897) is a marked improvement over that of ten months ago, in every respect. James measures 39 inches, a gain of $6\frac{1}{2}$ inches; Eddie, $37\frac{1}{4}$ inches, a gain of $5\frac{3}{4}$: and the baby, $31\frac{1}{4}$ inches, a gain of 5. Their tongues no longer protrude, their bellies are smaller, and the navel of neither projects scarcely any. The boys are shedding their baby teeth, and Eddie has several permanent ones. The boys talk somewhat, James rather less than Eddie. The latter connects words into intelligible sentences, and in mental growth is outstripping the older. He has acquired more common knowledge, feeds himself, and knows enough to go to the closet when he urinates or his bowels move. James does not yet show so much intelligence in these respects. Eddie's disposition has kept pace with his mental improvement, and he is now quite amiable. The baby's present condition is quite that of a normal child. She talks, walks, and has eight teeth. It is not unlikely, however, that she would lapse into the former condition if treatment were now suspended, though it seems probable that a long use of the thyroid in her case may result in a permanent cure. The cases of the two older are of course less promising as to final results. At this time it can only be said that they have shown improvement in most ways, and it is hoped the enthusiasm of the parents at the results so far apparent may continue until it can be determined just how much this plan of treatment can do for them. Each of the boys now takes twelve and one-half grains of the thyroid daily, and the girl seven and one-half.

It is not my purpose to venture an explanation of these cases of cretinism. I certainly have none. The older literature of the disease usually speaks of its

being peculiar to or endemic in certain European countries and in certain parts of this country. Mountainous limestone regions are said to favor it. This of course is descriptive of Vermont, and I find this State mentioned by one author[1] as one of those in this country in which the disease is met with. Yet I have never seen a case here before, nor can I learn of one. Dr. Frederick Peterson tells me that he has found none reported from Vermont.

Cases of cretinism, however, are being reported with increasing frequency in recent pædiatric literature, in this country. Yet these reports do not come from any one locality especially. They are from Massachusetts,[2] Pennsylvania,[3] Ohio,[4] New York,[5] Maryland,[6] etc. Dr. G. W. Crary[7] says sporadic cretinism is not rare; it occurs in all parts of the United States. The latter part of his statement, at least, would seem to be correct. I feel quite sure that it is not endemic in this State.

The cases here reported, occurring as they do in one family, point quite strongly to some hereditary taint. I have been suspicious that this came from the mother's side. I can offer no facts, however, to substantiate this suspicion, further than those brought out in her history. While, then, isolated or sporadic cretinism does not seem to be very rare in this country, the combination of three cases in a single family is, so far as I can learn, unique.

I wish to acknowledge in this connection my indebtedness to Drs. M. Allen Starr and Frederick Peterson, of New York, for valuable advice in the management of these cases, and to my associate, Dr. S. W. Hammond, of this city, for assistance in carrying out the details of the treatment.

QUEER EYES IN QUEER PLACES.

By JAMES WEIR, Jr., M.D.,

OWENSBORO, KY.

Sight is the result of the conversion of one form of motion into another—a conservation, as it were, of energy. Thus, waves of light coming from a luminous body are arrested by the pigment cells of the retina in our eyes, and are transmuted into another form of motion, which is called nerve energy (in this instance, sight). It would seem that as far as sight (vision is not included) is concerned, eyes of very simple construction would amply satisfy the needs of thousands of creatures whose existence does not depend upon vision. This supposition is undoubtedly correct; there are many creatures in existence to-day with eyes so exceedingly simple that they can form no visual picture of objects—they are only able to discriminate between light and darkness. Primitive eyes appear in animals very low in the scale of life: probably the most remarkable of these early organs of sight are to be found in the medusa, or jellyfish (Fig. 1). This creature, with its bell-shaped body and pendent stem, bears a striking resemblance to an umbrella; noting this resemblance, naturalists have given the name *manubrium*, "handle," to the stem. Around the edge of the umbrella and situated at regular intervals are certain round cell-like organs, which vary considerably in number. Some species have only eight, while others have sixty, eighty, and even (in Æquorea) as high as six hundred. These so-called "marginal bodies" are the eyes of the jellyfish. By many biologists these organs are considered to be ears; they contain within their capsules transparent bodies, which some scientists deem otoliths or "hearing-stones." Experimentation and microscopical examinations, however, have taught me very recently to believe otherwise. In these marginal bodies there is always a deposit of pigment; this is unquestionably a primitive retina, while the transparent disc is indubitably a primitive lens. That these creatures can tell the difference between light and darkness is a fact easily demonstrated. Time and again have I made them follow a bright light around the walls of the aquarium in which they were confined. On one occasion I made some medusæ tipsy, and their drunken gravity as they rolled and staggered through the water in pursuit of the light was as sorrowful as it was instructive; their actions in this respect were those of intoxicated men. After I had siphoned off the alcoholized water and replaced it with pure water, they rapidly regained their normal status; whether or not any of them felt any evil effects from their involuntary debauch, I am not prepared to state.

Fig. 1. Jellyfish (*Eretima gigas*), Showing Marginal Eyes.

The eyes of sea urchins are rather highly developed, having corneæ, retinæ, and lenses. The lens generally lies in a mass of pigment, and, as Lubbock remarks, looks like a brilliant egg in a scarlet nest. The eyes are scattered over the dorsal surface of the creature's body, and are commonly situated just beneath the skin; they are, however, sometimes elevated on pear-shaped bulbs. The eyes of starfish are generally quite simple in character, as far as I have been able to determine, being pigmented spots which are supplied with nerves. In several species, however, I have been able to make out lenses; it may be that all starfish eyes have lenses, only they have not yet been discovered. The eyes are arranged along the rays or arms, and vary in number.

Even the stay-at-home and humble oyster has eyes (not the round, fleshy muscle called the "eye" by gourmands and epicures, but bright spots around the edge of the mantle)—primitive eyes, it is true, yet amply sufficient for the needs of a domestic, non-travelling, home body like the oyster.

In most of the worms the eyes are simple ocelli, spots of pigment supplied with nerves. These eyes can discriminate between light and darkness, which is all that is required of them: but in the Alciope, a small sea-worm, these organs are brought to a high degree of perfection. This worm is exceedingly transparent, so that when observing it, it is difficult to make out more than its large orange eyes and the violet segmental organs of each ring. It looks like an animated string of violet discs surmounted by a pair of orange-colored eyeglasses. The eye of this creature is strikingly like that of a human being; it has a cornea, an

[1] Mills; Starr's "Text-Book of Diseases of Children."
[2] Dr. C. W. Townsend: Archives of Pædiatrics, vol. ix., p. 825.
[3] Dr. W. P. Northrup: *ibid.*, vol. xi., p. 794.
[4] Dr. J. P. West: *ibid.*, vol. xii., p. 348.
[5] Drs. Peterson and Bailey: Pediatrics, May 1, 1896.
[6] Dr. Wm. Osler: Archives of Pædiatrics, vol. xii., p. 105.
[7] Medical Record, November 3, 1894.

"eye-skin" (anterior chamber, Fig. 2), a lens, vitreous humor (posterior chamber), and retina.

Another aquatic worm, Myrianida, is still more remarkable, not only on account of its eyes, but also on account of the wonderful way in which it reproduces its young. When seen swimming in the water it presents the appearance of a long, many-ringed worm, which impels itself through and by the aid of its hundreds of flat oar-like legs. Closer inspection reveals the startling fact that this seemingly single worm is really a multiple worm—six or more individuals being joined together, thus forming a living chain. This creature reproduces itself by fissigemmation; that is, when the young worms arrive at a certain age they separate from the parent worm and begin life as individuals. These in turn eventually become multiple worms and divide into individuals, and so *ad infinitum*. The tail worm, or that section farthest from the head, is the oldest and is always the first to leave its comrades and take up a separate existence. The adverb always in the above sentence is, strictly speaking, not exactly accurate, for on one occasion I saw the separation occur at the second head from the tail, thus producing twins. The two sections came apart, however, in a very few seconds after their departure from the colony. I am inclined to believe that this deviation from the normal was due to accident; probably to manipulation. This annelid is really "many in one" until the very moment of division; the alimentary canal, nerves, blood-vessels, etc., extend in unbroken continuity from the head of the parent worm to the tail of the last section. In every fourth (sometimes fifth) ring two round, dark-colored spots will be observed; these spots are ocelli, and some of them eventually become the eyes of young worms. These organs even in their embryonic state possess sight, for they have special nerves and pigment cells; they can differentiate between light and darkness.

Fig. 2.—Alciope.

The snail carries its eyes in telescopic watchtowers. This animal is, for the most part, nocturnal in its habits, and, since prominent and commanding view points are assigned to its organs of vision, one would naturally expect to find a comparatively high degree of development in them; and this supposition is correct. The eyes of this creature are in the extreme tips of its "horns," and consist of (1) a cornea, (2) a lens, and (3) a retina (Fig. 3). Lubbock is rather disposed to decry the visual powers of the snail; my conclusions, drawn from personal observations, are, however, directly the opposite. The position of the eyes at the extreme tips of the "feelers" naturally indicates that they subserve a very useful purpose; otherwise they would not have attained such prominence and such a high degree of development. Actual experimentation declares that the garden snail can see a moving white object, such as a ball of cotton or twine, at a distance of two feet. In my experiments I used a pole, ten feet in length, from the tip of which a white or dark ball was suspended by a string. The ball was made to describe a pendulum-like movement to and fro in front of the snail on a level with the tips of its horns. Time and again I have seen a snail draw in its horns when it perceived the white ball, to it an unknown and terror-inspiring object. I have likewise seen it change its line of march and proceed in another direction, in order to avoid the mysterious white stranger dancing athwart its pathway. Dark-colored spots are not so readily perceived: at least, snails do not give any evidence of having seen them until they are brought within a foot of the creatures under observation. A snail will generally see a black ball at twelve or fourteen inches: sometimes it will not perceive the ball, however, until it has been brought to within six or eight inches of its eyestalks. During the season of courtship snails easily perceive one another at the distance of eighteen or twenty inches. I have often watched them at such times, and have been highly entertained by their actions. The emotional natures of snails, as far as love and affection are concerned, seem to be highly developed, and they show plainly by their actions when courting the tenderness they feel for one another. This has been noticed by many observers of high authority, notably Darwin, Romanes, and Wolff. Montegazza, a distinguished Italian scientist, in his "Physiognomy and Expression," writes as follows: "As long as I live I shall never see anything equal to the loving tenderness of two snails, who, having in turn launched their little stone darts (as in prehistoric times), caress and embrace each other with a grace that might arouse the envy of the most refined epicurean." Darwin tells us that two snails, one of them an invalid, the other in perfect health, lived in the garden of one of his friends. Becoming dissatisfied with their surroundings, the healthy one went in search of another home. When it had found it, it returned and assisted its sick comrade to go thither, evincing toward it, throughout the entire journey, the utmost tenderness and solicitude. The healthy snail must have used its sight as well as its other senses to some purpose, for, if my memory serves me correctly, we are told that the sick snail rapidly regained its health amid its new surroundings.

The crayfish also has its eyes at the tips of eyestalks, but the eyes of this creature are very different indeed from the eyes of the snail. They are what are known as compound eyes, a type common to the crayfish and lobster families, and also to a large number of insect families. Viewed from above, the cornea of a crayfish's eye is seen to be divided into a number of compartments or cells, and looks in this respect very much like a section of honeycomb. The microscope shows that in each one of these cell-like compartments there is a transparent cone-shaped body; this is called the crystalline cone. The apex of this cone is prolonged into an exceedingly small tube, that enters a striped spindle-like body called the striated spindle: the entire structure is called a visual rod. Nerve fibrils emanating from the optic nerve enter the striated spindle at its lower extremity,

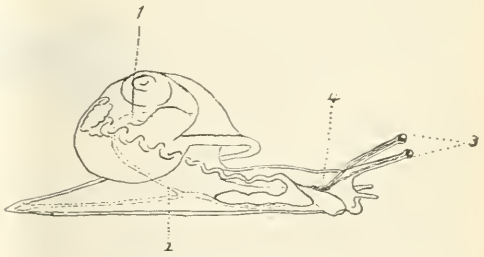

Fig. 3.—Eyes of Snail (Helix albolabris). 1, Heart; 2, aorta; 3, eyes; 4, superior head ganglion (brain and optic nerves).

and in this way nervously energize the visual rod. There is a deposit of pigment about the visual rod which arrests all rays of light save those which strike the cornea parallel to the long axis of the crystalline cone. We see from this that the visual picture formed by a crayfish's eye must be made up of many parts; it is, in fact, a mosaic of hundreds of little pictured sec-

tions, which, when united, form the picture as a whole. Each visual rod receives its impression from the ray or rays of light reflected from the object viewed that strike it in the line of its long axis; the other rays are stopped by the layer of pigment cells. When the impressions of all the visual rods are added together, the sum will be a mosaic of the object, but such a perfect one that the junctions of its many portions will be absolutely imperceptible.

The crayfish can see quite well. It has been thought that this creature used its sense of smell more than its sense of sight in the procurement of its food. This is undoubtedly true when the animal is surrounded by water that is muddy or that is otherwise rendered opaque. The odoriferous particles coming from the food being carried to the creature by the water, it follows them until it arrives at their source. It is different, however, in clear water or on land. I have seen crayfish rush down stream after bits of meat thrown to them, thus showing that here, at least, the sense of sight directed them. Again, I have enticed crayfish from clear streams by slowly dragging a baited hook in front of them. Moreover, when high and dry on land, I have seen them follow with their eyes and bodies the tempting morsel as it was waved to and fro in the air above their heads.

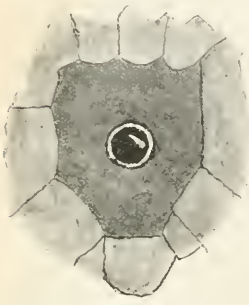

Fig. 4.—The Third Eye of a Small Lizard (Calotis).

The female crayfish carries her eggs beneath her tail, and, when they have hatched out, the young find this sheltering member a safe and cosy dwelling-place until they have grown strong and fully able to enter life's struggle. At such times the mother crayfish is quite brave, and will do battle with any foe. With her eyestalks protruded to their utmost extent, she vigilantly watches her enemy. Her eyes follow his movements, and her sharp nipper is held in readiness for immediate use. Actual experimentation has taught me that crayfish can descry a man at the distance of twenty or twenty-five feet. When approaching a crayfish "town" for the purpose of making observations, I use the utmost caution; otherwise, each inhabitant will retreat into its burrow before I can come close enough to observe them even with my fieldglass.

Another queer-eyed individual whose dwelling-place during the greater portion of its life is in ponds or small streams, is the whirligig beetle, or Gyrinus. This insect is a true cosmopolite, however, and is as much at home on dry land as it is in the water. All seasons seem to be alike to it, for during the hottest days of summer and the coldest days of winter (that is, if there is sunlight and no ice) it may be seen on the surfaces of ponds and small streams, gyrating hither and thither in a seemingly mad and purposeless manner. Several of them will be seen at one moment floating on the water, still and motionless; the next moment they will be observed darting here and there over the surface of the water, their black and burnished backs shining in the sunlight like brilliant gems. Suddenly it is "heels up and heads down," and they disappear beneath the surface, each of them carrying a bubble of air caught beneath the wing-tips; or, as Mr. Gibson expresses it, "they carry a brilliant lantern that goes gleaming like a silver streak down into the depths, for a bubble of air is caught beneath their black wing covers, and a diamond of pure sunlight accompanies their course down among the weeds until they once more ascend to the surface."

This little beetle is well-provided with eyes, for it has a large pair beneath its head, with which it sees all that is going on in the water, and another pair with which it keeps a bright lookout above. That it has remarkably keen vision with the latter pair, any one that has tried to steal upon them unawares can testify.

The queerest of all queer-eyed animals is probably the Periophthalmus, a fish inhabiting the coasts of China, Japan, India, the Malayan Archipelago, and Eastern Africa. I use the word coasts advisedly, for this strange creature, when in pursuit of its prey, leaves the sea and comes out on the sands, thus existing for the greater portion of its life in an element which, according to the nature of things, ought to be fatal to it. The laws of evolution have, however, eminently prepared it for its peculiar mode of life, for its gill cavities are so large that when it abandons the sea it carries in them a quantity of water which yields up the necessary supply of oxygen. Its locomotion has been provided for likewise, for continued use along certain lines has so developed its pectoral fins that the creature uses them as legs, and jumps along at a surprising rate of speed. Its eyes are very large and prominent, and possess, for a fish, the peculiar faculty of looking around on all sides; hence its name, Periophthalmus, which is derived from the Greek words *περί*, around, and *ὀφθαλμός*, eye. These eyes are situated on top of the animal's head, and present a very grotesque appearance.

The favorite food of this fish is a naked mollusk called Onchidium. And, in the matter of eyes, this last-mentioned creature is itself worthy of remark. Its cephalic or head eyes are like those of other mollusks, and not worthy of special mention; but its dorsal eyes, sometimes several hundred in number, are truly remarkable. These dorsal eyes, although they are very simple in structure, in type are the same as those of vertebrate animals, having corneæ, lenses, retinæ, and "blind spots." (In the vertebrate eye the spot

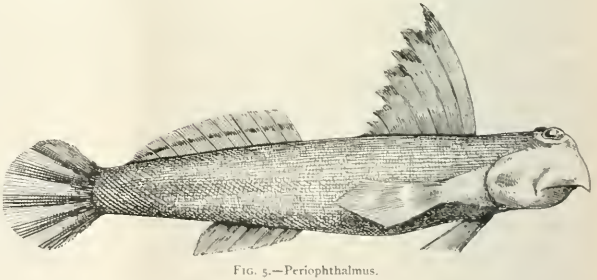

Fig. 5.—Periophthalmus.

where the optic nerve pierces the external layer of the retina is sightless; hence it is called the "blind spot"). When this mollusk sees the Periophthalmus bounding over the sands (and that it does see it is beyond question), what does it do? It contracts a thousand or so of little bladder-like cells in the skin of its back, thereby discharging a hail storm of minute concretions in the face of its enemy! The fish, terrified and amazed by the volley, turns aside, and the mollusk is saved. Thus we see that its dorsal eyes are of great advantage to Onchidium. It is not able, like Periophthalmus, to move these eyes, yet, situated as they are all over its back, it possesses the power of seeing in every direction.

The Greeks were, unwittingly, very near an anatomical truth when they ascribed to certain monsters, called cyclopes, only one eye apiece, which was placed in the centre of their foreheads. The cyclopean eye exists to-day in the brains of men in a rudimentary form, for in the pineal gland we find the last vestiges of that which was once a third eye, and which looked out into the world, if not from the centre of the forehead, at least from very near that point. There is alive to-day a little creature which would put to shame the one-eyed arrogance and pride of Polyphemus, and Arges, and Brontes, and Steropes, and all the rest of the single-eyed gentry who, in the days of myths and myth makers, inhabited the "fair Sicilian Isle." The animal in question is a small lizard, called Calotis. (Fig. 4). Its well-developed third eye is situated in the top of its head, and can be easily seen through the modified and transparent scale which serves it as a cornea. Many other lacertilians have this third eye, though it is not so highly organized as it is in the species just mentioned. A tree lizard, which is to be found in the mountains of East Tennessee and Kentucky, has its third eye quite well developed. This little animal is called the "singing scorpion" by the mountaineers (by the way, all lizards are scorpions to these people), and is a most interesting creature. I heard its plaintive "peep, peep, peep," on Chilhowee Mountain a number of times before I became aware of the fact that a lizard was the singer. On dissection, the third eye will be found lying immediately beneath the skin; it has a lens, retina, and optic nerve.

THE TREATMENT OF CONTUSIONS OF THE LIDS ("BLACK EYE").[1]

By CHARLES H. MAY, M.D.,

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In the great majority of instances contusions of the lids lead to nothing worse than swelling and discoloration: the chief interest which is attached to the subject, therefore, is connected with the removal of the inconvenient and embarrassing disfigurement, or the hastening of nature's process of absorption of the escaped blood.

On account of the cellular nature of the tissue of the lids and surrounding parts, the swelling and discoloration are apt to be great and out of all proportion to the amount of force encountered in the accident. These tissues are firmly adherent to the supraorbital margin; hence the swollen and discolored area is usually limited by this line. Sometimes we find, after bruises or operations, that the discoloration involves the inner portion of the lids of the side not affected, creating the impression that the fellow eye has been involved to a lesser extent. This peculiarity is due to the fact that the blood has been poured into the cellular tissue surrounding one eye, and has travelled across the nose and found lodgement on the opposite side, the thickness of the skin over the bridge of the nose obscuring the route.

In most cases contusions of the lids are produced by blows; less frequently they result from other forms of violence: sometimes they occur after operations upon the eyeball or its adnexa.

It is a remarkable fact that contusions of the lids are rarely accompanied by serious injury to the eyeball, showing how well the organ of vision is protected by the bony margins of the orbit and the lids.

In an uncomplicated case, the course is somewhat as follows: Within an hour or two after the infliction of the violence there will be considerable swelling, redness, tenderness, and more or less pain: then discoloration shows itself. The swelling is apt to subside in two or three days, but the discoloration remains, presenting successive hues—dark red, brown, or black, becoming fainter, then greenish or bluish, and finally yellow. In ten days or two weeks all signs of the bruise will have disappeared.

The complications which may occur are: hemorrhage affecting some part of the eyeball (1, subconjunctival; 2, into the aqueous chamber; 3, into the vitreous; and 4, retinal); separation of the attachment of the iris; paralysis of the iris and ciliary muscle; dislocation of the lens; rupture of the globe; rupture of the choroid; fracture of some of the bones forming the walls of the orbit, the orbital arch, or the optic foramen; emphysema; and abscess of the lids.

The discussion of possible complications does not lie within the scope of this paper. They are mentioned so as to show the necessity of examining the eyeball and orbit in every case of "black eye," for, though rare, such complications are observed.

It is not an easy matter to examine the eyeball in a patient in whom the lids are closed as a result of swelling, and it becomes still more difficult when considerable tenderness is added. To obtain a view of the eyeball is, however, essential. Some patients will assert that they have become blind on the contused side, and will not become convinced of the escape of the eyeball from injury until the swollen lids are separated forcibly and their ability to see is thus proven to them.

In separating such lids and swollen lids of any description, or those forcibly closed by spasm, separation will be the more effective the nearer the margins of the lids the fingers be applied. To apply the examiner's fingers at some distance from the edges of the lids accomplishes nothing, except, perhaps, eversion. If we wish to separate the lids so as to get a view of the cornea and sclera, we must apply the finger tips at or close to the margin of the lids, roll the latter in somewhat, and accompany separation by a certain amount of pressure toward the eyeball. An expert oculist can do this with two fingers of one hand; but for one who is less experienced it is better to use the index fingers or the middle fingers of both hands—one above and the other below. In the process of separation or during inspection he must be careful that the finger does not slip upon the cornea and cause an abrasion—a result which is more likely to happen if the nails of the examiner's fingers have not been trimmed sufficiently close.

The treatment of contusions of the lids depends upon whether we see the patient early, when there is considerable swelling, or not until later, when the discoloration is the prominent feature. If he is seen early, treatment consists of cold compresses or cooling or evaporating lotions: with these we can diminish the amount of swelling and discoloration, though it is impossible to prevent them entirely. If the patient is seen later, hot compresses and massage are indicated, to hasten the disappearance of the discoloration.

Cold compresses are to be applied continuously at first, but not by means of an ice bag or a piece of ice wrapped in a handkerchief and applied directly to the swollen lids, since these furnish too intense and too constant cold. Small compresses of lint, lintine, or flannel, fourfold or sixfold, measuring one and one-half inches in diameter, are to be cooled upon a block of ice and then transferred to the lids. Several compresses of this sort are placed upon the ice, and an exchange between the warm one on the lids and a cool one from the ice is effected every minute or two. In this connection, it may be well to mention that care should be taken not to allow the cold compress to cover

[1] Read at the April, 1896, meeting of the Metropolitan Medical Society.

the nose, since such carelessness causes an acute coryza in many persons. Cold compresses of this sort are to be applied during the first twenty-four hours, either continously or every second or third hour for an hour at a time, depending upon the amount of redness and swelling. The sensations of the patient usually guide us in determining the proper amount of cold; when the compresses are used too continuously, they will become uncomfortable.

The application of cooling and evaporating lotions are of service, though less potent than iced compresses. Such cooling lotions consist of:

℞ Acidi borici ..... ℥ ij.
Spir. vini ..... ℥ ij.
Aquæ ..... q.s. ad Oi.

Or:

℞ Tinct. arnicæ ..... ℥ ij.
Aquæ ..... q.s. ad Oi.

Both of these are to be applied cold, the compresses being wrung out of the boric acid or the arnica mixture and changed frequently.

After twenty-four to forty-eight hours, when the swelling has subsided, the discoloration will show itself in a more pronounced manner; the lengthy duration of this stage can be cut short by hot applications and by massage. Flannel cloths are to be wrung out of hot water—as hot as can be borne—and allowed to lie upon the lids, being changed every minute or two: such applications are continued for an hour at a time and applied three times a day, or oftener, if it is especially desirable to hasten the return of the lids to a normal condition. When the skin is very sensitive, especially in women, it is well to apply a little white vaseline or any variety of bland salve to the eyelids previous to the use of the hot compresses, so as to prevent soreness and irritation of the skin.

Massage is a very satisfactory means of causing a rapid disappearance of the discoloration. The area involved is smeared with the ointment of the yellow oxide of mercury, or white vaseline will answer equally well, and then gentle massage is practised for five or ten minutes at a time, or longer, several times a day.

If it is extremely desirable to cause a very rapid disappearance of the blood stain, the hot compresses may be used continuously and the massage for a number of hours. By these means the disfigurement may be almost if not entirely removed within twenty-four hours, or even sooner, after the subsidence of the swelling.

The treatment just described, though simple, is very laborious, and but few patients are willing to devote the necessary time to it, since, after all, the condition is one which is important only on account of the disfigurement. In such cases we may send the patient to one of the "black-eye artists" to be found in every city, who paint the lids and thus cover up the ecchymosis.

It is the practice among the laity, and especially with pugilists, to prick or incise the swollen lids as soon as possible, and to suck out or press out the blood, or to apply leeches to the bruised area. This has a favorable effect in reducing the amount of swelling and subsequent discoloration, but it is objectionable because it produces an open wound, which may become infected and may lead to abscess of the lid.

Some of the men who make a business of painting "black eyes" also treat them so as to remove the discoloration, and claim to do this in from four to seven hours. The writer visited the rooms of one of these men and watched his process of treating a "black eye." The procedure is not attempted until the swelling has subsided. The patient lies upon a lounge, and for several hours a poultice is applied to the discolored lids. This poultice consists of scrapings from some fresh, thick, fleshy root, the nature of which is kept secret. Probably it is the root of the black bryony, mentioned by Lawson: "A remedy which has for many years received considerable credit is a poultice of the black bryony root. It is made by mixing some of the black bryony root scraped finely with a little crumb of bread. This is placed in a muslin bag over the palpebræ for several hours together, and usually it has an excellent effect in promoting the action of the absorbent vessels." The writer satisfied himself that such a poultice is really effective in dispersing and removing the discoloration.

But if massage were used for a number of hours, it would probably also cause a disappearance of the disfigurement. Of course, no oculist cares to devote so much time to such a trivial affection or condition: hence all such procedures fall to the lot of men who make a business of painting over "black eyes" and of removing the disfigurement in various ways, usually by means of the fresh-root poultice referred to.

Though it is not intended to discuss the complications which occasionally occur with contusions of the lids, a brief reference to the treatment of two of them may be in place. When the wall of the orbit has been fractured in any place which permits communication with neighboring cells, emphysema is apt to occur. This is diagnosticated by the occurrence of crepitation upon palpation. It is made worse when the patient blows the nose, sneezes, coughs, or strains in any way. When this complication exists, it is well to caution the patient against such efforts, and in the way of treatment to apply a firm bandage. Abscess of the lids is more apt to occur in patients whose general condition of health is poor, especially if there is an abrasion of the skin in addition to the contusion. Such abscesses are to be opened by a horizontal incision.

692 Madison Avenue, New York City.

Capital Operations without Anæsthesia.—In a paper read by Dr. J. J. Buchanan, surgeon to the Pennsylvania Railway Company, at the meeting of the National Association of Railway Surgeons, in St. Louis, the following conclusions are presented: (1) Patients with limbs so crushed as to require amputation, who are in good general condition, should be operated on at once. (2) Those who present evidences of severe shock and great loss of blood should be treated by external heat and stimulants, including the hypodermic use of whiskey, digitalin, strychnine, and nitroglycerin, and the rectal injection of whiskey, strong coffee, and hot water. The crushed limb should be disinfected as completely as possible, and six per thousand saline solution of not less than two quarts for an adult be allowed to flow into a vein, this infusion to be repeated, if necessary, at intervals of a few hours, according to the effect produced. (3) If by these efforts complete reaction should be established, anæsthesia and amputation should be proceeded with as in ordinary cases. (4) If, however, a moderate or doubtful reaction only should occur, the propriety of a rapid amputation without anæsthesia should be seriously considered, if the consent of the patient be gained. (5) The complete disinfection of crushed, lacerated, dirty and infected limbs usually cannot be accomplished. (6) The sooner such limbs are removed, the better, provided the patient's life be not lost in the operation. (7) If, notwithstanding the vigorous treatment just mentioned, an amputation, either with or without anæsthesia, be fraught with great risk, it is far better to disinfect as thoroughly as possible, drain well, pack all open spaces, and take the chance of infection, which, in most doubtful cases, is probably less than the risk of death from shock following operation.

[1] Lawson "Injuries to the Eye, Orbit, and Lids," 1867, p. 346. See also Tyrell: "Diseases of the Eye," vol. i., page 200.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE POSSIBILITY OF RECOVERY FROM TUBERCULOUS MENINGITIS.

THERE are few diseases of childhood that are regarded as more surely fatal than tuberculous meningitis, and in cases of reported recovery the tendency is rather to question the correctness of the diagnosis than to accept the fact of a cure. But there are a few instances in which lesions have been found post mortem which pointed indubitably to a previous attack of meningitis, from which the history of the case showed that there had been apparently a perfect recovery.

One such case, a most convincing one, reported by Janssen about a year ago, is quoted by Collins in the article on meningitis in the latest volume of the "Twentieth Century Practice." In this case the patient presented typical symptoms of meningeal tuberculosis, but recovered under the administration of nine hundred grains a day of iodide of potassium. Three years later the patient died from pulmonary tuberculosis, and at the autopsy evidences were found in the meninges of previous tuberculous disease.

More recently, W. Hale White reports a similar case in *Brain*, winter number, 1896. The patient was a boy, thirteen months old, who was admitted to the hospital with a history of having had frequent attacks of convulsions during the previous two weeks, these having succeeded a prodromal period of vomiting after eating and fretfulness of a week's duration. The child lived only four days after admission to the hospital, presenting marked symptoms of meningitis. At the autopsy there was much recent basal meningitis. In each fissure of Sylvius about half an inch from its commencement was a caseous tuberculous nodule, the size of a very large pea. Both these nodules were in the meninges, and could be easily freed from the brain. No other tuberculous deposit was found anywhere. Even if we are prepared to admit that meningitis is, in certain rare cases, capable of recovery, yet, as we have remarked, when the patient gets well there is always a certain element of doubt in the case. We think, therefore, with the author, that this case is worthy of record, "for the presence of two old caseous tuberculous nodules in the meninges, as well as recent acute inflammation of them, showed that there must have been some meningitis previous to that which killed the child, unless we believe that they represented an earlier stage of the same attack as that which was fatal, but the history seems too short for this explanation, for the caseous nodules looked as though they must be more than a month old."

MEDICAL PRACTICE ON THE EAST SIDE.

THE University Settlement of this city has just issued its annual report, in which is set forth a statement of the work which it has accomplished in the tenth ward, and of the adverse conditions which have to be met in its endeavor to extend material and moral aid to the dwellers in this densely populated part of the city. The subreport of the superintendent, Mr. Reynolds, in which are recounted a number of evils which he describes as "important facts illustrating the accumulative influence of poverty in making the poor poorer," an interesting side light is thrown upon the conditions of medical practice in that district of the metropolis.

There are, he says, twenty-two regular medical practitioners in the tenth ward, and a few physicians practising in connection with drug stores. And then comes up the ever obtrusive dispensary abuse: "There is much complaint from the regular physicians of the ward against dispensaries and outside institutions, on the ground that the managers of these institutions often do not sufficiently endeavor to prevent imposition, and that not infrequently they give free treatment in the hope of afterward securing a pay patient."

A rival of the dispensaries, but their ally in the war upon honest physicians, is a recent importation from Russia, the feldscherer, or "felshur" as he is called in Jargon, a sort of barber surgeon whose panacea is bleeding. They do not practise openly, but are often called in at the beginning of a sickness.

"Midwives are another class of medical attendants of inferior grade. The board of health seems not to be posted regarding their number, or else to be unwilling to give the list. As there is no system of licensing them, these women are unreliable and untrustworthy. Their chief hold upon the people is the smallness of their charge. The legal requirement, that a certificate of recommendation from some physician be secured, amounts to nothing, as such recommendations are easily obtained and need not be preceded by an examination."

The drug stores are also sharply criticised: "There are thirty-three drug stores in the tenth ward. Throughout the city the average is one drug store to every physician. As there are but twenty-two physicians in the ward, it will be seen that the average is three drug stores to two physicians. Doctors having no practice will sometimes start a drug store and give their services free, expecting to get their pay in the price of drugs. As a natural result of the excessive number of such stores, competition is sharp, and, while a few of them are excellent and entirely reputable, many lead a precarious life, become a semi-medical establishment, go into the patent-medicine business, or encroach on other trades. One druggist of our ward admits that medicines are often put up at prices which make it impossible for them to be pure. One drug

store was discovered by a physician to have substituted sugar for antipyrin."

Mr. Reynolds' report shows pretty clearly that the life of the physician who has to contend with quacks, midwives, dispensaries, patent-medicine venders, and prescribing druggists is far from being a happy one.

THE LEGAL INDORSEMENT OF QUACKERY.

The success that has attended the enactment of medical laws for the different States is likely to be offset by the artful dodgers on the outside of legitimate medicine, who are endeavoring to obtain special legislation by which they can indulge in fake medical practice and still be protected against the envy, malice, and uncharitableness of the man who obtains his license after passing a State examination. Of course this is very unjust toward the wonderful healers and faith curists who cannot otherwise earn a living. As an instance of the direction in which this abominable legislation is tending, we quote a news item from a Western contemporary to the following effect:

"In an important decision made by Judge Kohler in the common-pleas court at Akron, Saturday, he holds that the Mosgrove law requiring persons to have certificates before practising medicine does not apply to osteopathy, Christian science, massage, hypnotism, or any such treatment of patients. The decision was made in the case of Eugene Eastman, an osteopathist, who was convicted in the police court on complaint of local doctors."

All this shows the necessity for committees on medical legislation to be on the lookout for the possible enactment of such laws by ignorant statesmen and by interested frauds. If such decisions are to establish a precedent, all the burdens must be borne by the regular physician and all the rewards enjoyed by the quacks.

THE PROFESSIONAL ANÆSTHETIZER.

So far as we are informed in the matter, there exists in this great city no physician who makes a specialty of administering anæsthetics. There would seem, however, to exist a demand in this direction. Surgeons are constantly at a loss to find at short notice men of experience in ether and chloroform administration, no less than in other forms of general and local anæsthesia, upon whom they can call for assistance in their important operations. The post at the head of the operating-table is an honorable one, and at times everything depends upon how ably it is filled. If the surgeon is constantly distracted in his work by solicitude and perhaps alarm for the safety of his patient in the hands of one whom he does not know as a careful giver of the gas, he may be prevented from putting forth his best efforts for the patient from the cutting side of the operation. Large surgical hospitals might at times with advantage avail themselves of the services of such a professional anæsthetizer. Not infrequently, as all operators are aware, the life of the patient, no less than the success of the operation, is jeopardized by the careless or ignorant manner in which this important part of the procedure is carried out by a *novicus* just out of the medical school. In almost all institutions it is the junior on the staff, who is going through the process of gaining knowledge and skill rather than applying that previously acquired to whom this important duty is given over.

Every surgeon is aware of the great difference in men as ether givers, and the sense of relief he feels when a good man manipulates the inhaler. Then, too, we might speak of the great saving of time, to say nothing of the saving of ether. Much more ether is usually employed by the novice than is at all necessary, and all will admit that, other things being equal, the less the patient consumes the better it is for all concerned.

The probable explanation for the fact that this important field remains uncultivated—we almost said worked—is to be sought in the unwillingness of young men to enter upon a career which would seem at first glance to offer so little for the future, whatever the emoluments of the present might be. This objection is, however, more imaginary than real, and the opportunities offered for advancement would surely be greater than in many occupations in which young physicians engage during the waiting years, such as insurance examination, inspection for health boards, newspaper work, or society reporting. Who will be the first to engage in this new specialty?

THE CHARITY ABUSE.

If the recent agitation of this question does not serve to effect some reform, more words would seem useless; still we cannot refrain from relating certain information communicated to us by a nurse who has had an extended experience in the gynæcological room of a New York dispensary. This young lady was of the opinion that the abuse of charity was particularly noticeable in this institution, and cited in proof of her opinion that, as a rule, the patients were cleanly, and their clothing and linen indicated that they were well to do. She gave considerable personal information, of which the following is an instance:

A patient, who was apparently comfortably situated, remarked in the course of conversation that she wanted Dr. ——— to perform an operation, and she did not see any use in paying him $300 or $400, when she could have his services for one dollar a month by coming to the dispensary. This was not an unusual instance, but one of almost daily occurrence. The aggravating feature is not so much the loss of the money to the individual physician as it is the loss of respect for his profession—the light esteem in which medical service is held.

Unless the evil is remedied, the time may not be far distant when progress in medical science will be greatly hindered, as men of ability will not care to enter a profession so little honored. The various schemes for remedying the evil, such as requiring certificates, appointing investigating committees, etc., ought to be entirely unnecessary. It is doubtful if such a bill as was recently introduced into the legislature would improve matters. A certificate from a

policeman or landowner would not mean anything, for policemen and landowners frequent the dispensary as well as other members of society who have no moral right to go there. While all acknowledge the necessity of the dispensary in the education of the young physician, we hold that limiting its benefits to the deserving poor would still give ample educational opportunities. It is the physician who usually learns most of the patient and is the best judge of his ability to pay, and to him should be given the power to decline treatment when it is apparently undeserved, and until the case is referred to the proper inspecting committee. It is to be regretted that there are not honor and fellowship enough among physicians to enable them to stand together in this matter; then, if there could be less rivalry between institutions, there might be some hope of bettering present conditions. It seems strange that one should take pride in the large number of paupers, sick and disabled persons that we have among us. But the truth of the matter is that the physician who attends a dispensary which can present a fine array of statistics thinks that these figures will attest his experience and increase his private practice. Charity is a very secondary consideration with him. The physician is human, and, while he may be attentive to the welfare of others, he is by no means entirely forgetful of his own. The difficulty seems to be that doctors cannot agree as to what is best for their own interest, but the sooner they learn that harmonious action will do more for all concerned than rivalry ever can do, the abuse of medical charity will be corrected without the intervention of legislature, or any other agency outside the profession itself.

News of the Week.

Congress of American Physicians and Surgeons.—This congress is composed of the members of the fourteen national societies whose joint meeting is held once in three years in Washington—on May 4th, 5th, and 6th of the present year. To enable a physician residing in the United States to become a member of the congress, with the right to participate in its proceedings, it is necessary that he be a member of one of these constituent national societies. A physician may be accredited as a visitor to the congress by any one of the constituent societies. The certificate of the secretary of one of these societies to the effect that he is thus accredited will enable him to register upon payment of the registration fee, which registration will entitle him to a card of admission to the reception and "smoker," and to a copy of the Transactions of the congress, but not to take part in the deliberations of the congress. All physicians are invited to attend the meetings of the congress and the public meetings of the societies, but only those may register who are members, specially invited guests, or visitors accredited through the secretaries of constituent societies. The registration office will be in Parlor 1 of the Arlington. From this office the mail of members and invited guests will be distributed, and here the city address of each member, guest, and accredited visitor can be ascertained. All members, invited guests, and accredited visitors should register as soon as possible. A registration fee of five dollars will be required of all members and accredited visitors. Invited guests will register, but will not pay the registration fee. A copy of the published Transactions of the congress will be sent to all members and to each invited guest and accredited visitor who is registered. Only those who register, and the ladies accompanying them, will be admitted to the reception. The president of the congress, Professor William H. Welch, M.D., of Johns Hopkins University, will deliver an address Wednesday evening, May 5th, at 8:15 o'clock, in the Columbia Theatre. The exercises attending the unveiling of the statue of Professor Gross, under the auspices of the Surgical Association, will be held on Wednesday, May 5th, at 5 o'clock. On Wednesday evening, at 9:30 o'clock, the president of the congress will receive the members, the invited guests and accredited visitors, with the ladies accompanying them, at the Arlington. On Thursday evening the Cosmos Club will give a complimentary "smoker" to the congress, which will add greatly to the social features. The dinner of the congress will be at the Arlington on Tuesday evening, May 4th.

Obituary Notes.—Dr. John C. Terrell died of pulmonary tuberculosis, at Philadelphia, on March 28th, at the age of eighty years. He was born in North Carolina, and was graduated from the University of Pennsylvania in 1840. He returned to his native State and engaged in the practice of his profession for a period of thirty years, but of late, in the management of his tobacco interests, he had lived for a part of each year in the North and for a part in the South.—Dr. J. H. Walton, of Dubuque, Iowa, committed suicide in Lincoln Park, Chicago, by cutting his throat with a razor, on Sunday morning last. No reason is given for the act.—Dr. Theodore Burr died at Detroit, on March 24th, at the age of eighty-one years. He was graduated from Geneva and Cornell Universities, and practised medicine successfully in Ulysses, Tompkins County, New York, his native village. During the Mexican war he served with General Winfield Scott and reached the rank of colonel. During the civil war he devised an iron gunboat of an entirely new style, which, with modifications by Ericsson, proved eminently successful.

Veto of a Spitting-Prohibition.—The city council of Springfield, Mass., recently passed an ordinance forbidding spitting upon the sidewalks of that city, but Mayor Dickinson has vetoed it, and the citizens of that town have still the liberty to expectorate when and where they will.

Remuneration for Reports to Health Boards.—It is announced that at last the State of New York has a law requiring municipalities to pay physicians and midwives for reporting births, and clergymen and magistrates for reporting marriages to local boards of health. The remuneration is not to be large, only twenty-five cents for each return, but the principle is

the thing to be considered. We can see no reason why physicians should not be paid for making out death certificates also.—*New York Medical Journal.*

Medical School Inspection.—The inspectors of schools recently appointed by the board of health have discovered a large number of children attending the public schools who were in the infectious period of various contagious diseases. These were at once excluded and isolated at their homes. Nearly six hundred such spreaders of contagion were found the first week of the inspection.

The Increased Duty on Imported Mineral Waters.—The leading physicians of New York, Boston, Philadelphia, Baltimore, Chicago, and other cities are petitioning the United States senate not to adopt the high rates of duty provided in the Dingley tariff bill on natural mineral waters, which are, we must suppose, the result of miscalculation. The dietetic effervescent waters and the other natural mineral waters ought to be admitted free, the same as they have been continuously for twenty-five years. As the petition states, there has been for a long time a duty on the bottles, and although the medical profession cannot very well concern itself with the question of duties on bottles in general, it properly petitions that, at least, the duty on the ordinary green-glass bottles containing these mineral waters should be a moderate one, such as existed prior to 1890. Under the present tariff these waters, although on the free list, already pay—through a duty on the bottles in which they are imported—as much as do bottled malt liquors and bottled still wines; consequently the impropriety of any increase, and especially a heavy increase, in duty on these necessary and important therapeutic aids is self-evident.

The Mental Condition of the German Emperor.—The foreign correspondents of the daily press have repeatedly referred of late to the symptoms of insanity which are said to become more marked daily in the case of Emperor William. From a physical point of view, the London *Medical Times* says: "This monarch suffers from many infirmities, viz., an undeveloped arm, an ear trouble, and bad general health. The defects alone would, in an ordinary person, be considered sufficient to account for eccentricity and want of mental balance. If one limb be undeveloped there may be a corresponding defect in the opposite half of the brain—a lop-sidedness close to some of the most important centres. The ear disease may be of an irritative character, causing irritability and uncertainty of temper. Well known and perfectly obvious as the anatomical deficiencies are, they are not taken into account as influencing emperors and personages in high places. The kaiser has not even the excuse that he is 'a self-made man who worships his maker,' but being in power, he, with a self-concentration which is remarkable, puts himself, and himself alone, as the one consideration; his ideas are transcendent and grandiose—the naval programme, to wit. He ignores counsels and counsellors; he rejects experts, and poses as one himself; a very Teufelsdröckh in being a professor of things in general. Surely such a condition cannot be a political puzzle; it must be a pathological psychological study. The personal equation was never so well shown, and never so dangerous—because respected and not discounted."

The Health of the Tsar.—*The Lancet* says that it has been informed upon excellent authority that there is no foundation for the alarming rumors regarding the health of the emperor of Russia, which have been industriously circulated during the last few months. His majesty does not suffer from any cerebral symptoms, as has been alleged; he is out every morning as soon as it is light, and keeps himself in condition by running a verst (eleven hundred and sixty yards, or about five furlongs), watch in hand, to see that he can do it in his average time. One of his amusements is said to be shooting from a bicycle, and he can bring down a crow even when he is going at a good speed. The accouchement of the empress is expected this month.

The Unreliability of Hydrophobia Statistics.—At a recent meeting of the Paris Academy of Medicine, M. Megnin pointed out that current statistics regarding hydrophobia were entirely misleading, as many dogs were declared mad when they simply had epileptic fits. He added that dogs, like human beings, seemed to be more inclined to nervous diseases than formerly.

The Late Dr. William B. Berry.—At a meeting of the Orange Mountain (N. J.) Medical Society, held March 19, 1897, the following resolutions were adopted:

"*Whereas*, This society has been informed that Dr. William Bogardus Berry died in Pasadena, Cal., in December, 1896; and

"*Whereas*, He was one of the founders of this society and for a number of years did his full share to promote its scientific advancement and social well being; therefore be it

"*Resolved*, That it is with profound sorrow that we have learned of the untimely death of our late associate, and that we desire, as a slight tribute to his memory, to have it recorded that we have never known a purer nor a more sincere man, and that his professional equipment and his private character were such that his membership cast lustre upon this society.

"*Resolved*, Further, that in his death the profession has lost a faithful and accomplished practitioner, his family a wise and devoted husband and father, the community a good citizen, the poor and the unfortunate a ready helper, and the membership of this society a genial companion and a noble and high-minded friend.

"*Resolved*, Further, that these resolutions be inscribed upon our minutes, and that copies of them be sent to Dr. Berry's family, to the *Journal of the American Medical Association*, to the MEDICAL RECORD, and to the *New York Medical Journal.*

"JOHN J. H. LOVE, M.D.
"RICHARD C. NEWTON, M.D.
"THOMAS W. HARVEY, M.D."

The Arizona Medical Association.—The annual meeting of this society was held in Phœnix on February 26th and 27th, under the presidency of Dr. D. M. Purveau of that city. The president's address was entitled "Hereditary Influences." A medical-practice bill, proposed by the Mariposa County Medical Society, was endorsed after full discussion, and is now before the State legislature. It provides for a license to practise medicine, to be granted after the applicant has passed an examining board of five physicians to be appointed by the governor. The next meeting will be held in Tucson, May 17 and 18, 1898. The following officers were elected: *President*, Dr. Charles H. Jones, of Tempe; *First Vice-President*, Dr. George W. Brockway, of Florence; *Second Vice-President*, Dr. T. H. Sabin, of Yuma; *Third Vice-President*, Dr. H. W. Fenner, of Tucson; *Secretary*, Dr. L. D. Dameron, of Phœnix; *Treasurer*, Dr. William Duffield, of Phœnix; *Essayist*, Dr. T. Shields Collins, of Globe.

A New Form of Press Notice.—The story of a diamond robbery has become stale as a form of advertisement for the well-managered actress, but it has been difficult to find an efficient substitute, and it was reserved for the original mind of Miss Loie Fuller to pose as a physiologist in order to call the public's attention to her polychromatic corporeal contortions. She recently came out in an English journal as an advocate of a purely fruit diet, which she prefers even to vegetarianism. The grounds of her preference are lucidly stated as follows: "The sugar in the sweet fruits serves the same end as starch in other things. Starchy substances must change first into dextrin and then into glucose ere they reach the stage dates and figs have already attained. The ripening process has brought them to the condition whereto starch is reduced in the human body. On this development nerve force is exhausted, and the tissues are gradually weakened, all which may be avoided by replacing starchy foods with naturally sweetened ones."

A Pasteur Institute is to be established in Baltimore by the College of Physicians and Surgeons. Dr. John Ruhrah, who has just returned from Paris after a practical course at the Pasteur Institute there, has brought with him several rabbit cords in glycerin and has already inoculated two rabbits.

The University of Maryland, founded in 1807 and one of the oldest institutions in the country, is rebuilding the University Hospital. The new buildings, which will occupy almost an acre of ground, will accommodate one hundred and seventy-five patients and will cost about $70,000. They will be built in the colonial style, to conform as far as possible to the old buildings of the University of Maryland.

The Disposal of Offal by the Reduction System, as now used in the cities of New York and Philadelphia, will shortly be recommended for adoption to the city council of Baltimore by a special committee appointed by it to investigate the subject.

The Ninth International Congress of Hygiene and Demography, which was to have been held in Madrid during the coming autumn, will probably be postponed until Easter, 1898, or else abandoned altogether. A meeting of the committee was held several months ago, at which time it was evident that the original enthusiasm of those who had invited the congress to Madrid had been extinguished by the distress into which Spain has been plunged by her ineffectual efforts to conquer Cuba and the Philippine Islands. If the congress should not be held in the spring of 1898, its session will probably be deferred to the time of the Paris exposition in 1900.

The Doctor Thrown in with the Potatoes.—A correspondent of *The Lancet* sends to that paper the following advertisement clipped from a provincial paper: "Free Medical Attendance and Medicine.—Having succeeded in engaging the services of an eminent and very successful Professional Gentleman, I offer the above to all my customers.—John Andrews, Wholesale and Retail Provision and Potato Merchant, Lincoln Road, Fratton."

Guy's Hospital, in London, made an appeal some time ago for subscriptions for an endowment fund of $2,500,000. In spite, however, of the patronage of the Prince of Wales and of earnest efforts on the part of the committee in charge, only about one-third of the desired amount has as yet been subscribed.

Free Medical Attendance in Belgium.—The physicians in Belgium who receive salaries from the State for attendance upon the poor, are complaining that the term "poor" embraces most of the inhabitants of the districts in which live not only shopkeepers and farmers but the officials as well, that is, the guardians of the poor and the communal councillors. Several of the physicians have made out a list of those to whom they are obliged to give their services gratuitously, but who are well-to-do if not rich, and they protest that if the State robs them of their legitimate *clientèle* it ought to give them a compensatory increase of salary.

Compensation for Notification.—A bill has been introduced into the legislature of this State directing the payment of twenty-five cents for each marriage, birth, or death notice made out and transmitted to the proper authorities in accordance with the existing law.

The Optometry Bill.—According to the *Albany Medical Annals*, no measure relating to State medicine, so far presented in this session of the legislature, has brought forth anywhere near the opposition that this so-called optometry bill has met with. From the moment of its introduction there has been a constant and vigorous fight against it. So far the bill has been given two hearings before the assembly committee on general laws. At each hearing vigorous pleas in opposition were heard. The objections to the bill were chiefly as follows: That none but practising physicians were competent to advise and prescribe for diseased eyes; that there was great danger to the public from irresponsible persons attempting to adjust glasses; that it would license to practise upon an

ignorant public a large class of designing and unskilled men who know nothing, and are not required to know anything, about the diseases of the eye, or the underlying pathological conditions of the body which are often the direct cause of derangements of vision. The Albany correspondent of the *Evening Post* reported some time ago that it was understood the bill was to be killed in committee.

The Spanish Losses in Cuba.—The following harrowing description of the condition of Spanish troops in Cuba comes from Madrid. The latest alarming reports received from Cuba go to prove that the strength of General Weyler's troops has been brought to a startlingly low figure. Fully eighty per cent. of the troops are composed of mere boys from seventeen to twenty-four years of age, who were ordered out to Cuba after receiving from six weeks' to two months' military training in barracks. Each battalion left the Peninsula one thousand strong, yet at the end of November one of them at Candelaria, in the Province of Pinar del Rio, was reduced to three hundred and twenty men, and this is a comparatively high figure; another battalion mustered no more than eighty-two men. One column went to the front having four thousand men, and in a short time it dwindled down to eight hundred men. "The same thing," writes Señor Pena, "has occurred on a higher or lower scale throughout the army." As for the hospitals they are stated to be in a very bad condition. There are, of course, many members of the medical staff who do their very best for the wounded, but their laudable efforts are practically lost owing to the disorganization prevailing everywhere, the want of food, drugs, surgical instruments, beds and bedding in the pestiferous houses and shanties called hospitals, where the wounded are packed together and often exposed to rain, wind, and cold.—*British Medical Journal.*

Pathological Section of the Moscow Congress.—The following are the titles of subjects proposed for discussion before the pathological section: the botanic specificity of pathogenic microbes; the pathology of thrombosis; the origins of different forms of diabetes; the pathology of myxœdema; the rôle of antitoxins in the production of artificial immunity; the pathology of inflammation and the parts played by blood-vessels and parenchyma. All correspondence with regard to the section should be addressed to M. G. Dourdouñ, Pretchistinsky Boulevard, Jerusalemskoe Podvorie, Moscow.

Philadelphia Neurological Society.—A stated meeting of the Philadelphia Neurological Society was held on March 22d, the president, Dr. C. W. Burr, in the chair. Dr. A. A. Eshner exhibited a case of probable basilar meningitis in a man with Argyll-Robertson pupils, absence of knee jerk, uncertain station, impairment of sensibility, optic neuritis with beginning atrophy, a little awkwardness of speech, and unilateral sweating. Dr. Charles K. Mills exhibited a case of rather coarse tremor associated with athetoid movements in a growing girl whose birth had been attended with difficulty; and also a case of nodding and rotatory movement of the head with tremor of the hands, in a man in middle life whose father living at an advanced age was said to present a similar manifestation. Dr. A. A. Eshner exhibited a case of congenital tremor of intention type, unattended with spastic phenomena, speech disturbance, or nystagmus. Dr. A. G. Thomson read the report of an exceedingly interesting and unique case of isolated traumatic bilateral paralysis of the abducens nerve. The lesion was believed to be a laceration or rupture of the nerves from stretching as a result of violence by contrecoup. Dr. Joseph Leidy reported a case of dysphagia and dysphasia resulting from a focal lesion of the internal capsule, and one of profound nervous phenomena from malarial infection; he also read a note on neuralgia of the cranial nerves as a symptom of neuralgia.

The Osteopaths have secured the introduction of a bill in the North Dakota senate, authorizing "any person having a diploma regularly issued by the American School of Osteopathy, of Kirksville, Mo., or any other legally chartered and regularly conducted school of osteopathy, who shall have been in personal attendance as student in such school for at least four terms of not less than five months each before graduation, to treat diseases of the human body according to such system." This new "science" rests upon the belief, so we are assured by those who presume to know, that all disease is due to a fracture or dislocation of some bone, to dislocation of a tendon, or to misplacement or compression of an artery. The treatment of all diseases naturally consists, therefore, in replacing the dislocated structure. It seems to be a sort of widening of the field of the bonesetter. The manipulations of its professors may afford diversion to the cowboy with a pain, but we fear they will meet with little favor with the tenderfoot of the effeminate East.

Brotherly Love in Kansas.—The Regular, Homœopathic and Eclectic State Medical Societies of Kansas are all to meet in Topeka this year, and all at the same time. Some one who is desirous of promoting peace has suggested that a joint meeting of the three societies be held one day during their sessions.

Woman and the Bicycle.—The *Medical Age* of Detroit has become an ally of the *Dominion Medical Monthly* in the fight upon the bicycle for women, as shown in an editorial in the first-named journal. The *Age* follows the same line of argument in substance regarding the "saddle," "pedals," "erotism," "erethism," "orgasms," and like vulgarities. There must be something particularly singular about the conditions prevailing in the beautiful lake cities of Michigan and Ontario that needs investigation.—*Kansas City Medical Record.*

Clinical Reports by Phonograph.—The St. Louis *Clinique* announces that it will hereafter contain reports of clinical lectures recorded by the phonograph. It says very truly that busy "surgeons and physicians will not take the time to write out reports of their lectures, and they are always irritated by mistakes made

by shorthand writers, who generally are not familiar with medical terminology. Now we have them just where we want them. The phonograph tells 'the truth, the whole truth, and nothing but the truth.'" The March number contains the report of a lecture by Prof. Waldo Briggs, received in a phonograph.

Fifty-Cent Hospitals.—There is vigorous war being waged in St. Louis against several hospital associations in that city, which advertise to give medical advice, medicines, and a bed in the hospital to all members of the association who will pay fifty cents per month. From an *exposé* of their methods by Dr. Lanphear (*American Journal of Surgery and Gynæcology*), we extract the following part of a section of the prospectus of one of these: "This association contracts to give you the advice of eminent and able physicians and surgeons when needed, all the medicines you may require for any ailment you may have, or when you are ill or meet with accident to admit you to a first-class hospital, where you will be carefully attended and cared for. The association agrees, in addition to medical and surgical advice and medicine, to provide you with bed, board, and educated and trained nurses, who will give you the most careful attention, and who will see that the medicines prescribed by the physicians are given just as directed by him, and will also render those little attentions so necessary to the sick and injured. You are offered all these advantages for the small sum of fifty cents per month, with the assurance that there is positively no extra charge for anything you may require." Some of the other hospitals are more liberal than this, for they agree to send a physician to the patient's house in case he is confined to his bed and does not care to go to the hospital. The names of some well-known St. Louis physicians are published as being the physicians of these associations, who are ready to treat the subscribers for as much of the fifty cents a month as may remain after the other expenses of the business are paid. We have a "Medical Treatment Company" in New York, but it is an expensive concern compared with the St. Louis hospitals, for the cost of membership is $1 a month, and hospital treatment is not thrown in. If we can judge of worth by price, medical treatment in New York must be one hundred per cent. better than it is in St. Louis.

The Collection of Vital Statistics.—A bill has been introduced into the North Dakota legislature to provide for the collection of vital statistics. The superintendent of each county board of health must obtain and register the usual data concerning births and deaths. The parents must give notice of the births and deaths of their children; every householder must give notice of every birth and death occurring in his house; the oldest person next of kin must give notice of the death of any of his kindred; the superintendent of every institution must give notice of births or deaths occurring in the institution under his charge; a physician must report the death of any person under his professional care; and physicians and midwives must report the births occurring in their practice. For each birth or death reported the county treasurer is required to pay the sum of ten cents, the accounts being settled semiannually.

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on March 25th, the president, Dr. J. H. Musser, occupying the chair. Dr. Joseph McFarland exhibited phleboliths from the pelvic veins of a case of malignant disease; also a heart the seat of malignant endocarditis, with perforation of an aortic leaflet; a spleen with multiple infarction, and a granular kidney. For himself and Dr. J. M. Anders, Dr. McFarland exhibited an annular carcinoma of the sigmoid flexure of the colon. Dr. G. A. Muehleck exhibited a hand that had been amputated on account of carcinoma of the thumb. Dr. D. Riesman exhibited a specimen of intussusception from an infant fifty-four hours old; also a specimen of amyloid degeneration of the suprarenal body. Dr. A. E. Taylor made a verbal report upon the state of the blood in a case of trinitrobenzol poisoning. The red corpuscles appeared not to be destroyed, although their chemic composition gave evidence of being altered. Dr. H. L. Williams exhibited a dermoid cyst removed with the uterus by Cæsarean section from a woman in labor. Dr. J. P. Crozer Griffith made a demonstration of Kayserling's method of preserving the color of pathologic specimens, which consists in the employment of alcohol and formalin, glycerin, potassium nitrate, and potassium acetate, in solution. Dr. D. Riesman exhibited the stomach presenting only amyloid disease, from a case of rumination; also hypoplastic lungs weighing together eleven ounces from a case of meningitis. Dr. A. A. Eshner exhibited for Dr. O. H. Allis a foot amputated on account of suppuration of the ankle-joint.

Bottled Air.—Among the miscellaneous articles in the *North Carolina Medical Journal*, January 5th, we read that a French chemist, Linde, has invented a process for condensing air to such an extent that it will contain seventy instead of twenty-five per cent. of oxygen. It is proposed to bottle mountain and sea air, and furnish it to invalids at their homes. It will be recalled that years ago a Vienna physician treated his patients with the bottled air of mountainous health resorts supplied at their homes. It is to be presumed that the physician profits more than the patient from this method of treatment.

A Railway and Navigation sanitary conference will be held at Brussels, some time in September next. For information address the secretary, Mr. M. J. de Lantsheere, Rue de l'Association, No. 56, Brussels.

The German Surgical Congress.—The twenty-sixth congress of the German Surgical Society will be held in Berlin on April 21st and three following days, under the presidency of Professor Bruns. The questions proposed for discussion are: 1, The surgical treatment of gastric ulcer; 2, the use of the Roentgen rays in surgery; 3, the operative treatment of hypertrophy of the prostate. A report on the collective investigation now being prepared on anæsthetics throughout Germany will be presented.

Reviews and Notices.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, at its Twentieth Annual Meeting, held at the Hot Springs of Virginia September 8, 9, and 10, 1896. Official Report of the Proceedings. 1896.

THIS is in reality a reprint of such of the transactions as were published in the *Journal of Cutaneous and Genito-Urinary Diseases*. Short abstracts of the papers are given, but where the originals are to be found is not indicated; hence the value of the discussions is materially decreased. Those who read the report of the meeting in the RECORD will find little or no need for the official transactions. It is to be regretted that after the somewhat elaborate illustrated reports which the society has been publishing during the past few years it should have been found necessary or expedient to take so backward a step.

HOPKINS' POND AND OTHER SKETCHES. By ROBERT T. MORRIS. G. P. Putnam's Sons. 1896.

THE author of these charming sketches has done a service to his fellows in rescuing the tales from the files of various papers where they were lying buried. They deal with scenes of hunting and fishing, and exert a refreshing and tonic effect, even on one to whom they do not call up personal experiences of a like nature.

THE AMERICAN IN PARIS. A Biographical Novel of the Franco-Prussian War; the Siege and Commune of Paris. From an American Standpoint. By EUGENE COLEMAN SAVIDGE. Second Edition. Philadelphia: J. B. Lippincott Company. 1896.

THIS is an account of the stirring times in Paris a quarter of a century ago, told under the guise of a romance. It is interesting and historically correct in all essentials. We are glad when physicians undertake other than professional tasks to see them fulfil them so well as Dr. Savidge has done in this instance.

STATE BOARD OF HEALTH OF MASSACHUSETTS. Twenty-Seventh Annual Report. Boston: Wright & Potter.

THIS report contains over eight hundred pages, and, as usual, is given up mostly to water supplies, the examination of rivers, disposal of sewage, and statistics. There is a short chapter on the production and use of antitoxin.

THE DISEASES OF INFANCY AND CHILDHOOD. For Use of Students and Practitioners of Medicine. By L. EMMET HOLT, A.M., M.D., Professor of Diseases of Children in the New York Polyclinic; Attending Physician to the Nursery and Child's and the Babies' Hospitals, New York; Consulting Physician to the New York Infant Asylum and to the Hospital for the Ruptured and Crippled. With Two Hundred Illustrations, including Seven Colored Plates. New York: D. Appleton & Co. 1897.

THE author may justly claim for his work that it is limited, as nearly as may be, to the discussion of those affections which are peculiar to infancy and early childhood and to the modifications of diseases as they affect those of tender age. The work is a very extensive one, and indicates a wide field of research, as well as an experience which has been profitably utilized. Naturally, writers on pædiatric subjects have been largely drawn upon, but the author's personality pervades the whole text. In spite of over one thousand pages of text, omissions have occurred, and some branches are not at all exhaustively treated. On the other hand, the chapters on nutrition changes and disorders, the pathology and anatomical lesions of disease, and the clinical observations of a statistical nature are full, and show hospital and dead-house observation of wide range, if not extending over so many years as that of some recent writers on the same subjects. We must bear in mind that pædiatrics as a separate branch is in itself a rather modern specialty, and one who has made as much of it as the author of this work deserves all the credit his work will bring him. Infant feeding and questions of hygiene have been entered into largely, as their importance requires, and all that is new and good in these departments has been carefully presented.

The illustrations are numerous, and have been taken principally from original cases, while those borrowed from outside sources have been selected with good judgment.

As a whole, the work is to be looked upon as a rich contribution to the literature of infantile symptomatology, pathology, and therapeutics. Its real utility centres in its practical character and its wide adaptability to the needs of the general practitioner.

OVER THE HOOKAH; THE TALES OF A TALKATIVE DOCTOR. By G. FRANK LYDSTON, M.D., Professor of Genito-Urinary Surgery in the Chicago College of Physicians and Surgeons; Professor of Criminal Anthropology in the Kent College of Law, etc. Fred Klein Company, Chicago.

WE have read with much pleasure the interesting and well-told stories in this book. It is not always that a good *raconteur*, such as the author is known to be, is equally facile with his pen and can put his stories on paper without spoiling them. But this Dr. Lydston has succeeded in doing. The stories are naturally not all of equal merit, and most of them, like nearly everything that is written, would be improved by condensation. But they are entertaining, and will help, when read, as they were told, to an accompaniment of the bubbling hookah, to tranquillize many a brain wearied with life's little (or great) anxieties. The writer is an ardent devotee (we trust not slave) of Nicotiana, and each story is preceded by a metrical invocation to the object of his cult.

Clinical Department.

OPERATION FOR OBSTRUCTION OF THE BOWELS.

BY J. D. BUDD, M.D.,

TWO HARBORS, MINN.,

CHIEF SURGEON, DULUTH AND IRON RANGE RAILROAD.

AT 9 P.M., December 24, 1896, I was called by Mr. S—— to see his son, a boy, sixteen years of age, who the father said was suffering with cramps, vomiting, and inability to pass urine. On arriving I found the patient in great pain and unable to keep anything on his stomach. After examination I told the father that I thought the trouble due either to obstruction of the bowels or impaction of fæces, and the inability to pass his urine due to the pressure of the obstructing mass against the neck of the bladder. I ordered enemas of soap and water, and remained to aid in the giving of them. After one or two injections had been given we got a few scybalous masses and the patient passed urine. I then gave enemas of sweet oil, glycerin, and water, at intervals of half an hour, until the scybala were all removed and no nodular masses could be felt. At this time, two o'clock at night, he passed a very little flatus, and I felt so encouraged I gave him a dose of Carlsbad salts in hot water and went home.

On Christmas Day I called to see the patient and found that he had had no further movement of the bowels, that he was still vomiting and suffering greatly. I gave one or two large enemas, without result. About noon the stercoraceous character of the material vomited convinced me that the obstruction was complete and an operation absolutely necessary.

The parents consenting, I telegraphed to Dr. A. C. Taylor, of Duluth, to come to Two Harbors immediately and assist me in the operation. Dr. Taylor agreed with me as to diagnosis and the imperative need of an immediate operation. It was nearly midnight when all preparations were completed. Dr. C. A. Anderson gave the ether, and Dr. Taylor assisted me in the operation. We made the incision in the median line below the umbilicus and entered the abdominal cavity. We found the obstruction in the ileum at Meckel's diverticulum, about two feet from

the ileo-cæcal valve. There was a large perforation in the diverticulum, and in nature's attempt to wall it off a large quantity of inflammatory lymph was thrown out, with the result that the two loops of intestine were adherent for several inches, completely covering in the perforation and producing the obstruction. As soon as the adhesions, which were evidently of recent date, were broken up and the ileum was straightened out, the contents of the bowel began to pour out through the perforation. I immediately grasped the bowel at this point and covered it with my thumb, while Dr. Talyor resected about six or eight inches of the inflamed ileum that caused the obstruction. After examining the appendix, which was perfectly normal, and assuring ourselves that there was no further trouble, we united the two ends of the bowel with the Murphy button, replaced the intestines, and closed the abdominal wound. The patient was on the table one hour. Temperature at time of operation was 103° F., and in less than twenty-four hours it was normal; pulse, 99.

December 26th, 27th, and 28th, under one-fourth-grain doses of morphine every eight hours, the patient rested fairly well. The third day after the operation, on insertion of the long rectal tube, he passed the first flatus. Temperature, 100° F.; pulse, 80, full and strong. Liquid diet.

On December 29th flatus was passed freely and there were two very slight movements of the bowels. Temperature, 99° F.: pulse, 80. The bowels moved several times each day up to January 3d.

From January 4th to January 9th the bowels did not move, neither did the patient pass flatus, and during this interval the patient suffered intensely with colicky pains. There was no tympanites at any time and the pains seemed to be due to peristalsis. I passed the long rectal tube and gave a slight enema, but it could not be retained. Dr. Taylor came up on the 6th, and we gave the patient chloroform and passed the high rectal tube, and gave an enema of two and one-half quarts of water. It was not retained and we repeated it immediately, with better results. A slight amount of flatus was passed, and considerable amount of mucus came away with the water, but no fæcal matter. Temperature, 100° F.: pulse, 86.

On January 7th, there being no tympanites and the patient suffering from colicky pains, I administered choroform and gave another large enema of two and one-half quarts of water, with no better results than before. There was some mucus in the water, which was slightly stained with fæces. Temperature, 98° F.: pulse, 80.

The following day the condition was the same, with the exception of nausea and vomiting, which we attributed to the chloroform.

January 9th was the turning-point. He had, during the day, ten good and thorough movements of the bowels, and from this time on he did not have a particle of pain or a bad symptom.

On January 13th, after four days of liberal diet, I gave him an injection without chloroform, and he had a good and thorough movement of the bowels and passed the button.

There were two special points of interest in this case: First, the very large diverticulum with perforation, which resembled the perforation often found in the appendix. This perforation was about one-third of an inch in diameter. Second, the intense colicky pains with which the patient suffered from January 4th to January 9th.

We wrote to Dr. Murphy, inquiring the probable cause of these severe pains, and received a reply from him stating that he considered them due to peristalsis as the button was moving from the point of anastomosis to the colon. This we found to be the case.

At this date, January 27th, the patient is perfectly well and able to be about.

The *sine qua non* in obstruction of the bowels is an early diagnosis and operation. If opiates are given, the symptoms are masked and diagnosis is made too late to save the patient's life.

GUNSHOT WOUND OF THE KIDNEY.

By U. S. BIRD, M.D.,

TAMPA, FLA.

On the night of December 5, 1896, I was called to see a negro man with a history of having been shot. On my arrival I found a man apparently about forty years old, in good physical condition. His temperature was normal; pulse between 70 and 80. He complained of a pain in his right side. On exposing him there was seen a small wound on the right side, below the margins of the false ribs. In the back was another wound similar to the first, and occupying the same relative position. There was some tenderness in the regions of the wounds, but no general abdominal pain or distention. His clothing was stained with blood, which was still oozing from both wounds. He gave a history of having been shot about 6 P.M. on the same day, his assailant being distant some ten or twenty feet in front of him. On receiving the wound he wheeled around, but did not fall. He walked to a physician's office, received some advice, and then went to his home, where I found him about 10 P.M. When I saw him he was in pain, but suffering less than he had been. He had never vomited, but I learned that his bowels had moved several times, the movements being in great part liquid blood. The vessel had been emptied, so that I had no opportunity of seeing the contents. In view of the history, I gave a serious prognosis, and advised an operation as the only treatment which offered a reasonable chance for recovery. Owing to the unseasonable hour and the surroundings, an operation was impracticable then, but I left general directions for preparation, and promised to attend to him as early as possible next morning. Before leaving I gave him hypodermatically one-fourth grain of morphine sulphate and one-one-hundred-and-fiftieth grain of atropine sulphate.

Next morning the preparations were completed by 10 A.M. The patient's condition was better than when I first saw him. He had a slight elevation of temperature, pulse and respiration were normal, and the other symptoms were improved. Had it not been for the history I should have declined to operate. As a precaution a catheter was passed, and about an ounce of clear urine was drawn. With the assistance of Drs. W. P. Lawrence and B. G. Abernethy, I began to operate. A free incision was made in the median line. The abdominal contents were carefully examined, but no injury was seen. In order to avoid neglecting anything in the cavity which could by any chance be wounded, a lateral incision in the direction of the ascending colon was made, and the cavity and contents were again carefully inspected, with a negative result. Near the flexure at the upper part of the ascending colon an extravasation was seen behind the peritoneum, but no wound was found in the peritoneum. The search was finally abandoned, and the abdomen was closed. We were in much doubt as to the injury sustained and the result. Undoubtedly the extravasation was due to the injury inflicted by the bullet, but we could only speculate as to what other harm had been done. We thought it probable that the posterior surface of the ascending colon might have been injured, accounting for the reported appearance of blood in the stools. In that case we concluded that the worst re-

sult would be a fæcal abscess, which would discharge through the bowel, and, in view of what had been done, it was best to let it alone.

After the operation the man's condition was good, there being but little shock. About 4 P.M. I found him doing as well as could be expected. Temperature, +99° F.; pulse, about 80; respirations, about normal; no nausea. Before my arrival he had been in much pain, but was easier when I saw him. I repeated the morphine, and left directions for his care during the night. About 10 P.M. I was told by telephone that he had died suddenly a few minutes before, after an apparently convulsive seizure.

About 9 A.M. next day I made a post-mortem examination, Dr. Lawrence assisting, and Dr. Abernethy arriving just after the examination was finished. The bandage was bloodstained. On opening the abdomen the peritoneum presented a normal appearance. There was a small quantity of bloody liquid in the pelvic cavity. The original incisions were enlarged and the abdominal contents were carefully inspected, no peritoneal lesion being seen. The entire surfaces of the colon and duodenum were then exposed, no injury being found. The post-peritoneal extravasion was now examined, the connective tissue and blood composing it being torn away. When this was removed it was seen, to a great extent, to have surrounded the right kidney. When this was liberated it was found to have sustained a penetrating wound near the centre of the anterior surface, the bullet destroying that part of the organ and laying it open to its outer or right border. The pelvis was not opened.

The case is interesting because of the difficulty we had in making a diagnosis. The blood in the vessel was from the kidney, and could probably have been recognized as such if we had seen the dejections. The presence of clear urine in the bladder, however, completely misled us. That urine was drawn about sixteen hours after the infliction of the injury, a point it may be well to keep in mind in suspected wounds of the kidney. Another fact of interest is that the anterior surface of the kidney was penetrated from the front, and the peritoneum was not injured.

THE CLINICAL HISTORY OF AN ANENCEPHALOUS MONSTER.

By MARK I. KNAPP, M.D.,

NEW YORK.

With the following history I hope to contribute a clinical picture which may suggest a slight hint as to the etiology of the subject of this article.

Mrs. Fanny K——, aged eighteen years, married six months, came to me on November 4, 1894, with the following history. She aborted seven weeks ago, at about her eighth week of pregnancy; is now three weeks past her last expected menstruation, and complains of frequent micturition, has fainted twice, vomited, has headaches, pain in the left iliac region; bowels regular.

On April 1, 1895, I was called in to see her about 2 P.M. She then had pains about every half-hour. On examination I found the os allowed my examining finger with much ease, but was too small for two fingers. I advised rest in bed, and gave her opium. I was called in again on the following morning at about eight o'clock. The pains had become more frequent. Upon examination I found the os to be well dilated, greater than the size of a silver dollar. Having now satisfied myself that labor had set in, my next step was to diagnose the position of the child. Here I met a stumbling-block. Hard as I tried, I could not determine it, either by internal or external manipulation. Aside from a large, full abdomen, visual examination revealed nothing abnormal. The vaginal examination was successful in a negative way, namely, in proving that it was not the head that presented. Through the intact membranes I felt a body of the shape of an obtuse cone, which receded from my fingers as I tried to make out its nature. The abdominal examination gave me much less information as to the position of the child. Palpation elicited pain of different gradation, with the acme in the right iliac region, where even lightly touching the skin made the patient give unmistakable symptoms of great tenderness. Auscultation gave the placental bruit on the left side below the umbilicus, but of the fœtal heart I could not discover the slightest sound. I now waited, examining the patient vaginally occasionally, only to assure myself that the labor was slowly progressing. At 12:30 P.M. the membranes ruptured. A large amount of amniotic fluid escaped. Near the posterior commissure a cone-shaped body appeared, in front of which was a bladder-like structure of a greenish-yellow appearance, with fluid in its cavity. What was it? Meditating over the possibilities, to my horror this structure burst, ejecting a fluid of the color and consistency of urine. Was it urine? Had the patient's bladder ruptured? To increase my distress, a piece of that structure tore off. I smelled the ejected fluid—no urinous odor. I now examined the piece of the membrane that was torn off. It was of a light yellowish color, merging into green, translucent, waxy looking, and in consistency it was neither hard nor soft nor gelatinous. It looked very peculiar for the bladder, but what else could it be? For, although the fluid did not smell like urine, yet its color seemed to betray it. In my despair I sent for another physician, but before assistance came the fœtus was expelled and the entire phenomenon was explained. The cone-shaped body was the right knee of the fœtus, and the bladder-like structure in front of it the partly macerated abdomen of the fœtus. The macerated abdominal wall was cut by the anterior commissure of the vulva, which acted like a sharp knife, and through the divided abdominal wall protruded the enlarged liver of the fœtus. The placenta came rapidly enough, and, when I tried to extract the membranes by twisting them into a cord, a gush of blood caused me to introduce my entire hand into the uterus, in the absence of other means to still the hemorrhage. Assistance now came, and what seemed to be another placenta was expressed. Again going into the uterus, a piece of placenta was found adhering to the right side, the same side that caused the patient to have so much pain, which at that time suggested to me the possibility of local peritonitis, which certainly was present. The piece was removed and the uterus washed. The placenta was of a brown color merging into gray, of a very friable consistency and diseased.

Now as to the description of the fœtus: The body in length is nine and one-half inches, and quite fat. The face ends at the orbital plate of the frontal bone. The cranium is absent, and its place is covered with a thin, reddish-brown membrane, which was adherent to that part of the placenta which adhered to the uterus. The upper extremities are normal. There are syndactylus of the fourth and fifth toes of the right foot, ascites, and an enlarged liver of the following dimensions: transverse diameter, two and three-eighths inches; longitudinal diameter, two and three-fourths inches; antero-posterior diameter, one and five eighths inches. A microscopical examination of the liver showed interstitial cirrhosis. Spina bifida.

The treatment during the puerperium was chiefly (the record of her temperature and medication was lost) a hot-water bag constantly for five days, vaginal injections, some quinine, and a little opium. On the

third day after her confinement symptoms of septicæmia developed, but were fortunately combated. For two weeks she was confined to her bed, and made a good recovery. On May 19th she visited me and showed me the peeling off of the skin of her abdomen and her legs, which she stated had commenced during her confinement.

In seeking the cause of such a monstrosity, syphilis suggested itself, but both direct and indirect examination of both parents revealed nothing of more significance than a former simple gonorrhœa of the youthful husband.

Being a preacher of abstinence, I counselled the young couple to exercise self-denial, with such exceedingly good effect that exactly eleven months later, on March 2, 1896, I delivered the same patient of a healthy boy.

Could not the entire phenomenon of anencephaly, together with its pathological conditions—viz., the local peritonitis on the right side, the adherent placenta on the right side, the head of the fœtus adhering by a thin membrane to the right side, and perhaps the syndactylus on the right side, all appearing on the right side without any organic lesions traceable in either of the parents—be plausibly considered as the effect of an appendicitis during pregnancy, the symptoms of the appendicitis having been masked by symptoms of pregnancy?

CHOLECYSTENTEROSTOMY FOR MALIGNANT DISEASE, WITH UNEXPECTED RESTORATION OF FUNCTION.

By F. H. PECK, M.D.,

UTICA, N. Y.

The facts that we are taught not to operate in disease of the gall bladder accompanied by pronounced cholæmia, and that in cases of complete and prolonged occlusion of the cystic duct resulting in an accumulation of clear limpid fluid (probably decolorized bile) a restoration of function is precluded, lead me to report the following case, in the belief that its results are unique:

Mr. Edward H——, of Boonville, N. Y., aged sixty-six, native; admitted to Dr. Booth's service at St. Luke's Hospital, Utica, N. Y., October 20, 1896, giving the following history: About ten months prior to admission he began to suffer what he describes as gnawing pains in the epigastrium, together with progressive emaciation, though possessed of a good appetite. About six months later he commenced to develop jaundice, and noticed a tumor forming in the right hypochondrium, the epigastric pain increasing and extending into the region occupied by the tumor. He states that in the interim he has taken ten grains of calomel daily, and, in the aggregate, seven pounds of phosphate of sodium.

Status præsens (at date of admission): He is a tall, haggard man; height, six feet in stockings; weight, one hundred and nineteen pounds; intensely icteric over the entire body, with marked cachexia; gait feeble and uncertain; skin covered with nail marks, self-inflicted for the relief of the intolerable itching; with mental hebetude, subnormal temperature, ranging from 97° to 98° F., and only once during the week prior to operation becoming normal; pulse, weak in character, 64 to 68 in rate. On uncovering his abdomen a prominent tumor is noticed, protuberant beneath the thin abdominal walls, extending from the right hypochondrium to below McBurney's point, pear-shaped in outline, its lower extremity freely movable beneath the abdominal parietes, its upper extremity attached firmly to the lower border of the liver. The liver is enlarged markedly downward, its lower margin being about two and one-half inches below the free border of the ribs.

Diagnosis: Cancer involving the ducts, possibly complicated by biliary calculi.

The patient's condition was frankly explained to him, and the statement made that operation would be hazardous and with little prospect of relief other than what might result from emptying the distended viscus. He answered that he was willing to accept the hazards of operation for the small promise it held out, as his life was now too truly miserable for him to care to prolong it under present conditions.

On October 27th operation was performed by Dr. W. H. Booth, assisted by Drs. Peck, Stump, and Campbell, with a view to making a cholecystenterostomy. Section was made over the tumor from the hepatic margin to below McBurney's point. All the tissues were deeply jaundiced, the omentum looking like a yellow rag. The tumor was lifted out of the incision, tapped with a cannula and trocar, drawing off over a quart of bile, which by long retention had clarified itself of its coloring matters, all of the first portion drawn off being clear and limpid as water, while that in the bottom of the sac was full of precipitated flakes, of the color and appearance of coffee grounds. The walls of the gall bladder were healthy, and the viscus was firmly attached to the inferior surface of the liver throughout their region of contact. The liver was hard, almost cartilaginous in consistency. The region surrounding the ducts was a hard cancerous mass, and a tumor the size of a large hen's egg was felt in the adjacent mesentery. The gall bladder was incised and a Nélaton's probe was passed within, directly backward toward the spinal column, to a distance of between seven and eight inches, without encountering calculi. In view of the fact that the bile had been imprisoned long enough for a separation of its elements to occur, with probable occlusion of both hepatic and cystic ducts, the question was discussed whether it would not be better to make a biliary fistula at the incision of the abdominal wall, abandoning the idea of anastomosis with the intestine; but as the patient was bearing the operation well, and as the anastomosis would not greatly increase the hazard, and emptying the distended bladder might alter the anatomical relations sufficiently to allow the admission of bile again, it was decided to complete the operation as originally proposed. With a good deal of difficulty a loop of small intestine was found and brought outside the incision. Anastomosis was easily made with the smallest Murphy button, supplemented with a number of Lembert anchoring-sutures of fine silk; the viscera were returned to the abdominal cavity, the abdominal incision was closed with silkworm gut without drainage, dusted with iodoform, and the usual dressing applied.

The patient left the table with a good pulse, rate 75, and no apparent shock; recovered from ether without nausea, received one-fourth grain of morphine sulphate by hypodermic, and slept seven and one-half hours.

From this time his recovery was as surprising as gratifying. His temperature touched 101° F. for a brief period on October 28th, and after that ranged between 98.6° and 99.6° F. October 31st he was given two drachms of magnesium sulphate by the mouth and one and one-half ounces by enema, followed by two fæcal evacuations, the latter being bile stained. The cutaneous itching, which had been extremely annoying prior to operation, had nearly ceased at this date, and the icterus was already markedly fading. From this date he has had daily bile-stained evacuations. The abdominal sutures were removed on the tenth day after operation, the wound being thoroughly healed, and on the following day he passed the Murphy button per

rectum. He was allowed to be out of bed from the fourteenth day, when his jaundice had almost entirely cleared up. He was in a weak, listless, and apathetic condition until near the end of November, though he was sitting up and walking about the ward and slowly reawakening to an interest in life. Since early in December his mental and physical condition has shown great improvement; he has been out of doors and about the streets, and perfectly comfortable, save for recurrences of the epigastric pain due to the malignant growth. This pain is entirely controlled by infrequent doses of one-fourth grain of morphine. Up to date, January 13, 1897, he has had no return of the jaundice and the faces continue stained with bile.

It has been the good fortune of the writer to have had this patient under observation so long since his recovery, from the fact that he has no home to which he can return.

EUCAINE IN ATROPHIC RHINITIS.

By THOMAS H. SHASTID, A.B., M.D.,

GALESBURG, ILL.

Eucaine, unlike cocaine, possesses the property of dilating the vessels of the nasal mucous membrane. This vascular dilatation I have often noted, and I have found that it begins promptly, that it is well marked, and that it lasts a long time. Reflecting upon this effect of the drug, and upon the further fact that in atrophic catarrh the nasal mucous membrane is thin, pale, and poorly supplied with blood, I thought that possibly eucaine might be of service as a means of treatment in this disease. I accordingly tried it in a number of cases, of which I report only one, seeing that that one is typical of all.

Woman, aged thirty-five. Had had atrophic rhinitis since childhood. Had been treated before, and was using, at the time she came to me, a spray of Dobell's solution. The nasal mucous membrane was exceedingly thin and parchment-like. A five-per-cent. solution of eucaine was applied freely every day for three weeks. Under this treatment the mucous membrane became fuller and more vascular. The formation of crusts was much diminished, so that the Dobell spray did not need to be used with anything like the former frequency. The use of eucaine was continued three weeks longer, but no further improvement took place. Massage by means of Freudenthal's vibrator was then applied for two months, and the ultimate result was highly gratifying, crust formation being kept in abeyance merely by the use of Dobell's solution every second or third day.

In the other cases, improvement was no less marked than in the case reported. It is worth while to note also that in every case such results as could be secured by eucaine were secured in a very short time, after which further good results could indeed be secured, but only by the application of other means of treatment. The ultimate results in every case were unquestionably better than in any case I have ever treated in which I did not use eucaine.

At the last meeting of the American Laryngological Association, Dr. G. A. Leland recommended the use of cocaine in the treatment of the disease under consideration. But the hyperæmia caused by cocaine is only secondary, and, moreover, is not very strongly marked, while the increase in blood supply following the use of eucaine is very decided, and presents itself both early and late. Furthermore, in the use of cocaine there is vastly greater liability both to acute poisoning and to the formation of a disastrous drug habit.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting April 1, 1897.

Edward G. Janeway, M.D., President, in the Chair.

The Relation of Diseases of the Skin to General Conditions.—Dr. L. Duncan Bulkley read the paper. Brief mention was made of the advantages and necessity of dividing medicine into specialties. This, however, too frequently resulted in narrowness of thought and practice, especially, Dr. Bulkley thought, in connection with diseases of the skin. Lesions of the skin were too often regarded as specially local, unconnected with the condition of the general system, even when they were largely or entirely dependent upon this. The feeling was commonly shared by the patient, who frequently said he was quite well except for the skin lesion. Considerable support was given this view by the effects of local treatment, for benefit might result from such treatment even when the cause of the trouble was at a distance or systemic.

But there were certain lesions of the skin which were purely local, among which were atrophic and hypertrophic diseases, new growths, animal and vegetable parasitic diseases, etc. But even in these attention would reveal elements to which the broad principles of general medicine should be applied. A striking example of this was ringworm in children, which yielded much more readily to local treatment when certain internal agents were employed.

The facts mentioned were emphasized by citation of analogous ones seen in the vegetable kingdom. It being observed that peach trees did not bear fruit because of a parasite on their leaves sapping their vitality, the leaves were sprinkled with a poisonous fluid. But the success was not so great until the roots were given strength by special fertilizers. At his country home was a pear tree which brought little fruit to perfection on account of parasites. He experimented by picking and casting away a considerable proportion of the young fruit, and it was then noticed that the remainder went on to attain large size and to ripen. In both of these instances the disease was local, parasitic, but the trees were better able to resist the parasites because better nourished. Illustrations might be multiplied indefinitely, showing the resisting power of health over disease. Yet the principle seemed to be little applied by doctors in the treatment of the diseases of the skin. There was a very general exception, however, in favor of one drug in constitutional treatment, namely, arsenic. It would surprise many if he were to state to what extent this agent was administered by general practitioners in skin diseases, and yet it was used little by dermatologists, because it was seldom indicated.

The proper treatment of the diseases of the skin required the widest knowledge of general medicine. The author pointed out some aspects of the question as they had presented themselves to him in daily practice. Out of over ten thousand cases of diseases of the skin, Dr. Bulkley had found that six thousand required more or less general treatment in addition to local treatment. The remaining two-fifths belonged to new growths, parasitic diseases, etc., which required only local treatment.

The general conditions associated with the skin diseases and giving indications for treatment were connected with certain organs: 1, The digestive organs; 2, the liver; 3, the kidneys; 4, the nerves; 5, the circulation; 6, the respiratory system; 7, the sexual

system; 8, such general conditions as anæmia, gout, rheumatism, syphilis, malaria.

Perhaps the examples of closest connection with the digestive system were urticaria and acne, as shown by the results of treatment directed to the digestive tract. The author also named eczema, pruritus, and falling of the hair. Primary atonic or fermentative indigestion was not uncommon, but not so frequent as secondary or intestinal indigestion. The condition of the tongue was a valuable guide. Constipation was frequently present, although it might not be recognized by the patient. The bowel might be distended with waste matter, even though a movement took place every day. Liver disturbance played an important part in skin diseases. The value of nitric acid and calomel need only be recalled to appreciate this point.

Careful investigation of the renal function should never be neglected. Functional disturbances were more frequent than organic lesions. There might be transient albuminuria or glycosuria. The urea was a very important element, and must be considered in connection with the daily quantity of urine. Many patients suffering from skin affections showed insufficient kidney secretion. Haig and others had pointed out the important relation existing between the uric acid and various affections, the truth of which could be accepted without admitting all of their claims.

The condition of the skin itself, independent of the lesion in question, was to be considered—its harshness, its dryness, tendency to perspiration, to eruption. The amount of subcutaneous fat, the gain or loss of weight must not be overlooked.

In speaking of the nervous system, the author said it would often be found impossible to effect a permanent cure of skin affections without a sufficient amount of refreshing sleep. Sleeplessness was often connected with poor assimilation and disturbances of the circulatory system. Headache was very common in cases of skin affections, and neurasthenia or general nervous debility was often met with, and must be overcome as far as possible in order to obtain best results.

The part played by the circulatory system became evident from the value of digitalis or aconite and related drugs in certain cases. Palpitation, and flushing of the head and extremities, as well as cold and clammy hands and feet, were associated symptoms which required attention.

The respiratory system deserved special attention in connection with tuberculosis, lupus, etc. Among the associated diseases of the respiratory system were asthma, bronchitis, affections of the upper respiratory tract. Some of these alternated with skin affections, like eczema and acne. One should heed the condition of the breath.

A striking illustration of the relation of skin affections to the sexual system was seen in acne, which was so frequent at the age of puberty. A further illustration was the increased eruption at the menstrual epoch. Then there was gestation herpes, which disappeared with emptying of the uterus. Leucorrhœa acted directly when it produced pruritus or an eruption of the vulvæ, and indirectly by causing anæmia. Masturbation might be the cause of acne.

Finally, Dr. Bulkley mentioned the frequency of the conditions or diseases found in the eighth class as aggravating or causing skin affections—anæmia, gout, rheumatism, syphilis, etc. The uric-acid state, or lithæmia, was shown to have a probable relation to rheumatism by the benefit derived from salicylate of sodium, and with that benefit there was a happy effect upon the associated skin affection. Syphilis was recognized as a cause of nearly ten per cent. of all cases of skin diseases appearing at clinics. Modern treatment of this disease had largely diminished its ravages when present as a lesion of the skin. Regarding malaria, it was unquestionably true that certain cases of urticaria yielded best to quinine. Besides, malaria produced anæmia.

The author hoped he had shown the error of relying too much upon local remedies, and the necessity for the dermatologist as well as for all other specialists to be well informed in general medicine if they would succeed in the highest degree.

Dr. Louis A. Duhring, of Philadelphia, present by invitation, said he had become convinced more and more each year and each decade of the practical value of the principles enunciated in the paper. No doubt all present could give interesting clinical testimony, but the breadth of the subject necessitated the treatment of it in a general way. He was quite in accord with what had been said regarding the various systems and the part they took in diseases of the skin. The nervous system in particular had always impressed him as being a very potent factor in the production of the varied lesions of the skin. The literature of the past twenty years contained a vast amount of clinical material demonstrating this. In some instances the skin disease depended directly, in others indirectly or reflexly, upon the condition of the nervous system for its origin. An example was that of a girl of twenty-five years, who burned her wrist: the wound healed in two or three weeks, but subsequently a bullous and vesicular eruption appeared, which would not heal. In the course of two or three years marked trophic changes took place, and pains extended up the arm. The other arm became similarly affected, and a gangrenous condition developed. His efforts and those of his colleagues were without avail. Finally it occurred to him that the rest treatment might be tried; a friend took her into his institution, and after about two months she was well, except for occasional pains. Thus what had been considered a hopeless case was cured by rest and nutrition, without the aid of local treatment.

The author had spoken of the circulatory system, but had said little or nothing about the condition of the circulating fluid. When he was a student, blood diseases were spoken of only to show that there was nothing in them. But we had learned the last five years or more that there was a great deal in the blood, and there was still a great deal more to learn. He had in mind more particularly the toxæmias. These took a very important part in cutaneous pathology, particularly in erythema multiforme — an affection which he felt convinced depended upon a general, not upon a local condition. Then the list of known infectious diseases which gave rise to cutaneous lesions was growing rapidly. Pityriasis rosea, which was often mistaken for syphilis, belonged, he thought, to the diseases which had a general cause. A man was brought to him with lesions of the skin which had been regarded as leprosy, but Dr. Duhring expressed the opinion that it was dependent upon some malignant disease, although none was apparent. The patient died after three or four months, and autopsy revealed malignant disease of the pancreas and adjacent structures. Here the skin (of the upper extremities) was first to give a hint of hidden malignant disease of internal organs. Again, a physician had the scaly eruption of psoriasis, which resisted all treatment, and finally he became bedridden. He was told to take a two weeks' ocean voyage, but without any expectation of benefit; yet it resulted in disappearance of the eruption and placing him on his feet in two weeks' time. This without any medicine.

Dr. A. Jacobi mentioned the frequency of erythema in intestinal disturbances. Auto-infection in children and adults, with low fever sometimes extending over weeks, was often accompanied by erythema. Irrita-

tions of the sexual organs in females had long been known to be a cause of cutaneous eruptions. It had been stated by Lawson Tait that seven per cent. of laparotomies had been accompanied by cutaneous eruptions. There was only one way of curing eczema of the vulva in diabetes, namely, to cure the diabetes or put the vulva beyond the reach of the urine. In hysterical conditions we frequently found the skin dry, the hair dry and fragile, a change in the perspiration. Here we found skin eruptions; likewise in chlorosis, and connected with menstruation. Pregnancy often developed chloasma. Comedones, which appeared during puberty, were attributed by Dr. Jacobi rather to a bad habit which was common at this age, namely, masturbation.

Dr. Edward B. Bronson thought it should go without saying that the specialist must also be a doctor. In approaching skin diseases we must look for the principal etiological factor. From his point of view the cases could be divided under three heads: 1, Those in which the cause was reflex from some interior organ; 2, those which depended upon some malnutrition or inherent debility; 3, those which depended upon some external cause, like insect bites, etc. It seemed to Dr. Bronson that most importance attached to the local treatment of the disease. Even in cases falling under the first head, diseases which were symptomatic or dependent upon some general derangement, the removal of the latter was not sufficient to effect a cure of the skin lesion after this had become chronic, but local measures were also demanded. In rosacea the condition of the face might remain after the stomach irritation had been cured. Irritation of the sexual organs had been charged with the causation of acne at the period of puberty. But there were certain trophic changes going on at that period, certain alterations in the anatomy of the parts, which had much to do with the case. This was the period when the corneal structures of the body were growing rapidly. Comedones were not simply sebum; they contained a multitude of vegetable parasites, etc. They had not to do with dyspepsia or bad habits, but were due to the irritation of a foreign body, whose influence might extend to the production of pus—the pustular form of acne. In psoriasis, who would stop to give quinine or internal remedies? Local treatment was demanded. In the vast majority of cases chrysarobin produced immediate temporary benefit.

Dr. W. H. Draper said he had been much interested in the diseases of the skin the past twenty years. It was to their study that we were indebted for many facts in pathology and therapeutics. Some years ago, when he had lectured upon skin diseases, he would frequently say to students that he thought it not improbable that some day we would find many diseases, then regarded as constitutional or as depending upon known causes, to depend upon some particular poison. This fact had come to be demonstrated. Indeed, the whole pathology of septic diseases was a parasitic pathology. Many diseases treated by laryngologists, ophthalmologists, and other specialists were now admitted by them to be correlated with internal morbid conditions. An aurist had recently told him that many cases which he formerly treated locally he now found much more easy to control by attention to the general health. Most doctors, he believed, had rather a narrow conception of the cutaneous integument. From a broad point of view it should embrace the mucous integument, and he had found it most interesting to observe the analogy between affections of the mucous membrane and affections of the skin. In relation to some constitutional diseases this analogy was of vast importance. Dr. Bulkley had spoken of the relation of affections of the bronchial mucous tract to skin affections. Dr. Draper would extend it to the intestinal mucous tract, whose affections not infrequently alternated with those of the skin. This was observed, for example, in gout. In gouty families there was great vulnerability of both cutaneous and mucous integuments. He was not sure that many milder forms of cutaneous lesions were not dependent upon the gouty or lithæmic diathesis. Regarding the statement that acne was dependent upon masturbation, he thought it was hardly fair to many young people. He was more inclined to agree with Dr. Bronson, that it was due to a physiological change which occurred about the age of puberty. One author had spoken of acne as occurring at the age of chastity. Dr. Draper thought there was not much danger of exaggerating the constitutional element to the exclusion of the local in the treatment of skin diseases. While both should receive their due amount of attention, there were many cases in which, if he were limited either to local or to constitutional treatment, he would choose the latter. Eczema in children was likely to be connected with too free indulgence in sugar and starchy foods—the carbohydrates. The influence of the nervous system upon the cutaneous surface was seen in herpes zoster and in the glossy skin in neuritis.

Dr. R. W. Wilcox thought we had come to the point where it was necessary to separate cases of disease of the skin into two classes—those which indicated a disorder of the skin itself, and those which were symptomatic of internal derangement. While it was true that dermatologists had probably overlooked general causes, it was equally true that internalists had often overlooked local causes. The two should come together, that we might arrive at a clearer conception of how far internal or general treatment on the one hand and of local treatment on the other was indicated. The influence of serum treatment pointed to a general condition in the etiology of erythema and urticaria in many instances, and he thought it would come to be shown that these were usually symptomatic of internal rather than of local disease. No doubt all had observed eczema alternate with gout and lithæmia. Its relation to the urinary function had properly been pointed out by the author. Dr. Wilcox thought it was necessary in some cases of skin disease to place chief dependence upon internal treatment, in others upon local treatment, in still others upon a combination of the two.

Dr. Bulkley said he was glad Dr. Bronson had made a strong contention for local pathology. But a reference to the figures given in his paper would show that he (Dr. Bulkley) had not overlooked the fact that in many cases the cause and the treatment were chiefly or entirely local. On the other hand, it had been his purpose to direct attention to that other large class of cases in which general treatment was demanded. In this he had been ably supported by other speakers. Regarding infantile eczema, local treatment alone, unaided by attention to the internal causes, would utimately result only in more frequent and more rebellious attacks. He also disagreed with Dr. Bronson regarding psoriasis; chrysarobin gave only temporary relief, but the disease was not incurable, for in many cases continued attention to the diet and general health effected permanent cures.

The Health Board of the Greater New York.—Dr. A. Jacobi, who at the last meeting had moved to lay the report of the committee on the subject of the health department in the charter of the Greater New York on the table, now moved to take it up and adopt it, together with a few additions which he had suggested at the former meeting. The report of the committee and of the two sections of the proposed charter which Dr. Jacobi would have stricken out are to be found in the Medical Record, March 27th, pp. 456

and 457. Briefly stated, the report of the committee looked to the abolition of the clause disqualifying a physician from becoming president of the board of health, and also to doing away with the office of coroner.

In the discussion which followed at the present meeting no opposition was offered to these recommendations, but Drs. Bryant and Janeway thought it would weaken the board of health in times of emergency to strike out sections 1,248 and 1,249 in their entirety.

Dr. Jacobi, at the close of the discussion, changed his motion to include the adoption of the report of the committee with the following additions: In section 1,248 strike out simply the time limit named for reporting contagious and infectious diseases when demanded, which was three hours. This time limit, he said, was an impossibility. Further, in section 1,249 strike out the following: "It shall be the duty of each visiting physician to make an immediate report to the department of health of the name of every practising physician by whom he shall have reason to believe the provisions of said section have been violated; and if such physician shall neglect or refuse to perform his duty, the department shall order him to be suspended from any office he may hold, and he shall, moreover, be liable to such further penalty and to such prosecution for his violation of this law and of his duty as the board of health shall determine."

Dr. Bryant said he agreed with Dr. Jacobi in his objection to making physicians spies on their fellow-practitioners, as this section would do.

Dr. Jacobi's motion to adopt was carried.

SECTION ON GENERAL MEDICINE.

Stated Meeting, March 16, 1897.

Louis Faugères Bishop, M.D., Chairman.

Case of Chronic Gout with Remarkable Deformities.—Dr. Charles E. Nammack presented a man forty-seven years of age, a sufferer from gout since the age of twenty-one. Since that time he had had repeated acute attacks, and deposits of urates had disabled his hands and formed large knotty tumors around the joints of the hands and feet and in other localities. Attention was called to the fact that the deposits in this disease were about the joints, and in the tendons and sheaths, whereas in arthritis deformans there might be even greater deformity, but the enlargements were true exostoses on the articular surfaces. Skiagraphs of the case presented had been taken, and showed absence of destruction of the intra-articular cartilage and ends of the bones, the tumors being more to one side, or between the joints. The theory of a gouty origin of Dupuytren contraction, believed in by some, had been opposed in a paper by Dr. Abbe, who attributed it to trauma in the end nerves reflected to the central nervous system and thence to the terminals. Dr. Nammack presented a man with Dupuytren contraction in contrast with the case of gouty deformity. The man was a saddler, and the traumatism could be attributed to the use of the needle.

Improved Stethoscope and Plessimeter. — Dr. Knopf exhibited and described the instruments. To appear in the Medical Record.

Fluorography for Determining the Position, Size, and Movements of the Heart, with Demonstrations. —Dr. Thomas E. Satterthwaite read the paper and made the demonstrations (see page 508).

Dr. Reynold W. Wilcox was asked to open the discussion. The work of Dr. Satterthwaite, he said, was not only opportune, but important. For the past three or four years we had read articles from our British cousins on the effect of resistant exercises and baths as carried out at Bad Nauheim, the results of cardiac contraction being shown by drawings which set at defiance all conceived notions of cardiac anatomy and of the reliability of percussion and auscultation. If we could, as he believed we could, add sight by this fluorographic method to auscultation and percussion, we would be able to compare landmarks and arrive at a satisfactory opinion of what went on in the heart under the treatment named, or any other kind of treatment. The facts which Dr. Satterthwaite had brought out very strongly had apparently escaped all other observers. McEntyre had made the bold statement before the British Medical Association, last July, that the outline of the heart shown by the *x*-ray was the more accurate the farther the screen was removed from the patient. In Dr. Williams' experiments, published last October, the patient lay on a cot, the tube distant about eighteen inches, and the outline of the heart as determined by the Roentgen ray was very much larger than that determined by percussion. Dr. Satterthwaite had, so far as he could judge, gone farther and given us an absolute means of outlining the heart by sight. This was accomplished by moving the tube successively to different angles of the heart as the shadow-line was drawn by pencil on paper over the fluoroscopic screen. The accuracy of the method was shown by its close approach to the outline drawn on careful percussion. The only difference in the outline as determined by the two methods was at the apex, and that could be accounted for partly by the fact that in percussing the heart one was likely to be guided to some extent with regard to the position of the apex by its beat, and partly by other considerations. The difference in the density of the heart in diastole and systole, owing to the presence or absence of blood within the muscle, as pointed out by Benedict, showed that in systole the cavities were not completely emptied, and this fact, made apparent by the *x*-ray, was, he believed, in accord with recent physiology.

The experiments had also brought out one or two incidental facts. One was that if there should be considerable tuberculous deposit in the lung near the heart it might interfere with the accuracy of the cardiac outline. On the other hand in emphysema of the lung, which made it very difficult to outline the heart by percussion, the *x*-ray showed the heart and its limitations very distinctly.

This demonstration could be welcomed as a real advance, not only as an aid to hearing and touch, but as confirming and extending the knowledge of anatomy and physiology, and convincing those whose hearing and touch were not so acute or well trained as the specialist's.

Dr. William H. Porter fully agreed with Dr. Wilcox, that they were under great obligations to Dr. Satterthwaite for having brought the fluorographic method to a more perfect position than it had ever before occupied. With the first speaker he had witnessed these demonstrations in private, and had observed the almost absolute correspondence of the two outlines of the heart, one drawn by percussion, the other by the fluorograph in the manner described. One of the most interesting things noted by him during the demonstration was the clear outline between the diaphragm and heart and the movements of the former with each respiration. As the diaphragm descended, it seemed to leave a vacuum between itself and the heart. In auscultatory percussion it was somewhat difficult to outline that portion of the heart, and also to determine at one point what was heart dulness and what was liver dulness. By the method demonstrated by Dr. Satterthwaite one could certainly map out that portion of

the heart with greater certainty. How practical the methods would become in general practice, time alone could determine. He thought mediastinal tumors, especially aneurisms, would be shown.

Dr. S. S. Burt thought the method was likely to be of marked value in determining the dividing line between the heart and liver, which was apt to rest in doubt under percussion: also that the method was likely to be of value in cases of aneurismal dilatation of the aorta.

Dr. Charles E. Quimby remarked that the outline of the heart was shown very clearly during this demonstration, and corroborated what had previously been determined by percussion.

Dr. Satterthwaite said in closing that this study of the heart as seen by this method had been to him a very interesting one. It had taken him about a month to make the various experiments. He also thought by this method it would be possible to get a view of the heart from the side. Heretofore it had been seen only from the front or back. As Dr. Wilcox had suggested, he believed the method would give new facts in physiology and undoubtedly would correct many of the cuts which now appear in books on physical diagnosis. This was especially true of cuts representing the movements of the heart; for they were not the same under the fluoroscope as in book representations. The point mentioned by Dr. Porter, with regard to the outline of the diaphragm and space between it and the heart under inspiration, became very striking during deep inspiration. While the demonstration of the heart by this method appeared somewhat tedious, he did not think it would require more time than was commonly taken for examination of the urine in a case of Bright's disease. It required only about fifteen minutes with good apparatus, but with improved methods which he had in view there would be a further reduction in time.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL QUESTIONS IN PARLIAMENT—PERITONEAL INFECTIONS AND PROTECTIVE SERUMS—RETROPERITONEAL TUMORS—EXCISION OF KNEE BY A NEW PROCEDURE—INTESTINAL NEUROSES—OLIVER PEMBERTON'S WIDOW—DIPHTHERIA.

London, March 19, 1897.

Some interesting questions have come before the house of commons, *e.g.*, the suppression of rabies, as to which lovers of dogs maintain an unreasonable attitude; the London water supply, which is to have a royal commission, and so the several bills before the house were rejected; vivisection, toward which the anti's display their opposition in the most vexatious way, circulating utterly ridiculous statements of a libellous nature; the alleged increase of lunacy, the report of the inquiry on this subject being laid on the table; the metropolitan pauper children, concerning which we are likely to hear much in consequence of the decision to make separate provision for special classes of such children.

At the last meeting of the Royal Medical and Chirurgical Society, Mr. Herbert Durham read a paper on the clinical bearing of some experiments on peritoneal infections. You will remember that Isaeff has shown that considerable resistance to microbes is obtained by inducing leucocytosis. If sterilized water, or serum, or broth, be injected into the peritoneal cavity, an animal can the next day receive with impunity fifteen times the fatal dose of a culture of cholera vibrios. Following this line of investigation, Mr. Durham has protected guinea-pigs from several microbes, and attributes the protection (1) to increased bactericidal power of the peritoneal fluid after injection; (2) to the presence of a large number of active phagocytes, which are not seen in normal peritoneal fluid. He suggested accordingly that a person might be protected in a similar way prior to operations for perityphlitis, tubal abscess, etc. In most cases the active organisms are streptococci, and he would, therefore, propose an injection of antistreptococcic serum the day before opening the abdominal cavity. There may be no organisms and no lymph in the peritoneal fluid in subjects that die rapidly, but in the lymph spaces of the omentum and other membranes organisms can be found. The injection proposed would increase the general resistance of the tissues, as well as afford immunity from streptococcal invasion. Mr. Durham insisted on thoroughly cleansing the omentum and the space between the liver and diaphragm, where the organisms are most abundant.

Mr. Lockwood agreed that there is a great difference according to the organisms present, and that streptococci were most dangerous; but as they are in the substance of the membranes and not on the surface they cannot be dislodged, and if the tissues can be prepared to resist them it would be a most valuable expedient.

Mr. Harrison Cripps remarked that when fœtid pus escaped into the peritoneum the more severe forms of peritonitis were rare, and perhaps the existence of pus in contact with the membrane protected it. He doubted if washing out the space between the liver and diaphragm could be managed, as it was so high up and the surfaces were in close contact.

Mr. Marmaduke Shield read an account of the removal of a large solid tumor from the retroperitoneal space. The patient was a woman of fifty-two. Many laminæ of condensed fibrous tissue had to be stripped off the tumor, which seemed to be lying in front of the spine, but was easily separated from the aorta and vena cava. There were numerous adhesions containing large vessels. The tumor was a fibro-myoma. It was difficult to determine the precise origin. Mr. Eve thought it originated in unstriped muscular tissue. Mr. Lockwood remarked that sarcomata in this position were usually encapsuled, and their removal was easy unless they were very soft. Mr. Cripps thought many grew from the broad ligament, and were not strictly retroperitoneal. This tumor was, perhaps, originally a detached fibroid. In such cases there were often many adhesions, and it was best to follow Sir Spencer Wells' plan of extending the incision upward, so as to get into the peritoneal cavity higher up.

At the Medical Society meeting Mr. Lockwood read a paper in which he passed in review the various operations for excision of the knee, and gave a detailed account of a new procedure, which he called osteoplastic excision, and which has been successful when other methods of treatment have failed. The new method was favorably received by the surgeons present and the best plan of maintaining fixation after the operation was dwelt upon. Mr. C. Dent then read a paper on intestinal neuroses, and detailed some cases showing the difficulty of distinguishing between them and those in which the symptoms pointed to some surgical affection which would justify an exploratory operation, but he did not approve of laparotomy in cases believed to be due to neurosis merely because an operation had sometimes given relief, although no obvious lesion had been found.

Mr. Shield mentioned a case in which the classical symptoms of renal calculus were present, but on operation no trace of stone could be found, though the symptoms disappeared after the operation. Mr. Lockwood thought that surgeons would not get to the bottom of such cases until they more generally recorded those in

which they found nothing on opening the abdomen, and remarked that adhesions pointing to past disease were sometimes met with. Mr. Harrison (president) referred to the intense distress of some patients with varicocele, which suggested some disturbance beyond that which was apparent.

The widow of Oliver Pemberton, whose death I announced in my last letter, died within a week of her husband's decease.

The deaths from diphtheria rose again last week to fifty-three, being twenty-one in excess of the average for the last ten years.

OUR PARIS LETTER.

(From our Special Correspondent.)

EPIDEMIC OF PHOSPHORIC NECROSIS—PROPHYLACTIC MEASURES AGAINST—BOOKS AND THE ACADEMY OF MEDICINE—THE BUBONIC PEST AND IMMUNITY BY HYPONITRIC VAPORS—PNEUMONIA AND THE BACILLUS OF FRIEDLANDER, ETC.

PARIS, March 18, 1897.

THE question of substituting for the harmful white phosphorus the red and less necrotic product was referred to some months ago. It is again being agitated. It is not, however, necessary to dwell upon the ravages that the fabrication of matches causes among workers in their manufacture. The time has indeed come to do something in this matter, as phosphoric necrosis is now little short of epidemic in some parts of France. The minister of finances in consequence asked the Academy of Medicine not long since to give him its opinion upon this question of hygiene, in order to arrive, if possible, at a practical solution of it. Propositions of the following kind are being considered: Dr. Vallin, speaking on behalf of the commission appointed for the purpose, wisely concludes that radical measures are necessary. He advocates strongly the abolition of white phosphorus in the manufacture of matches, and the substitution in its place of red phosphorus, of which the harmfulness is infinitely less.

A remarkable change of opinion on this subject has been shown by Dr. Magitot, who not long since was an avowed enemy of white phosphorus, the use of which he advocates to-day. Dr. Magitot, we are informed, has taken up the idea that considerable expense would be incurred in substituting the one form of phosphorus for the other, and this to industrial detriment. He is of opinion that the thorough and constant ventilation of manufactories, with a strict choice of only vigorous workmen having healthy teeth, constitute the two most sufficient and necessary measures to be taken in the premises.

Doubtless these are extremely valuable suggestions, as we all know that dental caries, bad and decaying teeth in general, are the porte d'entrée of phosphoric necrosis. But neither Dr. Vallin nor Dr. Roussel considers these measures, which after all are only half measures, sufficient. Such rigorous ventilation as is proposed is possible only during the winter months in the south of France or Algiers, and it is in the northern provinces that the disease is most prevalent. The hygiene of the mouth is the most efficacious prophylactic means against the development of phosphoric necrosis. This, however, is very difficult to accomplish. It is often difficult even among the better classes, and how much more so would it be among workmen and workwomen?

As regards the substitution of a less harmful form of phosphorus for that now in use, something might be accomplished, but only something, because phosphorus in any form would produce the same pathological conditions, varying of course as to the symptoms, the number of people affected, etc., in accordance with the toxic power of the preparation employed. The individual resistance must also be taken into account. We would also suggest that those at the head of the large match factories first see that their employees have sound teeth, then that they brush them night and morning, and rinse the mouth several times a day with an antiseptic soluiton of thyme, carbolic acid, and borated water. The tooth powder prescribed should be simply camphorated chalk, pure.

The Academy of Medicine has just elected Dr. Napias in the section of hygiene. Dr. Napias is inspector general of beneficent establishments at the ministry of the interior. Although comparatively a young man, he is thoroughly up in the science of hygiene, and is best known by his labors in the department of public health and organization. Dr. Albert Robin has just presented to the academy two new volumes of his "Dictionnaire de Thérapeutique," and Professor Debove the last volume of his "Manuel de Médecine." Prof. Charles Richet has recently given out a monograph for his "Dictionnaire de Physiologie." This likewise was presented to the Academy of Medicine. Indeed, the library of the academy is constantly receiving valuable contributions from its members. The most important, however, is Professor Dieulafoy's great book on internal medicine, in four volumes. This is a work of such importance and scope as to merit more extensive notice and review, which we shall undertake in our next letter. Professor Richet's monograph is most interesting and is written in his clear incisive style. The article "Cerveau" (brain) is an epitome of the subject from antiquity down to the present day. All the philosophers, the savants of all times and of all countries who have written on the brain find their places in this erudite and deeply instructive history of the human mind, from those who first taught and wrote on the subject—Aleméon, Herophilus, Erasistratus, down to Ramon y Caja., and last but by no means least, the eminent author himself.

Speaking of the bubonic pest that has been claiming to such an extent the attention of the scientific world lately, a recent letter from Bombay to the *Semaine Médicale* calls attention to some singular facts. It seems that the "indigenes" employed at "la monnaie," or the mint, are not affected with plague, although these workmen live in infected quarters. The reason for this immunity is found in the fact of their breathing an atmosphere impregnated with the vapors of hyponitric acid. The plague, although diminishing in Bombay, shows a tendency to spread to the northward. At Mandri, one of the quarters first contaminated, the number of cases every week is actually small and the number of deaths almost nil. It is well known that epidemics of plague in the human being are preceeded by epidemics of the disease among the rats and mice, who die in great numbers. This, however, was not the case at Poonah, although it did immediately precede the appearance of the epidemics both at Bombay and at Hong-Kong.

Several cases have lately been reported of purulent pleurisy complicated with pneumonia due to the bacillus of Friedlander. Professor Rendu, for instance, has had two cases, one of which terminated fatally, the other recovering only after numerous complications. Professor Rendu says regarding them: "The impression left me of these two cases is that pneumonia with the bacillus of Friedlander is of an especially grave prognosis."

THE CRIME OF ABORTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: There is a crime of only too common occurrence to-day, reference to which is seldom made by ministers, who must be unacquainted with the actual condition

of affairs, for, if they were not, I believe more of them would raise their voices against this evil.

Fellow-practitioners, look over your list of patients. Note the number of families having less than three children, some having only one. Why is it, may I ask, that the American family, which formerly numbered eight or ten, now numbers from one to four? Is it because God has made the genital tract of our society belles different from that of our dear old grandmothers, or that the passion for sexual intercourse is on the decline? We all know such is not the case. Then what is it? I answer, in the diabolical practices of many of the married people of to-day. Crimes of onanism, preventing conception, and abortion are so common that many women of to-day take great pleasure in teaching others the various methods of practising these evils. I know of one woman who was so boastful that she told a young man, who went to see her about performing an abortion upon a girl he had gotten pregnant, that she had had one hundred successful abortions!

Think of it—one hundred lives taken right in a city having a dozen churches, having only twenty thousand souls! Yet this woman will continue with her diabolical work, for a physician cannot betray a professional secret.

Many young girls of to-day are anxious to enter the married state, and yet do not wish to take responsibilities of that state. Child bearing is not the fashion. She must not think of it! Many mothers teach their daughters these diabolical practices.

The sexual instinct was given man for no other purpose than the reproduction of his species, and to use it for any other purpose, or to prevent conception taking place, is evil and an insult to divine providence.

"Evil is the turning of an act from the course in which it was intended," or, as St. Augustine says, to leave the path of truth. If preventing conception, onanism, and abortion are not turning an act from the course in which it was intended, I am very much mistaken in what evil is.

Many try to apologize for taking medicine to bring them "round," by saying there is no life in a conception of only a week's or ten days' duration. O misguided conscience, how easy thou art to bend! Can anything be more false? What is life? Life, says Meagher, is an active principle which is in each living being, and is the source of all its internal and external phenomena, acts, and movements. Let us hear St. Thomas; he says: "A being lives when it moves itself."

Before going any further, let us define the soul. The soul, says a learned scholastic, is the substantial form of a being. The moment conception takes place, the soul and that vital force called life must be instilled into the ovum. Life must be present, for if it were not development could not take place. The soul must be there, for if it were not this impregnated ovum would never develop into a living being.

Take the soul, or vital force, life, away from an adult, and what is the result? Death. Do the same with an impregnated ovum: what is the result? Death. If it is murder to do the former, is it not murder to do the latter? Do you not accomplish the same end in either case?

A European theologian has wisely said: "The younger the child, the greater the crime." Is this not true? If you attempt to take the life of a man, he has at least some chance of saving himself by running away, crying for assistance, or by the protection which the law affords him. But not so with an impregnated ovum; here are a life and a soul at the mercy of a woman whom the law can hardly reach. I believe if physicians of to-day, who are spending so much time trying to educate people in preventing disease, would teach them the grievousness of interfering with or preventing conception, they would do a great deal for God and their country and save many an innocent babe its life.

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DISINFECTION OF THE HANDS.

To the Editor of the Medical Record.

Sir: I beg the privilege of your space to supplement Dr. Weir's paper on "Disinfection of the Hands," in your latest issue, April 3d, by a brief statement concerning the clinical use that has been made of the mixture of chloride of lime and carbonate of sodium, which gave the largest percentage of successes in his bacteriological tests.

The use of the mixture was suggested, as Dr. Weir says, by Mr. Rauschenberg, the apothecary of the New York Hospital, but the suggestion was made to me, not to Dr. Weir, and was adopted either in the autumn of 1892 or the summer of 1893. Since that time the method has been in constant use in the first division of the New York Hospital by Dr. Hartley and myself, and in the second division by Dr. Murray, and also in the Hudson Street Hospital, and was mentioned as in such use in a paper read before the Surgical Society a year ago and published in the *Annals of Surgery* in May, 1896. Dr. Weir made no use of it before December, 1896.

I am surprised that in a paper containing so many references to foreign work on other points, such a patent reference to a fact bearing so directly upon the main subject of the paper should have been omitted. It would have gone far to forestall Dr. Bull's and Dr. McBurney's criticism of the lack of clinical evidence, and would have been a fitting acknowledgment of indebtedness to others for faith and works which gave Dr. Weir his knowledge of the method and kept it before his eyes for three years, and without which his laboratory tests would probably not have been made, or, if made, would have seemed to most only an addition of doubtful value to all those other similar tests, which Dr. Bull characterized as "bewildering." Furthermore, if opinion long current in the hospital is well founded, study of clinical data would have furnished evidence so convincing that laboratory tests would have seemed superfluous.

Lewis A. Stimson, M.D.
New York, April 5, 1897.

Hemorrhage from the Bowels in Typhoid Fever.—Dr. William Osler (*Maryland Medical Journal*, November 14, 1896) writes the following: "Bleeding of moderate amount may occur and cause no special anxiety, except, perhaps, the unavoidable apprehension lest the bleeding should recur in a more grave form. Hemorrhage is one of the most dreaded accidents of the disease, and justly so, since it may occur when everything has gone along smoothly and the patient appears to be improving in every way. In two hundred and thirty-nine cases of typhoid fever treated in six years in the Johns Hopkins Hospital, there were twenty cases of hemorrhage; three patients died from loss of blood, and three from perforation after bleeding had ceased. [Cases are quoted showing history, etc., of hemorrhage.] The treatment pursued is as follows: The lead-and-opium pill by the mouth and small doses of morphine hypodermically. Normal salt solution is injected when there is much loss of blood, and favorable results follow its use in most desperate cases. A fatal result may follow in typhoid fever without blood appearing externally, so we must be on our guard. There are cases where hemorrhage recurs at intervals."

Therapeutic Hints.

Dyspepsia Accompanied by Acne. — Dr. Mitour (*Revue de Thérap.*, December 15, 1896) recommends for dyspepsia accompanied by acne, light meals frequently repeated. The food should be well masticated, and of a kind easily digested. Bread, spiced meats, preserved fish, pastry, butter, and fatty foods should be avoided. Alcohol and milk are also injurious. Water is the best drink and should be taken sparingly with meals. Medical treatment has three objects. (1) To stimulate the secretion of hydrochloric acid, there should be given before meals bicarbonate of sodium with sulphate of sodium and of potassium in small doses, or ipecac, or condurango. (2) To stimulate muscular action of the stomach, the tincture of nux vomica may be given after meals. (3) To prevent fermentation, naphthol, benzol, beta-naphthol, or salicylate of bismuth are indicated. Sulphate of sodium and calomel are recommended for constipation with intestinal inflammation. Hydropathy with abdominal massage, gastric lavage, and electricity have given excellent results in certain cases.

Frost Bite.—

℞ Bals. Peruviani	1.25
Camphoræ	3.75
Ol. amygd. dulc	20
Adipis lanæ	50
Aquæ rosæ ad	100

Inhalation for Weak or Diseased Lungs.—

℞ Guaiacol	10
Eucalyptol	8
Carbolic acid	6
Menthol	4
Thymol	2
Oil of clove	1
Alcohol (90 per cent.)	170

Mix and dissolve. With this liquid spray the atmosphere of the room plentifully and frequently.

—*National Druggist.*

Dysentery.—

℞ Quin. sulph.	0.12
Pulv. rad. ipecac	0.30
Ammon. chlorat.	0.60
Tinct. opii	gtt. xij.
Aquæ dest.	30.0

M. S. One teaspoonful every four hours.

—*Therap. d. Gegenwart.*

For Mental Depression in Pelvic Diseases.—

℞ Strychn. sulph.	gr. $\frac{1}{30}$
Quinin. sulph	gr. iss.
Ext. hyoscyami	gr. iss.
Ferri redacti	gr. i.

M. For one pill. Dose, one pill thrice daily.

—Talley.

Colorless Iodine Ointment.—

R Iodi	gr. xx.
Potass. iodidi	gr. iv.
Sodii sulph.	gr. xl.
Aquæ	q.s.

Rub the chemicals with the water until the solution becomes colorless. Then add:

Adipis benzoati	ʒ i.

M.

—*Atlanta Clinic.*

Gastric and Intestinal Antisepsis.—Dr. Patterson (*Canadian Practitioner*, December, 1896) says that the first indication in carrying out disinfection of the bowel is to empty it, and for this purpose purgatives are pre-eminent. Calomel fulfils the requirements of an ideal intestinal antiseptic. It induces free movements of the bowels both by its local action and by excitation of the intestinal ganglia, while the risk of its affecting the mucous membranes is but small. During its passage through the intestines it is converted into the perchloride, which restrains excessive intestinal decomposition. This change takes place slowly and gradually in children, as in the adult. Wassiloeff observes that calomel is without action on the digestive ferment, and consequently we have in calomel a substance whose mode of action is simply and easily controlled.

Gout.—Dr. Hans Froelich (*Journal of the American Medical Association*, January 30th) thinks that local treatment is the most effective. We are accustomed to regard a surgical treatment of the local precipitation of urates, the tophi, as almost a sacrilege. However, they are foreign bodies, and all foreign bodies, if accessible, ought to be removed. There is much talked and written about dissolving these urates with lithium salts, piperazin, and, of late, lysidri. They work nicely in the reagent tube with water, but as soon as we take urine the dissolving effect stops. Dr. Froelich is unable to say how they work in plasma. If they are locally injected in a solution strong enough to take effect, the resulting chemic process causes a painful inflammation which lasts almost two days. The only way to remove these tophi is by curetting under asepsis; it ought certainly be done in each case during the time no acute attack is apparent.

Neurasthenia.—Dr. John A. Hale warns us that in the treatment of this trouble he has found patients of both sexes easily affected by stimulants, and that often they feel a desire for such, and in our anxiety to benefit the patient we may be too careless and establish a condition far more serious than the disease itself. Use stimulants when necessary, but use them judiciously, and keep prominently in mind the one expressive word of warning: "Beware."

The Serum Reaction in Typhoid Fever and Experimental Cholera.—Drs. Johnston and McTaggart (*The Canada Lancet*, February, p. 307) draw the following conclusions from their observations on the reaction in typhoid fever and experimental cholera by the dried-blood method. (1) The use of dry-blood-serum diagnosis has given what appeared to be satisfactory results for diagnostic work. (2) An incomplete reaction was occasionally obtained as early as the end of the second day. (3) The complete reaction was rarely delayed beyond the fifth day. (4) Typhoid blood allowed to dry for sixty days still gave the typical reaction. This might permit of its application to medico-legal work. (5) In experimental cholera immunity, a typical reaction was obtained with dried blood. (6) The reaction may appear after a single dose of typhoid or cholera culture. (7) There is a possibility that the clumping of the typhoid bacilli may be utilized as a means of isolating them from cultures made from water, fæces, etc.

Umbilical Hernia Containing the Heart in a New-Born Infant.—Dr. Arndt (*Centralblatt für Gynäkologie*, 1896, No. 24) reports the case of a child apparently in good health when born. At the umbilicus there was a tumor of the size of an apple, contiguous with the cord. Through the walls of the tumor could be seen coils of the intestines, the liver, and the pulsating heart. Cœliotomy was performed seven hours after birth. In the hernial sac was found the heart, the deformed liver, the stomach, the ileum, and part of the colon The heart, which was not surrounded by pericardium, could not be replaced in the thorax, making the prognosis absolutely fatal.

Version with the Patient in the Prone Fosition.—Dr. Mesinger (*Centralblatt für Gynäkologie*, 1897, No. 23) advises this method, because the outlet of the pelvis is directed above, giving the operator much more room for the insertion of the hand. The operator's hand and arm are in the position of pronation, giving a better use of the muscles and tactile sense.

This posture widens and opens the vagina and uterus. The risk of bruising the soft parts is less, and the danger of tearing the uterus from the vagina and of air embolism is minimized.

Anæsthetics in Labor.—Dr. Alexander Ballantyne read a paper on this subject before the Edinburgh Clinical Society, November 11, 1896, which he concluded as follows: "(1) The simpler the mode of administration the better, but care and watchfulness are all-important; (2) the best diluent is air, which ought freely to be admitted; (3) persistently attend to the respiration; (4) in a normal labor give chloroform only during a pain until the head is on the perineum, when it may be given to full unconsciousness; (5) after the birth of the head discontinue its use." The president further maintained that "(1) we are always justified in giving chloroform in normal labor, and (2) we should always do so in severe labor and in all cases of operative interference; (3) that in all diseases of the heart, and in all diseased conditions of the blood-vessels, the careful administration of the drug is beneficial, and often necessary to save life; (4) that in general emphysema of the lungs the greatest care and watchfulness should be exercised in its exhibition, and that in conditions of great exhaustion and after great, rapid, and recent loss of blood, as in placenta prævia, extreme caution is necessary, and it may be ether should be substituted."

Catharsis for Pregnant and Lying-in Women.—Dr. Edward P. Davis read a paper, at the meeting of the American Gynecological Society, on "Intestinal Bacteria as a Source of Infection Complicating Obstetric Operations," and asked several therapeutists regarding the best purgative to secure an antiseptic condition of the intestine. Professor Han advised a minute dose of mercury, one-two-hundredth to one-one-hundred-and-twentieth of a grain of the bichloride of mercury, several times a day for a number of days, in conjunction with saline purgatives.

Resection for Artificial Anus Unnecessary.—Dr. Greig Smith has come to the conclusion that it is never necessary to resect for artificial anus. He has had many cases of fæcal fistula, and in nearly all has succeeded in bringing about closure by an external operation, without opening the perineum. For the resection of tumors it is vastly preferable to do the operation in two sittings; in such cases recovery always follows.

Acne.—Dr. Bardach thinks that the irritation of the sebaceous glands is brought about by the increase of solids in the blood. In these cases a quick cure is effected by increasing diuresis. For local treatment he suggests a soap containing about one and one-half per cent. of iodate and bromate of sodium.—*Derm. Zeitschr.*

Duration of Acute Gonorrhœa under Treatment.—Dr. H. M. Christian (*Therapeutical Gazette*, January 15th), after a careful study of statistics, draws the following conclusions: (1) That gonorrhœa is a much more prolonged and serious affection than it is usually considered to be by general practitioners of medicine and by the laity. (2) That in two-thirds of all cases uncomplicated the period of time necessary to obtain a complete cure is from six to ten weeks. (3) In that small proportion of cases in which the entire urethra does not become involved, the disease being confined entirely to the anterior urethra, we can, as a rule, expect complete recovery in about four weeks. (4) The necessity of impressing upon the profession in general the importance of making examinations of the urine before deciding that an attack of gonorrhœa is positively cured.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 3, 1897:

	Cases.	Deaths.
Tuberculosis	247	126
Typhoid fever	2	4
Scarlet fever	159	13
Cerebro-spinal meningitis	2	2
Measles	196	13
Diphtheria	204	30
Laryngeal diphtheria (croup)	6	0
Small-pox	6	0
Chicken-pox	36	0

Pyoctanate of Mercury is prepared by treating a solution of pyoctanin with a solution of bichloride of mercury in hydrochlorate of ammonium. A precipitate containing fifty-five per cent. of mercury is obtained, which may be employed in from one-half to one-per-cent. strength in favus and chronic gonorrhœa. It has also been used to replace iodoform and for severe burns. A gauze is also prepared by taking one hundred parts of unstarched gauze, and sixty of a solution containing one gram of sublimate and five grams of hydrochlorate of ammonium; after drying it is wet for the second time with a one-half per cent. of pyoctanin and again dried.—*La Méd. Mod.*, March 6th.

Cremation in England.—The report of the council of the Cremation Society of England for 1896 shows that one hundred and thirty-seven cremations were carried out at Woking during the year. There has been a steady increase in the number of cremations each year until 1896, but even in the latter year the number of cremations was greater than in any other previous year except 1895, when there were exactly one hundred and fifty. There are three other crematories in England and Scotland, at which sixty-five bodies were incinerated in 1896.

"Mental Impressions and Disease" is the title of a neat little brochure by William T. Belfield, published by the Chicago Literary Club. Its aim is to show that there is a value in the production of mental impressions for the cure of emotional diseases, and the author carries out his purpose in a most entertaining manner. His insight into the workings of a queen bee's mind makes it clear why his belief in a soul has survived a long residence in Chicago.

More Statistics in Favor of the Serum Treatment of Diphtheria.—Dr. Cuno (*Deutsche med. Woch.*, December 24, 1896) reports the results of two years' treatment of diphtheria with Behring's serum at a hospital in Frankfurt. There were four hundred and eighty-three cases in all, and the mortality fell from never less than thirty-seven per cent. in previous years to 10.5 per cent. of the total number, or 7.03 per cent. excluding the moribund cases. No local treatment whatever was used. It was found that with sufficient doses of No. 3 serum the false membranes rolled up at the edges, seemed to dry up, and were finally expelled without the need of bothering the patient with local applications. Heart weakness was combated with injections of alcohol and camphor, and abundant nourishment was given through a sound if necessary.

Naphthalan is the name of an establishment at Elizabethpol, Russia, in which petroleum is said to be successfully applied in the cure of gouty affections and rheumatism.

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Original Articles.

THE NERVES OF THE PERITONEUM (WITH SEVEN ORIGINAL DRAWINGS BY THE AUTHOR).

BY BYRON ROBINSON, B.S., M.D.,

CHICAGO.

THE nerves found in the peritoneum are:

1. Medullated nerves.
2. Non-medullated nerves.
3. Remak's nerve fibres.
4. The Vater-Pacinian corpuscle, and other forms of nerve endings and nerve bulbs.
5. Nerve cells (Fig. 1).

I speak of the method of preparation as one of the most important parts of this theme. I spent much time with the Ag. No. 3 method, but with uncertain, unsatisfactory results. Considerable time was spent with the osmic-acid process, with some good results, especially in demonstrating the fine, non-medullated, nucleated nerve fibres around the small artery or blood-vessel, but with some uncertainty. The method superior to all others of preparing and demonstrating the nerves of the peritoneum is by the use of gold chloride and acetic acid; I finally discarded all other methods. The beautiful clearing process of acetic acid is not likely to be forgotten, and the distinct borders and outlines that the gold chloride furnishes to the nerve fibres is likely to be cherished by the nerve searcher. However, gold-chloride specimens are somewhat uncertain and evanescent. The method which I finally adopted was that suggested by E. Cyon, in 1868. The stain is compounded and used as follows:

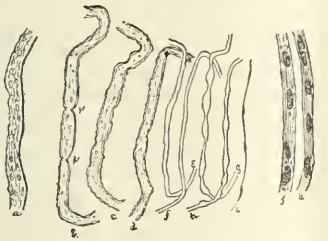

FIG. 1.—The individual nerves from the peritoneum of cat and rabbit as they appear under the microscope after treatment with acetic acid and gold chloride. *a*, A wide medullated nerve, with advanced coagulation, about 48 hours after death and preparation; *b*, a wide medullated nerve with two nodes of Ranvier at *r* and *r*—a recent and fresh preparation; *c*, a wide medullated nerve a few hours after death and preparation; *d*, a moderately wide medullated nerve shortly after death and preparation; *e*, a narrow medullated nerve showing no coagulation; *f*, a still narrower medullated nerve with the medulla not visible; *g*, a narrow medullated nerve with the medullary sheath forced into bead-like accumulations; *h*, a still narrower medullated nerve, also showing bead-like accumulations of myelin at varying distances from each other; *i*, fibrillated fusiform axis cylinder, non-medullated but nucleated; *j* and *k*, two fibres of Remak showing their nuclei in the neurilemma and fibrillated axis. By observing the nerve fibres of the peritoneum from recent preparations and from day to day up to 15 days, all kinds and phases of coagulation can be noted.

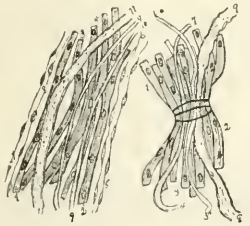

FIG. 2.—The bundle of nerves to the left in the figure is drawn from a cat's peritoneum, and represents a very general condition of nerve bundles found in the peritoneum. The main bundle consists, first, of Remak's fibres, 1, 2, 3, 4; second, of non-medullated lateral fibres, 5, 6, 7, 8; third, of medullated nerve fibres, narrow and wide, 9, 10, 11. The cut to the right in the figure represents a bundle of Remak's fibres from a cat's mesentery, acted on by acetic acid and gold chloride. In the Remak's bundle there are three medullated nerves, two narrow ones, and one wide one. Three bands of elastic fibres are preventing the bundle from expanding; 1, 2, 3, Remak's bands, nucleated; 4, 5, 6, 7, two narrow medullated nerves; 8 and 9, a wide medullated nerve.

Take of acetic acid 1 part, and of H_2O 200 parts. Of this mixture take 1,000 parts, and add 1 part of gold chloride. Place in the solution the small portion of the peritoneum whose nerves are sought for, for fifteen to twenty-five minutes; after which begin gradually to remove small pieces of the specimen into a solution of acetic acid, 1 part to 200 or 400 parts of water. Allow the specimens to remain in the acidulated water from a few to seventy-two hours, or even longer. To examine them, snip off small pieces of the peritoneum, and mount in glycerin and place in the sunlight. The specimens are valuable to study for about fifteen days, showing during that time many changes. It is of the utmost value to examine specimens which have been in the acidulated gold-chloride at various periods of time. Very different phases of nerve outlines may be observed by this method. Gold-chloride specimens present the most brilliant and beautiful structures seen in histology.

The peritoneum to select for examination of its nerves is, first and above all, that portion located in the cisterna lymphatica magna of the frog. Any other locality may be selected, but for ease of demonstrating typical nerves in the peritoneum no locality is equal to the wall of the frog's lymph sac. The reason that the peritoneal nerves are so easily and certainly demonstrated in the wall of the lymph sac is (*a*) because the lymph-sac wall is almost devoid of blood-vessels, and (*b*) there is scarcely a trace of elastic fibre. The nerves, though known by their contour, are easily confounded with blood-vessels and elastic fibres. However, the muscle cells found in the wall of the lymph sac, appearing embryonic in type, lend some slight confusion in the examination. The omentum, centrum tendineum, mesentery, and ligamentum latum of the rabbit are excellent localities for investigations of the nerves of the peritoneum: but the kitten's mesenteric or omental peritoneum is the best afforded by any of the mammals for the study of nerves.

In the peritoneum we have three forms of nerve fibres, viz.: (*a*) The non-medullated, nucleated nerve fibres, *i.e.*, the naked nucleated axis cylinder. It consists of a finely fibrillated cord, on which may be observed swellings (nuclei) at short intervals. It is the primitive axis cylinder, a continuous, non-interrupted, immeasurably fine, fibrillated bundle. (*b*) There are the fibres of Remak, consisting of a large axis cylinder, *i.e.*, a bundle of fine, original, primitive, naked, axis cylinders, united into one. Also, this large axis cylinder is surrounded by a very fine nucleated sheath. The large nuclei on the sheath are made visible by reagents, as gold chloride or acetic acid. This sheath is known as the neurilemma or primitive sheath, or sheath of Schwann. (*c*) There exist the medullated nerves, which consist of three parts—the axis cylinder, the neurilemma (Schwann's sheath), and the so-called

medullary sheath (the white substance of Schwann). The medullary sheath is of an albuminous and fatty nature, and doubtless acts as an insulator for the delicate axis fibre and nucleus (Fig. 2).

All nerve fibres are non-medullated in the embryo; so that the medullary sheath is an acquisition of development, and is not in adult life a constant factor in the peritoneum.

1. The primitive nerve fibre, the naked axis cylinder, the axial fibre, or axial band, the essential portion of all nerve fibres is definitely demonstrated by the reagents, Ag. No. 3, osmic acid, but especially by gold salts. In this form of naked axis cylinder in the peritoneum it is surrounded by no sheath—neither the medullary sheath nor the neurilemma. The axis cylinder undergoes no interruption from the point where we discover it to its termination. It is a direct and far-reaching extension of a nerve cell. In the peritoneum this form of nerve fibre is found extensively distributed along the blood-vessels. It is quite frequently found along the edge of bundles of medullary nerves, or on the edge of bundles of Remak's fibres in the walls of lymph sacs of frogs, and in the nerve bundles coursing through the mesentery.

It must not be overlooked that the naked axis cylinder nearer to its point of origin, *i.e.*, toward its prox-

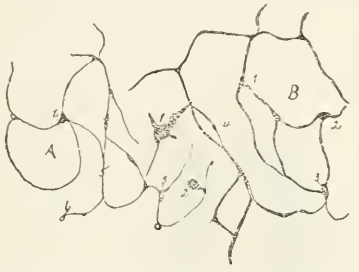

FIG. 3.—*A*, Drawn from the peritoneal ligaments of the large bowel and bladder of a frog. Non-medullated nerves a network by contact. The nerves end in bulbs, connective-tissue corpuscles, and in an obscure way in the tissue. Acetic acid and gold chloride preparation. 1 and 2, connective-tissue cell, in which a nerve ends; 3 and 4, nerve cells; 5, nerve loop by contact; 6, nerve ending and bulb. *B*, Drawn from the mesentery of a frog. It represents a network by contact of non-medullated nucleated nerves, which end in bulbs, connective-tissue corpuscles, and apparently on vessel walls. Acetic acid and gold chloride preparation. 1, 2, 3, nerve cells; 4, a round bulb on the course of a nerve.

imal end, may possess a medullary sheath. We can observe that the medullary sheath disappears and the nucleated axis cylinder alone is left. This is not only true for the wall of the frog's lymph sac, but for other portions of the peritoneum. So far as I have been able to trace such nerves in the peritoneum outside of the lymph sac, I could note the loss of the medullary sheath. In fact, it is easy in the kitten's mesentery to demonstrate a medullary nerve in the peritoneal membrane outside of the wall of the lymph sac. In the peritoneum the naked axis cylinder possesses fusiform or spindle-shaped swellings at short intervals. This swelling is granular, and shows a nucleus or ganglionic nerve cell. The naked axis cylinder with its nucleated granular swellings is easy to demonstrate with gold chloride and acetic acid, in the peritoneum covering the wall of the lymph sac in frogs, and almost equally easy in the kitten's and frog's mesentery. There it is most typically observed running near or approximately near to the edge of bundles of nerve strands composed of medullated and Remak's nerve fibres. Curiously, the naked axis nerve fibres almost always appear at the outer edge of the bundles of nerves, scarcely ever in the midst of the bundles. Again, in the peritoneum covering the lymph sac, the nerve fibres will branch off into the lateral tissue and end in some obscure manner. It often disappears suddenly. This sudden disappearing may be due to an acute bending of the nerve fibre between other tissue; it may be due to a flattening out of the nerve, so that it becomes transparent. The nerve may disappear suddenly and reappear as suddenly at a distant point. The disappearance may be due to non-uniformity in coloring the nerve fibre, the non-transparent portion not responding to the coloring reagent. Finally, the fine nerve strand may have been torn in the preparation, and we may have lost sight of its continuity.

The above factors obscure the demonstration of the definite nerve ending in the peritoneum. In other parts of the peritoneum the naked axis cylinder may be traced to the various structures, but the fibre appears to end sometimes in a long, immeasurably fine thread, like a long-drawn-out dagger. One can trace the nerve fibre to the transverse nerve cells of a blood-vessel, but no bulbous end or plate comes in sight. In short, it seems to end in tissue, like the tails of seminal spermatozoa.

If one be working in a part of the peritoneum possessed with a rich supply of elastic fibre, it will be found almost a necessity to swell the ground substance by allowing the portion of peritoneum to lie in acetic acid, 1 part to 300 to 500 parts of water, for from twenty-four to fifty hours. Doubtless the trained expert will scarcely be deceived by the contour of a nerve fibre, but the inexperienced would better bring to his aid the acetic acid, for a fibre of extreme fineness is easily covered or obscured by dense surrounding tissue. Some say that by the addition of carmine to the nuclei and the fibres the nerve will be colored, yet it cannot be denied that the nuclei and connective-tissue fibre will also be colored. All this will add confusion. Gold chloride prominently attacks the nerve alone, and hence makes conspicuous the nerve alone. It is true the gold salts attack the protoplasm of cells, but by this very action the nerve shimmers through with greater conspicuity in the peritoneal tissue. It may be stated here that the writer cannot consider it always practical to transfer the photograph of nerve structures found in the peritoneum of the amphibian lymph sac to all other portions of the peritoneum. The nerve arrangement of the peritoneum over the lymph sac is not always comparable to the nerve arrangement in other portions of the peritoneum. Yet analogous nerve arrangement is met with in the peritoneum over the lymph sac and in other portions of the peritoneum. This remark applies especially to the nerve arrangement of the naked nucleated axis cylinder, the medullary nerves, and Remak's nerve fibres. So far in my investigations I have found the bundles of medullated and Remak's nerve fibres in portions of the peritoneum analogous to the large bundles of medullated and Remak's nerve fibres found in the peritoneum over the amphibian lymph sac.

The naked-axis nucleated nerve fibres form a peculiar network in the peritoneum, which must be looked on as a significant physiologic factor. This network of nerves in the peritoneum over the lymph sac is composed chiefly of nerves which were once medullated but have lost their medulla, and what one observes in the nerve meshwork is the axial fibre with various fusiform nerve nuclei scattered here and there. But one can observe the nerves starting at certain points in the peritoneum over the lymph sac as purely medullated bundles, but before the bundles have proceeded very far the nerves begin to divide and branch off as non-medullated nucleated fibres. The nucleus is what enables us to keep track of the nerve and follow it in its deviating course. However, if we turn on a very high microscopic power, the naked axis cylinder, or, better, fibre, appears fibrillated in structure. As the bundles of medullated nerve strands wind and

twist about each other as the strands of a rope, so the fibres of the naked axis or non-medullated axis wind and twist about each other. When we say a nerve divides, we of course mean that some of the many fibres of which the original bundle was composed simply deviate in another direction, for a primitive nerve fibre is an extension of a nerve cell, uninterrupted from beginning to end.

It may be asked, what is the meaning of the nucleus situated on the axis fibre? Is it the nucleus on the primitive sheath of Schwann? In the medullated part of the same nerve, *i.e.*, before the nerve loses its medullary sheath, we cannot observe the nucleus. It is only where the nerve has lost its medullary sheath that the nucleus becomes visible. It may require more investigation in the nerves of the peritoneum to decide whether the swelling on the naked axial fibre is a nerve cell or a nucleus on an invisible sheath of Schwann. It appears to me to be a nerve cell or a nerve ganglion (Fig. 3).

The subject of anastomosis of the peritoneal nerves may be here disposed of. The veins, arteries, and lymphatics anastomose, *i.e.*, they blend or intercommunicate with each other. For example, two or more branches so combine that the blood or lymph is finally conducted along one channel. Such a method of communication or anastomosis, I think, must be denied in the peritoneal nerves. No nerve strand unites with another nerve strand. If one nerve strand or fibre blends with another, it simply comes in contact with it, but the nerve strand continually preserves its own identity. One nerve fibre does not anastomose with another; it simply runs alongside of it. Yet the nerves of the peritoneum over the amphibian lymph sac and in other portions of the peritoneum form a kind of network. The meshwork of nerves is produced by the nerve fibres coursing alongside of each other, yet preserving their exact identity.

So far as regards the medullary bundles of nerves and Remak's fibres found in the peritoneum covering the amphibian lymph sac, we can transfer the condition to the other portions of the peritoneum as typically analogous. In the kitten's mesentery, by treatment with acetic acid and gold chloride I could trace the typical bundles of medullary nerves over vast areas of the peritoneum. The bundles contained from two to twelve or more strands, which continued uninterrupted from the point of discovery to the point of sudden disappearance. The non-medullated nucleated fibres could be seen coursing along the lateral edges of the medullary bundles, exactly as they could be observed in the peritoneum over the amphibian lymph sacs. The nerve strands could be traced under the endothelial plates, but they can be seen much better with the endothelia brushed off. As the cat tribe possesses a rich supply of elastic fibres, as well as a rich supply of connective tissue and blood-vessels, it is more difficult to trace the nerve bundles in the feline peritoneum than it is in the peritoneum over the amphibian lymph sac, as that is almost devoid of elastic fibres and blood-vessels. The medullated nerve bundles assume a very sinuous and wavy course in the peritoneum, while the single nerve strand is apt to assume a straight course. The nerve bundles, like the uterine artery, seem to be too long for their space: but no doubt the apparent spiral excess in length is to adapt themselves to sudden motion or stretching of the peritoneum, for the delicate nerve strands stand trauma badly.

2. The medullated nerves of the peritoneum are numerous and easy of demonstration with acetic acid and gold chloride. They are the dark-bordered, double-contoured nerve tubes. One of the best methods of preparing them is to take a kitten six weeks old, and place the various portions of the peritoneum, mesentery, centrum tendineum, and omentum in the gold chloride, 1 part; acetic acid, 5 parts; and H_2O, 994 parts, for fifteen to twenty-five minutes, and then gradually remove the small pieces of the peritoneum into a solution of H_2O, 400 parts, and acetic acid, 1 part, in which preserve for a few days. To examine, simply mount in glycerin (a very slight previous silvering aids).

Under the microscope the medullated nerve of the peritoneum presents three parts for examination, viz.: (*a*) axis cylinder, (*b*) medullary sheath, and (*c*) neurilemma. The axis cylinder of the medullary nerve is precisely the same as the naked axis cylinder which we have just described.

The medullary sheath or white substance of Schwann is a soft, gelatinous, albuminous, fatty substance, which envelopes the axial fibre as an insulator. As soon as the medullary sheath is exposed to the preparing-fluid, it assumes an irregular outline and a curdled form. The sheath appears like semifluid transparent jelly. The medullary sheath or myelin varies very much in thickness, and produces great difference in the thickness of the nerve. One can easily note the nodes and internodes of Ranvier, and frequently the nucleus of the neurilemma embedded in the medullary sheath. The medullary sheath is very compressible, and hence the medullary nerve may appear narrow at one point and quite thick at another, from the irregular accumulation of myelin.

In the immediate observation of the medullary sheath, or even twenty minutes after death, it assumes various forms and changes, especially from the preparing-fluid and from trauma. The outline becomes quite irregular. I did not attempt to demonstrate the medullary sheath-markings of Schmidt-Lanterman.

The coagulation or congelation of the medullary sheath, which is albuminous or fatty in character, produces an infinite variety in the appearance of the medullary or so-called tubular nerves. The appearance of the medullary sheath depends on the effect of the reagent, trauma, and stage of coagulation. As the coagulation proceeds, the external and internal lines (*i.e.*, the medullary sheath and neurilemma) separate more and more, while the medulla becomes more lumpy, with globular masses in it, until finally the whole medullary sheath becomes transformed into a coarse or fine granular mass, whence the whole nerve tube looks dark.

In very fresh specimens from the peritoneum the medullary sheath shows itself as a distinct line, and its peculiar contour enables one to recognize a medullary nerve at a glance. The medullary sheath absorbs water, and becomes much larger after lying some time in acidulated water.

The neurilemma, primitive sheath, or sheath of Schwann forms the outer coat of the medullated peritoneal nerve. It is a membrane on which can be observed oval nuclei at various distances. The nuclei correspond to the nodes of Ranvier. The neurilemma becomes more apparent as the medullary sheath becomes coagulated and separates from it. One finds it occasionally very difficult, if not impossible, to demonstrate the neurilemma in some of the fine medullated nerves of the peritoneum. In the fresh state, when the medullary sheath quite fills the lumen of the neurilemma, one can scarcely discern its outline. In the peritoneum the medullary nerves run in bundles of several to a dozen, or a single nerve courses alone. With gold chloride they are easily recognized by their contour, even among blood-vessels, elastic tissue, and bundles of connective tissue. The bundle may be composed alone of medullated nerves, but more generally the medullated nerves run single, two to twelve, in the large bundles of Remak's fibres. The medullary nerves appear to course parallel with Remak's fibres, yet some assume a course which is wavy, and

thus they cross and recross the Remak's fibres in the same bundle. If the bundle contain only medullary nerve fibres, they twist about each other like the strands of a rope. The medullary nerves assume a wavy, sinuous course in the peritoneum. The width of the medullary nerves of the peritoneum varies within wide degrees. Some seem to be three times or more as wide as others. They assume a broad or a narrow width; they assume a great length; in fact, the medullated nerves of the peritoneum, as far as I can observe, are as long as the specimens. This is characteristic of nerve fibres, *i.e.*, they are far-extending nerve cells, uninterrupted from beginning to end. As we note the nerves in the muscular portion of the diaphragm under the serosa, it may be observed that the medullated nerves may course in unmixed bundles and be of a very narrow type. A whole bundle of medullated nerves, mostly narrow, some wide, may be seen, without a Remak's fibre or a naked axis cylinder being in view. Radiation and lamination are noted to exist in the medullary sheath (Fig. 4).

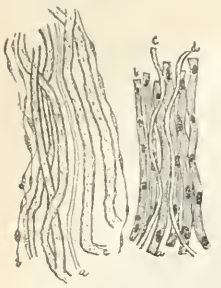

FIG. 4.—This is a figure drawn to represent a very frequent occurrence in the nerve relations of the peritoneum. It shows a Remak's bundle, *a*, *b* (to the right in the cut), with two medullated nerves, *c* and *d*, coursing almost parallel with Remak's bands. The number of medullated nerves to Remak's nerves in the bundle varies from two to ten, as far as I count, *i.e.*, Remak's bands are from two to ten times as numerous as the medullated nerves. Remak's bands (sympathetic nerves) are nucleated in the neurilemma. The figure to the left in the cut, drawn from a cat's omentum, represents a very common condition found in the peritoneum. It consists of a bundle of medullated fibres. On the lateral edges are one or more strands of non-medullated nucleated fibres, *b*. The medullated nerves are all of the wide variety, except one (*a*), which is of the narrow variety. The nerve strands are in various stages of coagulation, and twist about each other like the strands of a rope. The nerves of such a bundle are coextensive, uninterrupted from beginning to end. They are broken in the microscopic field only by the limits of the specimen.

There are two kinds of medullated nerves in the peritoneum, the broad ones and the narrow ones. I found the narrow ones especially numerous in the tendinous portion of the diaphragm of the cat, and the broad ones especially in the mesentery of the cat. Some nerves have a smooth outline, but are distinctly in the form of large-bellied spindle forms, rapidly succeeding each other—a kind of beaded fan. Doubtless there are medullated nerves with the plastic medullary sheath squeezed or forced into smaller or larger accumulations having some relation to the nodes of Ranvier. Where the bundle of nerves makes a sudden curve or kink, some of them become ruptured, and out of the ends may be seen the jelly-like coagulated myelin substance of the medullary sheath protruding in the various forms of coagulation.

In the broad medullated nerves of the peritoneum we note especially the width and peculiar coagulated or congealed medullary sheath. Irregular fine threads may be noted in its translucent milky mass, and small varied-sized globules here and there, according to the reagent employed and the time elapsed after death. A recently presented broad medullary nerve of the peritoneum shows a heavy outer dark line and a finer inner bounding line. These two lines, the "double contour," may not be exactly parallel, from coagulation of the myelin. The inner, finer line shows breaks in it, from irregular congelation. It soon looks granular or coarsely coagulated. The congelation of the medullary sheath proceeds very irregularly, and hence different segments of the nerve may present quite different aspects. This is due to rapid changes after death and to reagents. With the progress of time after death and the application of reagents to the broad medullary nerve of the peritoneum, the outer heavier and inner finer lines gradually but irregularly separate more and more from each other, and between them or even in the centre of the nerve coarse granular appearances arise and globular masses or irregular lines may be observed. The wide medullary nerves of the peritoneum may be one-fifteen-hundredth of an inch (*i.e.*, about eighteen micro-millimetres) in diameter.

The narrow medullated nerve of the peritoneum may present an entirely different character than its wider relative. It may be only one-three-thousandth of an inch in diameter (*i.e.*, about two micro-millimetres). It may present no double contour, when it is not easy to differentiate it from Remak's fibre. It may be absolutely smooth in contour. It may present a beaded or varicose condition, and yet show an even outline. In the "varicose" condition the easily mouldable myelin of the medullary sheath became compressed into irregular masses, inducing an accumulation at one point and diminution at another point. We do not observe the same tendency to lumpy or granular coagulation in the fine, narrow, medullary nerves that we do in the broad medullary nerves. Some are so fine we cannot detect a double contour. It must be considered, as Frey suggests, that the varicose condition of the fine, narrow, medullary nerves of the peritoneum is an artificial one and does not exist in life, and hence must be due to reagents or to trauma. It is not always clear what is the cause of the varicose or beaded condition of the fine, medullated nerves of the peritoneum, for at times we may note but a single one beaded or varicosed, which will run a long distance in the varicosed condition, while adjacent nerves remain even in outline. In some portions of the peritoneum the fine medullary nerves course in thick bundles.

3. The nerve fibres of Remak, non-medullated or pale nerve fibres, constitute the greater part of the nerves of the mesenteric and omental portion of the peritoneum. Remak's fibres in the peritoneum are quite transparent, faintly striated nerves of varying size. They show nuclei at short intervals. Some consider the fibre of Remak is composed of two elements, viz., (*a*) the striated axis cylinder, and (*b*) the nucleated sheath or neurilemma. Others consider that the nucleus is simply embedded in the surface of the nerve fibres themselves. It appears to me that the Remak's band consists of: 1, a striated axis cylinder; 2, a nucleated neurilemma; and 3, more or less medullary sheath. The substance representing the medullary sheath may be very small or even not recognizable. The reason I came to this conclusion is that when certain bundles of nerves of the peritoneum were recently isolated they appeared absolutely like Remak's bands, but as the bundles were kept under observation for some days (seven to fifteen) in the light (gold-chloride preparation), there appeared faint lumpy granulations between the axis cylinder and the neurilemma. These observations led me to consider Remak's band in the peritoneum as a nerve consisting of axis cylinder, neurilemma, and a very slight medullary sheath, and that the nuclei were in the neurilemma and not embedded in the nerve fibres themselves. The axis cylinder appears to be composed of many nerve fibres, sufficient to make a bundle. There is a peculiar branching, which belongs to Remak's bands. The branching leads to the formation of a network-like or plexiform condition. This branching, it appears to me, is simply the division or deviation of some of the axis fibres, as many such occur in a bundle of medullary nerves. When the fibres of Remak branch off from the original trunk, they are entirely covered by the fine, thin neurilemma. This entire closing in of the deviating fibres of the Remak trunk by the neurilemma lends the appearance that the Remak's bundles divide and anastomose differently from the medul-

lary nerves. With this explanation, the branchings of the medullary and of Remak's bundles are exactly similar. The primitive or embryonic condition of nerves is that of no sheath whatever, the sheath being of connective-tissue origin. Some consider Remak's bands as primitive nerve fibres without sheath. But, after considerable microscopic labor on the peritoneum with osmic acid, Ag. No. 3, acetic acid, and gold chloride, it appears to me that Remak's bands in the peritoneum in the majority of cases consist of a striated, fibrillated nerve axis and a nucleated neurilemma, with a probable trace of medullary sheath. It might surprise a novice in the histology of the peritoneum to learn that one of the most difficult questions I found to decide was whether certain bundles of tissue were Remak's bands or young connective-tissue bundles. It is surprising how the bands of Remak in the peritoneum resemble connective-tissue bundles. In some cases I was entirely unable to distinguish whether a bundle of fibres belonged to Remak's nerve bands or to irregular bundles of connective tissue. The nucleus of the young connective-tissue cells often resembles remarkably the nucleus of the neurilemma of the bands of Remak. Also frequently the resemblance is intensified by the fact that the portion of Remak's fibre between the nuclei on the neurilemma is transparent, similar to the transparency that exists between two successive connective-tissue nuclei. A distinguishing trait of the bundles which often decides their histologic character is the presence of one or more medullated nerves. The amount of Remak's fibres in the peritoneum is enormous. In recently prepared specimens of the peritoneum with acetic acid and gold chloride, I have carefully counted the number of Remak's fibres and medullary fibres in a bundle, and it frequently occurs that there will be from two to ten times as many Remak's fibres as medullary fibres. At other portions of the peritoneum there will appear bundles of nerves of which every strand is medullated. The single strands of nerves are more apt to be without a sheath —simply the naked nucleated axis cylinder. Not infrequently we can observe large Remak's bundles, with two or three medullary nerves, interrupted, constricted at different localities by elastic fibres. The elastic bands resemble a bound sheaf of wheat. The acetic acid induced the Remak bundles to swell, but the elastic fibres would not yield: hence the constriction. The elements which the acetic acid induces to swell must be the connective tissue, the neuroglia tissue, and also perhaps the tissue composing the neurilemma.

In general, one cannot draw any conclusions as to function from the thickness or thinness of a nerve, unless it be that the thicker a nerve is the longer is its course. Since all embryonic nerve elements consist of nerve cells and naked axis cylinders, we must consider all sheaths as evolutionary acquisitions. All nerve sheaths are of connective-tissue origin, and serve some purpose not yet fully known. Neither the medullary sheath (the white substance of Schwann) nor the neurilemma (the primitive sheath of Schwann) is necessary for a nerve. Neither may cover a nerve in its entire length. Both may enclose the nerve a distance, and fail in some other portion. Sometimes one kind of a nerve sheath encloses the axis cylinder, and sometimes another. Both sheaths may be absent or both may be present. But we must have the axis cylinder and the ganglion cell. So far we are unable to judge the function of a nerve by microscopical observation, no matter whether it be a naked axis fibre, a nerve inclosed in the medullary sheath, or one inclosed in the neurilemma (Fig. 5).

The distribution of the nerves in the peritoneum is peculiarly irregular. It has an abundant and rich supply of nerves. The medullated nerves and fibres of Remak course chiefly in parallel bundles of from two to seventy-five or even more in a bundle. The nerve fibres do not run precisely parallel in specimens, but wind and twist about each other like the strands of a rope, and the whole bundle takes a wavy or sinuous, uninterrupted course. It is probable that the nerves in the original undisturbed bundle are parallel, and that the non-parallelism is due to trauma and reagents. The nerves form a meshwork or net simply by contact, and not by real anastomosis. It is a peculiar feature of the nerve bundles of the peritoneum when they deviate or branch off that the branching strands are liable to course in contact with strands of other bundles. It is difficult to estimate the degree of richness of nerve distribution in the peritoneum. In one field of a three-hundred microscopic diameter, I have seen as many as one hundred nerve branches; but of course that quantity is an exception. In literature I can find very little in regard to the distribution of nerves in the peritoneum. In 1851 Prof. Hubert Luschka said he found nerves constantly in the peritoneum. Some few writers quibble in regard to the nerves belonging to the peritoneal membrane or the subperitoneal tissue. Numerous nerves accompany the subperitoneal vessels, but such nerves really belong to the vessel and end on the vessel directly. The nerves contain the corpuscles of Vater-Pacini on their course. The Vater-Pacinian corpuscles (cat) are really subserous. The branches of the subserous nerves end in the serous membrane. Louis Jullien observes that the Remak's fibres of the omentum measure two to three micro-millimetres, but may acquire a width of from five to six micro-millimetres.

The ending or termination of the nerves of the peritoneum is not fully settled. We have at least two kinds, viz.: (*a*) The Vater-Pacinian corpuscles, which are terminal bulbs enveloped in numerous concentric capsules of connective tissue. In the cat's mesentery, where they exist abundantly, and I have seen four corpuscles of various sizes in one microscopical field of two hundred diameters; a nerve terminates within the Vater-Pacinian corpuscle. In shape the Vater-Pacinian corpuscle is oval, and whitish or opal in color, and varies in size from one-twentieth to one-tenth of an inch in length, and from one-twentieth to one-fortieth of an inch in width. The peduncle of the corpuscle consists of a medullated nerve. The corpuscle is attached to the nerve like a berry on a stalk. The peculiar structure, which should now be termed the Vater-Pacinian corpuscle, was well known to the old German anatomist, Vater, in 1741. About 1830 Pacini, of Pisa, appears to have rediscovered this corpuscle and given it a systematic description. Since that time Cruveilhier, Henle, and Kölliker[1] deserve especial mention for the study of these wondrous bodies. Excellent and complete papers on the Vater-Pacinian corpuscle may be found in Dr. Merkel's (1880) and Dr. Krause's papers (1884).

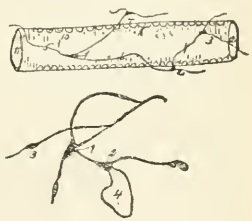

FIG. 5.—Lower portion, from a cat's peritoneum. 1, 2, 3, nerve cells; 4, a loop of a nerve, in which the two nerves approximate and run in contact. Note that the nerve cells are quite large. Upper portion, drawn from the peritoneal ligament of the gall bladder of a frog to show a very fine network of nerves ending on a peritoneal blood-vessel possessed of considerable muscular tissue. 1, 2, 3, 4, nerve ganglion and cells; 5, 6, 7, the nerve network; 8, 9, 10, the circular muscles of the artery; 11, 12, the ends of the arteriole.

The Vater-Pacinian bodies are doubtless connected with the sensory nervous apparatus. The concentric laminæ of connective tissue must be looked on merely as a capsule. Hoyer claims that each concentric lam-

[1] Monograph, 1844

ina is covered on its surface by endothelia, which can be demonstrated by the aid of Ag. No. 3. The medullated nerve which enters the Vater-Pacinian corpuscle ends in a rounded bulb. The axis fibre travels the whole length of the corpuscle in a non-medullated condition, and ends in a bifurcation or button-like knob. The numerous concentric membraneous tunics of nucleated connective tissue which enclose the peculiar axis cylinder remind one forcibly of the layers of a large onion. The central axis appears to lie in a transparent, homogeneous, semifluid substance, a kind of water bed or insulating buffer. The size of the Vater-Pacinian corpuscle in the cat's mesentery varies wonderfully. Some which came under my observation were three or four times as large as others in the same mesentery. The number of coats enclosing the axis cylinder varies in general from thirty to sixty; some are small, have few tunic coats, and resemble Krause's corpuscle. The inner tunics are much closer together than the outer ones. Each lamella or tunic consists of concentric connective tissue and elastic tissue faced by endothelia. The spaces existing between the connective-tissue tunics are regarded by histologists as lymph spaces, and hence of course lined by endothelia, made manifest by Ag. No. 3. The wonderful capsular structure of the Vater-Pacinian corpuscle must be designed to prevent traction, tension, or trauma from injuring the delicate axis cylinder, and perhaps as a collecting sensory centre. The preservation of the delicate axis cylinder of the Vater-Pacinian corpuscle is accomplished by a fluid medium (Fig. 6).

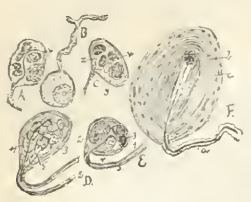

FIG. 6.—*F*, a Vater-Pacinian corpuscle drawn from the mesentery of a cat. It shows a corpuscle of concentric tunics, in which the nerve, *a*, ends. This is a medium-sized one. In the microscopic field from which this was drawn there were four Vater-Pacinian bodies of various sizes and shapes. *b* Shows the blunt end of the nerve; *c* points to the laminated concentric nucleated tunics resembling the layers of an onion. *E*, Peculiar nerve endings in a frog's peritoneum seen under high power; 1, medullated nerve stalk; 2, 3, large granular cells, with bright, round nuclei; 4, the capsule. *D*, Drawn from a frog's peritoneum after treatment with acetic acid and gold chloride, to illustrate some of the various kinds of nerve endings; 1, 2, the entering medullary stalks; 3, the capsule of the end organ containing ovoid granular protoplasmic cells (under high power); the end nerve organs in the peritoneum when successfully brought to view by reagents are very numerous, of varied shape, size, and structure; 4, 5, portions of the nerve fibre coursing among the granular cells. *A*, *B*, *C*, Various forms of nerve endings in a frog's peritoneum from one-celled to many-celled. At *A* one can trace the nerve fibre into the bulb, as at *x*. In *B* there is one big cell, but no nerve fibre could be traced in the bulb. In *C* the bulb has many cells, but the dark nerve fibres are plain at *x*, *x*, *x*. Some portions of the frog's peritoneum has scores of these much varied bulb endings.

Cyon, in 1868, was one of the first to give an intelligent description of the nerves of the peritoneum covering the lymphatica cisterna magna in amphibia. Louis Jullien continued the work in the omentum majus of man in 1872, and Finkam, in 1873, wrote an essay on the same subject. Finkam took the non-pathologic omentum majus from cadavera which came from autopsies in the Goettingen morgue. He used as reagents gold, silver, and diluted acid. He claimed that the pale fibres (Remak's bands) were only sparingly present in the omentum majus. Finkam notes, as all observers can plainly see, that the greatest bundles of nerves are in proximity to blood-vessels, and that when a nerve bundle branches the branch generally runs in the same direction as the original trunk. It may be stated from careful preparations that the nerves of the peritoneum consist of trunks composed of several bundles, which run in proximity to vessels. The trunk repeatedly divides, sending out medullated Remak's fibres and non-medullated fibres. On the Remak's bands may be seen at more or less regular distances nuclei on the sheath, which are many times longer than the Remak's band is wide. In the course of the non-medullated fibres fusiform swellings may be observed at a greater distance from each other than the nuclei on the sheath (neurilemma) of Remak's bands. It appears that the swelling on the neurilemma of the Remak's band is simply the nucleus brought to view by the gold chloride and the clearing action of acids. It is noticed by every observer that all we can see at the end of some nerves in the peritoneum is a roundish bulb. Is this bulb or end organ a relative of the fusiform swelling of the non-medullated nerve? At first I thought that the comparison of the serous covering of the cisterna lymphatica magna of the frog with other portions of the peritoneum might be proper or analogous; for the wall of the lymph sac might be considered of a germinal character, a sexual or embryonic state, some persisting part of ancient animal life. Also it might be considered that the nerves were to supply the muscle in the lymph sac. But considerable investigation has convinced me that though each portion of the peritoneum in general has quite an individuality about it, yet the several parts are quite analogous in the nerve supply. However, the fine, non-medullated, so-called nerve network, which Cyon claimed existed in the various regions of the peritoneum, is very difficult to demonstrate. Dr. Finkam claims that the end organs of Jullien are simply connective-tissue cells.

(*b*) The other form of the nerve endings or terminations in the peritoneum is more obscure and indefinite. However, it appears from microscopical observation that these nerves end: 1, in connective-tissue corpuscles; 2, around the stomata vera, especially in the cisterna lymphatica magna of the amphibia; 3, both medullated and non-medullated nerves end directly on the vessel walls; 4, in single or many-celled, capsulated, round, or knob-shaped endings; 5, in some obscure method in the connective tissue, not demonstrable by present known methods and reagents. The variously shaped and sized bulbous nerve endings are very numerous in the peritoneum.

J. B. Haycroft, E. W. Carlier, and Harold C. L. Scofield (report accompanied by a distinct figure) show that the fine medullated nerves end by being distributed along the capillary vessel. Dr. W. H. Gaskell asserts that all vascular nerves begin as fine, medullated fibres, but lose their medullary sheath in passing through nerve ganglia before they reach their termination in the vessels. The drawing presented by Haycroft, Carlier, and Scofield absolutely disproves Gaskell's assertion, for in their "cut" a fine medullary nerve, *B*, ends directly on the capillary, *A* (Fig. 7).

In 1887, E. F. Hoffmann made some investigations in the nerves of the peritoneum, and concluded that the nerves ended in connective-tissue corpuscles and in the protoplasmic cells surrounding stomata vera in the amphibian lymph sac, which is corroborative of my own investigations. In the microscopic investigations of the nerves of the peritoneum, a clinical fact is significant and impressive, and that is, with the peritoneum about equal in area to the skin, with its rich and vast nerve peripheral area, it is not to be wondered tha peritonitis produces profound reflex disturbances in the heart, kidneys, lungs, and especially the circulatory apparatus. The large number of nerves which may be observed in the peritoneum in one microscopic field of two hundred

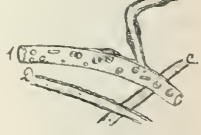

FIG. 7.—(After Haycroft, Corlier, and Scofield, reduced.) A medullary nerve ending directly on a capillary. *A*, Blood-vessel containing corpuscles; *B*, fine medullated nerve ending on the blood-vessel *A* directly; *C*, *D*, medullated nerves.

diameters is sufficiently suggestive to the diagnostician to be on his guard for local and general clinical features from peritoneal disease. The vast network of nerves, by contact in the peritoneum, allows no locality to escape manifesting irritation. A local point of infection in any portion of the peritoneum will produce local or general reflex intestinal paralysis of the most intense type. The network of nerves in the peritoneum by contact holds the whole peritoneum in an intimate and delicate balance. Under the microscope one can see in well-prepared specimens enormous numbers of non-medullated nerves, darting in various directions with the numerous fusiform enlargements, which are three to five times as large as the axis fibre. The swellings are doubtless nerve cells or ganglia situated within the axial fibre strands. Massive bundles of Remak's bands and large bundles of medullated fibres traverse the peritoneum in various directions.

The vast peritoneal network by contact is known, by its peculiar shape, different from vessels, blood, or lymph; by the peculiar triangular cell situated at a point of conveyance or divergence of the fibrillated axial fibre. Here and there in the fibrillated axial cylinder we may note the fusiform swelling or nerve cell. Also accumulations of granular material, which seem to separate the axial fibre strands in a manner similar to the fusiform nerve cell, situated at more or less regular distances from each other. The network is on a plane with the large bundles of Remak's band and non-medullated bundles, and the most typical nerve network is situated at the most distant point of the nerve bundles. The non-medullated, nucleated, nerve network is seen much better and more distinct in the mesenteries, mesogaster, and omenta than in the peritoneum covering the cisterna lymphatica magna. The vast majority of nerves ending on

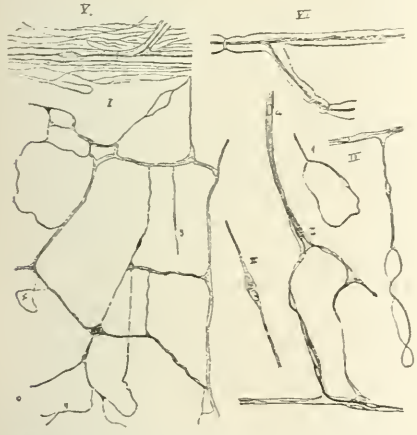

Fig. 8.—Redrawn and reduced from figures in an article by E. Cyon, 1868. The nerves were drawn, with mentioned exceptions, from the peritoneum covering the cisterna lymphatica magna of the frog. Gold preparation magnified 200. In this figure *y* and *g* show free ending fibres; at 1 the two free-ending fibres make a loop by contact. *I* Shows a distinct net or meshwork, but is a network by "contact" and not from anastomosis. *II*. A gold preparation magnified 500, from the same location as *I*. These figures show spindle-formed swellings. They must be considered as nuclei in independent bundles of nerves. *III*. A single nerve fibre with two spindle-formed swellings and nuclei, magnified 500 diameters. *IV*. Fine loops of nerve fibres from the peritoneum covering the cisterna lymphatica magna; *a* is a gold preparation; *b*, which is not marked in the figure, but is at the extreme right, is a carmine preparation. *V*. Fine nuclei bearing nerve fibres, from rabbit's omentum. Silver preparation magnified 250. *VI*. From the mesentery of a guinea-pig. Acetic-acid preparation magnified 500. Note three points on the nerve where elastic fibres present the nerve sheath from expanding.

the peritoneal blood-vessels are the fine, non-medullated nerves, with fusiform swellings on the axis fibre. For a typical sight of the nerves, perhaps the frog's gall bladder is equal to any locality (Fig. 8).

The nerves are enormous in number in the peritoneum covering the gall bladder. Doubtless this explains the excruciating pain when calculi become engaged in inducing peristalsis of the duct so highly supplied with nerves.

Here many of the Remak's bands show distinct anastomosis of the neurilemma. Of course, the axial fibres do not anastomose. In the peritoneum covering the gall bladder one can see the nucleated, non-medullated nerves pass directly to the blood-vessel wall and end there.

It may be stated that one cannot assert from observation in the peritoneum whether a nerve be sympathetic or non-sympathetic. It seems that the farther the nerve branches deviate from the main trunk bundles, the more liable they are to lose the medulla and neurilemma and remain as the primitive naked fusiform axial fibre. The extreme lateral strands of a medullary or Remak's bundle are very liable to become non-medullated and simply present the nucleated axial fibre (Fig. 9).

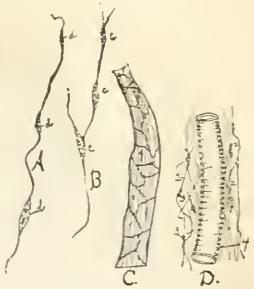

Fig. 9.—Nerves from omentum majus of rabbit. Acetic acid and water, 1 to 200, and to this mixture gold chloride is added, 1 to 1 000, in which the specimen lies for fifteen to twenty-five minutes, and is then preserved in acetic acid and water, 1 to 400, in good sunlight. This specimen I dipped for a couple of minutes in Ag. No. 3, ½ per cent. solution, before it was immersed in the acetic-acid and gold-chloride solution. *A*, *B*, Two nerve strands nucleated at *a*, *c*, *d*; *C*, a nerve running immediately under the rabbit's peritoneum. It is covered by endothelia. *I*, *I*, *I*. *D* Is a small artery with distinct muscular nuclei in it, and surrounded with a network of nucleated nerve strands; *D*, artery; 2, 2, 2, nerve stands, with nuclei at 3, 3, 3; 4, 4, the muscle cells surrounding the artery.

The nerves of the peritoneum present peculiar phenomena in the clinical field. In the first place, the peritoneal nervous periphery is not like that of the skin, though they are regions of about equal area. The skin peripheral nervous apparatus is more sensitive than that of the peritoneum. However, we know that handling the peritoneum is accompanied by considerable pain; we also know that removing gauze from the peritoneal cavity is accompanied by much pain and distress; yet this may be due to somewhat altered peritoneal nerve apparatus, as it is noted that when the peritoneum has been inflamed, has deposits on it, or the peritoneum over the bowel has been exposed from twenty-four to forty-eight hours after colotomy, such portions of peritoneum cut with little pain to the patient. The peritoneum does not perceive pain as the skin does, and the effect of disturbance of the peritoneum is pre-eminently shock. The sensitiveness of the peritoneum or its response to irritation is not equal in all regions. Doubtless this is owing to the quantity of nerve supply, and also whether the irritation be applied to visceral or parietal peritoneal nerves, for the visceral peritoneum is more highly supplied with nerves than the parietal. The sensation of the peritoneum is manifest along the lines of shock, *i.e.*, a profound effect on the vascular apparatus. The magnificent array of nerves supplying the numerous peritoneal blood-vessels, once started into action by some irritation, would profoundly affect the calibre of such vessels, and produce immediate reflex or remote effects in the distant organs. The character of the peritoneal pain is that of dulness, periodic in intensity and time.

Herpes Circinatus.—Heat was applied in cases of forty-seven patients and three nurses. Bath at 50° C. repeated each day gave excellent results.—Noir.

PRIMARY CANCER OF THE NASOPHARYNX CURED BY INJECTIONS OF ALCOHOL.

By EDWIN J. KUH, M.D.,

CHICAGO, ILL.

In May, 1896, Mr. F——, thirty-seven years of age, came to me with the following history: He had been troubled with "catarrh" from early childhood. It had manifested itself in nasal obstruction, discharge of large crusts from the nose, and in the thick speech characteristic of enlarged pharyngeal tonsil. The obstruction in the left nostril had been increasing within the last few months and forcible clearing of the nose produced epistaxis, which was, however, not a recent feature in the case, as Mr. F—— had suffered from nosebleed since his seventh year. He also expelled quantities of a viscid discharge from the nasopharynx, frequently mixed with blood; but this had also been occurring for years. There was occasional buzzing in the left ear, without conscious reduction of hearing on that side. In childhood there had been considerable earache (left ear) and undoubtedly otorrhœa, as an old perforation proved. Sixteen years ago he suffered a severe inflammation in the throat, lasting several weeks (periamygdalitis with involvement of deeper tissues?). This was followed by a phlegmon of the face and neck, and terminated after months of illness in an abscess, which was opened outwardly in the region of the cricoid cartilage. A scar remains at the point of perforation. I found both nasal chambers of abnormal spaciousness and coated with the crusty discharge of atrophic rhinitis, without the characteristic fœtor. The posterior pharyngeal wall had a recent coating of blood and was deeply congested. The post-nasal space showed almost complete occlusion by a tumor growing from the pharyngeal vault, of softer consistency on the right side and globular and hard on the left side. This growth had a layer of dry secretions. There was a slightly enlarged submaxillary gland on each side, such as we are accustomed to find in patients who are subject to inflammatory diseases of the upper throat.

Aside from a slight aggravation of the nasal obstruction and the anxiety of his impending marriage, Mr. F——'s subjective condition last May did not

FIG. 1.—*a*, Carcinoma Nests.

differ materially from the difficulty to which he had been accustomed from childhood. At the time, I made the diagnosis of an enlarged pharyngeal tonsil of unusual persistence. On a few other occasions I had seen the enlarged pharyngeal tonsil persisting in adults even into the fourth or fifth decade of life, although none of that size.

At the time it seemed as though the bloody discharge were largely due to frequent and forcible

FIG. 2.—*a*, Carcinoma Nests.

cleansing of the nose and throat. He was in the habit of snuffing water and glycerin into the nostrils, and, throwing his head backward, he rinsed nose and nasopharnyx with a column of fluid which he impelled backward and forward by gargling contractions of the palate; finally he would tilt his head forward and with an expiratory snort expel the hardened secretions through the nose.

For reasons of a personal nature the growth was not removed until July. A week after the operation there was some return of the growth, and within a month the post-nasal space was again almost completely filled with a soft bleeding mass. Sections of the tumor removed in July showed it to have the character of an epithelial cancer, the nests of concentrically arranged cells being embedded in lymphoid tissue.[1] The clinical diagnosis of carcinoma was confirmed by Prof. Nicholas Senn, and, on account of the location of the neoplasm, surgical interference was deemed too hazardous to be undertaken.

On September 15, 1896, I began with the injection of the unfiltered erysipelas-prodigiosus toxins. The preparation used was obtained from Dr. Gehrmann, of this city, and subsequently from Dr. Coley (Mr. Buxton), of New York. From five to twelve minims were injected daily through a five-inch needle attached to a Pravaz syringe, which I introduced under ocular guidance into the tumor through the nose. The usual febrile reaction followed each injection, and after ten treatments fully two-thirds of the growth disappeared. During the next few days of continued injections no further reduction in size occurred, and then, although fourteen additional injections were made (increased to thirteen or fifteen minims), the growth increased steadily in size. After the twentieth injection I excised a piece of the tumor and found the same histological character of the first growth, with a somewhat larger addition of lymphoid elements, evidently due, not to a healing process, but to inflammatory reaction. It was then decided to discontinue the toxins. Upon consultation with Dr. Senn it was decided, in view of

[1] I am indebted to Dr. C. T. Gramm for the photomicrographs.

the hopelessness of the disease and the inevitable fatal outcome, to inject alcohol into the growth, after the method of C. Schwalbe and O. Hasse. This decision was based more upon the revival of a literary reminiscence than upon a conviction of its prospective success.

The injections were begun on October 14, 1896. I used the same method as with the toxins, beginning with three minims of absolute alcohol (more could not be tolerated at first on account of the pain) and rapidly increasing to thirty minims. The reduction in size began after the seventh injection, and after the eleventh but few remnants of the growth remained. After a dozen more injections the needle would not penetrate into tissues capable of retaining the alcohol, and after a few additional attempts, at intervals of a week or longer, they were discontinued.

In February, 1897, the naso-pharynx was found both by inspection and palpation to be entirely free from growth or any suggestion thereof. A letter from Dr. Senn, dated February 23, 1897, is of interest in this connection. He writes: "Your examination of sections of the tumor confirmed the diagnosis [of cancer]. I believe that the patient has recovered completely and let us hope permanently." All that remains at present is some annoyance from dried secretions. The injections were quite painful and required all the fortitude the patient could muster in order to be tolerated. Had the monographs of Hasse been in my possession earlier, I may possibly have used thirty-per-cent. to fifty-per-cent. dilutions. At the request of the patient's family physician, Dr. H. Banga, the iodide of potassium was taken during the later injections; two ounces were given in all. As medication was not begun until shrinkage of the growth was considerably advanced, and as the cancerous nature of the tumor was above suspicion, with total absence of specific history or symptoms, it is safe to assume that the iodide of potassium stood in no causal relation to the disappearance of the neoplasm.

The marvellous success attending the use of alcohol in this desperate case (whatever the ultimate outcome may be), impels early publication as a solemn duty, in order to impress upon the profession the necessity of giving thorough trial to a method which, if proven to be of such value as it undoubtedly was in my experience, requires no commentary to emphasize its importance. Among the six cases of nasopharyngeal cancer hitherto recorded, of all of which full histories have been published, show a fatal termination. The attention of Dr. O. Hasse, of Nordhausen, Germany, to the therapeutic effect of alcohol injections was aroused by the publications of Dr. Karl Schwalbe on the treatment of goitre, hernia, angioma, etc., by parenchymatous or hypodermic injections of alcohol.

In 1872 and 1873 they applied this treatment to malignant tumors, reasoning from the analogy between the regressive metamorphosis in carcinoma reticulare (Virchow) and the contraction and atrophy of tissue in cirrhosis of the liver.

Schwalbe argued (heroically brushing aside numerous unknown factors concerning the fate of alcohol in the organism) that if alcoholism will cause formation of new connective tissue in the liver with atrophy of parenchyma, lymphatics, and blood-vessels, the direct injection of alcohol into tumors ought to do the same.

Hasse modified this method by injecting into the circumference of malignant growths, reasoning that, if the blood supply to the tumor and the export of metastatic elements from the tumor were cut off, atrophy in the tumor would result. Or, in other words, by girdling a tumor with a zone of alcohol there would result a new formation of connective tissue with constriction or obliteration of the afferent and efferent vessels. Whether this theory be correct or not, Hasse's results are truly startling. He takes cancer of the breast as his object lesson. His method is the following: A Windler syringe holding five cubic centimetres, with a needle of six to seven centimetres in length, is used. The breast is to be grasped with the full hand and elevated from the chest. The needle is introduced at the edge of the gland and when in position is detached from the syringe for one-half to one minute. If blood oozes from the needle, it is to be extracted and reintroduced, in order to avoid injecting into a blood-vessel. Then the alcohol is (acccording to the requirements of each individual case) injected into the circumference of the mamma, into the retromammary tissue, the lower free edge of the pectoral muscle, and below and between the infected axillary glands; the strength to be thirty per cent. to fifty per cent., the quantity according to the size of the tumor, varying between five and twenty cubic centimetres.

The principle to be observed is to surround the periphery of the neoplasm with the fluid, in order to induce a scirrhous contraction in the connective tissue and thereby to cause fatty degeneration of the metastatic cancer cells in the lymphatics surrounding the

Fig. 3.—*a*, Carcinoma Nests.

tumor. In this manner the author claims to reduce the blood supply to the tumor and to choke off the infected efferent vessels. The tumor itself is supposed to undergo sclerotic contraction in its interstices and a fatty regressive metamorphosis in its parenchyma. In advanced cases in which the tumor has become adherent to the pectoral muscle, the author advises immediate operation, followed by alcohol injections into the vicinity of the wound and, if necessary, into the supraclavicular and infraclavicular fossæ, in order to prevent relapse. The injections are to be made once or twice weekly in the beginning, and subsequently at longer intervals. The average number of injections amounted to one to two dozen, extending over a twelvemonth or less, each case requiring individualizing, as a matter of course. It is necessary to emphasize the necessity of following Hasse's directions implicitly in order to avoid the error of charging a method with failure due to its faulty application. Hasse reports fifteen cures in eighteen cases of breast carcinoma. The three deaths were due to the hopeless advance of the disease before treatment.

The critical reader of Hasse's publications cannot fail to be impressed with the reliability of his diag-

noses, a number of them having been confirmed by Wilms, Volkmann, Bergmann, Baum, Thiersch, Gussenbauer, Oberst.

The success in my own case, annihilating personal scepticism, justifies me in urging an unbiassed investigation of Hasse's claims. His first successes date back a quarter of a century. Ernst Brand was obliged to wait still longer before his superb results in the treatment of typhoid fever conquered an unwilling and unbelieving profession.

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ANOTHER METHOD OF FIXATION OF THE KIDNEY.

By J. COPLIN STINSON, M.D.,

SAN FRANCISCO.

It must be remembered at the onset that the kidneys under normal conditions are held in place by the perinephric fatty connective tissue. If the sustentacular power of this capsule becomes impaired, a movable or floating kidney results. The left kidney reaches as high as the upper border of the eleventh rib, the right to the lower border of the corresponding rib. The tunica propria is a strong fibrous capsule. The fatty capsule is a well-defined layer and consists of the subperitoneal adipose tissue and the transversalis fascia, which is thin and ill defined in this region. The relations of the kidneys posteriorly are the diaphragmatic, the lumbar, and the iliac fasciæ.

The objects of my paper are to show that the several methods at present used in fixating a kidney are by no means perfect and to describe another method which I consider the best. An operation to be followed by a cure should fulfil the following conditions: (1) Restore the kidney and surrounding structures durably to their normal positions and relations. (2) Not interfere with the functions of the kidney, *i.e.* the operation should not be followed by pain, hæmaturia, nephritis, abscess, etc., of the kidney or its surroundings. (3) Not be followed by any other untoward symptoms, *e.g.*, slow-healing wounds, sinuses, large and painful cicatrices, etc. (4) Have a mortality at or about nil.

The following operation I consider fulfils these indications and overcomes the objections to the operations hitherto described. The patient is placed in the lateral position on the opposite side, with a hard round pillow under the loin. An incision is made along the outer edge of the erector spinæ from the twelfth rib to the iliac crest. It divides the skin, the subcutaneous tissues, the latissimus dorsi, fibres of the external and internal obliques, and the lumbar fascia for the whole length of the wound. If fibres of the quadratus lumbarum overlap the line of incision, draw them aside, next dividing the anterior layer of the lumbar fascia. The fatty capsule now comes into view, and is lifted with forceps and incised vertically to within one-half an inch of the upper and lower borders of the kidney, the index and middle fingers of one hand being introduced to ascertain the position of the kidney, etc. The fatty capsule is then stripped off on each side, for about one-half an inch, exposing well the tunica propria. If there is an excess of the fatty capsule, take up the slack by removing the redundant tissue, leaving only sufficient of the fatty capsule so that its cut edges can be brought together, later on, by nature without tension. Next the patient is thrown into the Trendelenburg position. With pelvic elevation we have gravitation in our favor, and with a few manipulations, after separating adhesions if any exist, the kidney can be readily brought out of the wound, inspected, palpated, etc., and restored to its normal position, where it is fastened in the following manner:

The first stitch is inserted at the upper angle of the incision, close to and parallel with the lower border of the last rib. The needle armed with chromicized tendon pierces the inner lip of the lumbar fascia and the fatty capsule about one-half an inch from their cut edges. The needle then pierces the tunica propria, along and under which it is carried for about one-half an inch, when it is brought to the surface. The suture should not include any of the kidney substance proper. The needle is next inserted into the outer lip of the fatty capsule and the lumbar fascia, emerging about one-half an inch external to their cut edges. The suture is then tied, a square knot being used.

The second suture is introduced at the lower angle of the incision and includes the structures as above, *i.e.*, lumbar fascia, fatty capsule, and tunica propria. This suture is also tied. Two to four more sutures are introduced in a similar manner, at equal intervals between them. These interval sutures are left untied for the time being. The cut edges of the fatty capsule and the lumbar fascia are brought accurately together with a single layer of continuous chromicized tendon. The interval sutures are now tied. The patient is lowered to the horiontal position and the cut edges of the muscular layers are accurately sutured in separate layers with fine chromicized tendon or chromicized catgut, and the skin is closed with fine silk without drainage.

Dressing and after treatment: Bichloride-of-mercury gauze held firmly in place by long strips of adhesive plaster, then a layer of cotton and a snug binder. Dress the wound on the seventh day, or earlier if there are indications; apply dressing, etc., as before. Keep the patient in bed two weeks. If primary union is not obtained, do not allow him out of bed till cicatrization is complete. The firm dressings are removed one month after the operation. For passing the stitches under the tunica propria a straight dull Hagedorn needle should be used. With little practice the needle can be readily guided along under the investing capsule of the kidney without including any of the glandular tissue.

During the past few years several methods of stitching the kidney have been described and used. The following are the principal:

1. The method described by Keen, in the "American Text-Book of Surgery": "Pass four to six sutures of silk through the capsule and a portion of the kidney tissue, then through the adjacent fascia and muscles, knotting them and cutting them off short, with or without drainage."

2. Edebohls', in the *Virginia Medical Monthly*, February, 1896: "Incision and stripping off the capsule proper, which is doubled back, with stitching of the raw kidney surface to the raw edges of the lumbar muscles; the stitches of chromicized catgut pass through the muscles and fascia of the back, the fatty capsule, the inverted capsule doubled on itself, and the kidney substance itself; passing a drain of several strands of worm gut along the raw kidney substance for drainage, and to form firm cicatricial union by irritation of the raw kidney substance and the contiguous deep tissues of the abdominal wound."

3. Reineboths', in the *Centralblatt für Chirurgie*, No.

20, 1894: "Suture of the fibrous capsule with catgut to fix the lower half of the kidney: to fix the upper half, the capsule is slit up at the posterior edge of the organ, and is loosened as far as possible from its attachment to the kidney, with packing of the space thus formed with iodoform gauze, which is also pushed up high between the exposed kidney substance and the diaphragm; the rest of the wound is packed, the packing remaining for several weeks, and its removal discloses two granulating surfaces, which after a time become attached."

4. Senn's which he thinks ought to be used in bad cases: "Two silk sutures are passed through the capsule at the upper angle and fastened to the periosteum of the twelfth rib; two other sutures are passed through the capsule at the lower angle and fastened to the lumbar muscles; the wound is widely separated and packed with iodoform gauze, which is carried as far as possible around the kidney. By this method the surface of the capsule becomes covered with granulation tissue. This anchors the organ to surrounding parts, becomes converted into fibrous tissue, and contracts. The packing is removed in one week, and the wound is allowed to heal."

I enumerate the above methods to show wherein they differ from one another.

After a study of eight nephrorrhaphies, seven of which were performed at the New York Post-Graduate Hospital while I was house surgeon, the other since I left that institution, after a due consideration of the surgical and pathological anatomy of the kidneys, and after a *résumé* of some of the literature of the day, I have reached the conclusion that all the above enumerated methods are open to serious objections.

Primary, firm, and durable union should be considered of first importance in our operations: hence the buried suture and ligature materials are of great importance. Many failures are due to the use of sutures, *e.g.*, ordinary catgut and tendon, that are absorbed before the union is firm and durable; to the use of non-absorbable sutures; to improper suturing, or to the use of gauze packing or other drains.

The structures dealt with in nephrorrhaphy are in the main tendino-fibrous, requiring several weeks for firm and durable union. Non-absorbable sutures, *e.g.*, silk, wire, worm gut, etc., should not be used, as they all, at times, even when the wounds heal by primary union, act as foreign bodies, form wandering or dead sutures, or work their way to the surface, producing slow-healing, painful, and troublesome sinuses. Cases have been observed in which patients have been incapacitated for weeks on account of abscess or sinus formation; at times repeated operations have to be performed to remove the sutures, and still later a second nephrorrhaphy to restore the relapsed organ to the normal position.

It was only recently I saw in consultation a patient who had been operated upon for floating kidney, after the technique and method of operation described and commended by Edebohls before the New York Obstetrical Society, April 18, 1893. The patient was incapacitated for weeks from sinus formation. Several operations had to be performed to remove the sutures; the kidney relapsed into its pathological position, and another operation will have to be done to cure the patient.

The use of gauze packing or other material to produce irritation, granulation, etc., I consider crude and unscientific. Methods involving this principle should be avoided, as the wounds heal slowly, and after cicatrization is complete such tissues yield rapidly on account of their poor blood supply, etc., and when relapse does occur there are, at times, present such deplorable symptoms that no support can be worn with comfort, while a second operation is rather difficult and dangerous. The principles of such methods are wrong in theory and, I think, no longer justifiable in practice. The stitches used to anchor the kidney should not include any of the secreting structure. Frequently they cut either partially or completely through the friable substance, and at all events, whether tied tightly or loosely, they cause irritation, giving rise to pain, albuminuria, hæmaturia, etc., which are likely to increase the gravity of the operation and may do irreparable damage. It is a somewhat dangerous and altogether unnecessary procedure, and I am sure better results can be obtained by not including any of the glandular structure. The opening and stripping back of the tunica propria, with stitching of the raw kidney to the muscles of the back, strikes me as being totally unscientific and unphysiological. The formation of adhesions between the tender kidney surface and muscles that are actively contracting should be avoided, as it gives rise, in some cases, to irritation, pain, tenderness, etc., in all the structures involved in adhesion. Fixation of the organ by adhesion between the tunica propria and the fatty capsule and the lumbar fascia I consider fulfils every indication. It is dangerous, at times impossible, and altogether unnecessary for the needles and sutures to include the periosteum of the last rib. The needles are liable to break, and very often the periosteum is not included. The stitches which fixate the kidney should not include any of the muscles, as at times the contractions of the latter cause irritation in and around the stitches, giving rise to pain, thickenings, infiltrations, etc. So many untoward symptoms, *e.g.*, pain, tenderness, albuminuria, hæmaturia, perirenal abscesses, sinuses, pneumonia, phlegmasia alba dolens, neurasthenia, hysteria, etc., frequently follow nephrorrhaphies, that the operation has been abandoned by some scientific surgeons. To show the pain, etc., that may be present after any of the methods of operation I have enumerated, I quote the following, from an article on cases illustrative of renal surgery, in the *Boston Surgical and Medical Journal* of July 2, 1896. "During the first six days the patient suffered a degree of pain such as I have never seen follow any surgical operation. The urine diminished in quantity, and it was feared to give large doses of morphine, such as would have been required to stop pain. She had subcutaneously doses of one-fourth grain, three or four times in the twenty-four hours, but they were almost without effect, and the only relief to pain was found in the sitting posture, and the patient could not be kept on her back in consequence."

Now as to the method of operation I have described in my paper, the Trendelenburg position, with the patient on the side, allows, with few manipulations, the inspection, palpation, and restoration of the kidney to the normal position. The removal of the excess of the fatty capsule takes up the slack in this structure. The chromicized tendon sutures through the lumbar fascia, fatty capsule, and tunica propria hold the kidney primarily, firmly, and durably, without interference with its functions, or those of adjacent structures. The approximation of the cut edges of the fatty capsule and the lumbar fascia with a single layer of chromicized tendon brings these layers into close relation with each other, and when the interval interrupted sutures are also tied the kidney is fixated in close relation with the lumbar fascia and fatty capsule, by means of the tunica propria. Properly prepared chromicized tendon sutures are non-irritating, and not absorbed for two or three months, when they are replaced by fibrous tissue. The structures dealt with in nephrorrhaphy, like those in hernia operations, are in the main tendino-fibrous, requiring several weeks for firm and durable union: that is, just about the period required for the absorption of chromicized

tendon. Under these circumstances I consider that the union between the tunica propria and the fatty capsule and the lumbar fascia is sufficiently firm and well adapted to hold a kidney durably in its normal position without occasioning any untoward symptoms. In order that there will be no adhesions of the layers one to another, and that the resulting cicatrix will not be painful, tender, or unsightly, each of the cut muscular layers should be sutured separately with fine continuous chromicized tendon or chromicized catgut, and the skin with fine silk without drainage. If the operation has been antiseptic and aseptic, there is no necessity for drainage.

Materials, *e.g.*, gauze packing, strands of silkworm gut, etc., used to produce irritation, granulation tissue, etc., should be avoided for the reasons already given.

In conclusion I may state that I consider that, by the operation I have described in my paper, a displaced or movable kidney can be restored firmly and durably to the normal position and relations without interference with its functions and without the operation being followed by any untoward symptoms.

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SOME REMARKS ON ADENOIDS, WITH CASES.[1]

By JOHN A. JAMES, B.Sc., M.D.,

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It is a matter of great gratification that a very general interest is beginning to be taken by the profession at large in the subject of hypertrophy of the pharyngeal tonsil, a condition generally described by the term adenoids. It is extremely satisfactory to note the increasing importance given to this subject in text-books devoted to diseases of the upper air tract. If we compare a text-book of even seven or eight years ago with one of to-day, we are struck by the fact that the scant mention given to hypertrophy of the pharyngeal tonsil in the older book has given place to an elaborate chapter in the later work, describing minutely the condition, its effect, and the means for its cure. It is because of the great amount of literature that has been written upon this subject in the last few years, that I purposely avoid the discussion of the anatomical and other well-known aspects of the condition, choosing rather to ask your attention to the clinical features of a few of the more striking cases selected from my record of patients operated on, and calculated in each instance to show some form of disturbance, reflex and otherwise, dependent upon the existence of adenoids.

Case I.—Bernard S——, aged fifteen years, Little Rock, Ark., was referred to me by Dr. Jenkins, January 25, 1895. He gave a history of "catarrh" since early infancy, characterized by much discharge and a correspondingly great effort to clear his nose by blowing and snuffing at frequent intervals. He had had frequent earache, and was at times quite hard of hearing. He presented the typical adenoid face, speaking with the "dead" voice, breathing with parted lips, snoring, and suffering almost all the time with symptoms of a common cold in the head. A year before his visits to me he had been seen by a gentleman who, examining his nose and finding it stuffy, applied the galvano-cautery on eight different occasions. No relief from the mouth-breathing resulted, but ever since that time he had frequent and spontaneous nose bleeding, with formation of large crusts in either nostril. Examination showed the nose filled with dry, scaly crusts, without fœtor. The turbinate bodies had been so reduced in size as to render the nostrils simply two holes in the head. The pharynx was dry and glazed, and an enormous mass of adenoids filled the nasopharyngeal space. It was explained to his uncle, who accompanied him, that no relief could be extended in the way of restoring the destroyed turbinate tissue, but that the so-called "catarrh," the mouth-breathing, and the aural disturbance would be entirely relieved by the removal of their cause—a hypertrophied pharyngeal tonsil. Two days later the adenoids were removed by the use of the forceps and the curette. That day the patient breathed freely, his voice was clear, and his facial expression bright. He was given a stimulating application for the turbinate surfaces, and four days later he returned home. Half a year later his uncle stated there had been no recurrence of the mouth-breathing or catarrhal secretion, but that the tendency to crusting still existed, though in a lessened degree.

The above case has been exactly duplicated in several instances. A child suffers from so-called catarrh. An examination of the anterior nares is made. The turbinate bodies are discovered to be abnormal in size, and powerful cauterizing agents are applied, with the object of relieving the supposed hypertrophy. Now, almost all patients with adenoids present on anterior rhinoscopy the appearance of hypertrophic rhinitis; but that it is a purely vascular turgescence of the turbinate bodies is shown by the application of cocaine, when the nostril quickly resumes its normal lumen. The cauterization of a turbinate body is never to be done without proper deliberation; and, in the case of children, I believe we are right in practically forbidding the cautery, instances of true hypertrophy in children being few and far between. In the case cited, and in several similar ones, the destruction of the most important function of the nose—namely, moistening and warming of the inspired air—has been forever destroyed. Had the operator but used the rhinoscopic mirror or passed his forefinger up into the nasopharyngeal space, he must at once have found the mass of adenoids.

Case II.—Bessie S——, aged eight years, referred by Dr. Keeble, December 10, 1896, had been a mouth breather all her life, her breathing being distinctly audible several feet away. She was thin and anæmic, the appetite was poor, and her sleep restless and broken. All her life she had been in the habit of wetting the bed every night. Examination disclosed the presence of faucial tonsils of moderate size, and a well-developed pharyngeal tonsil. She was somewhat deaf, and there was a history of earaches. Three days later the adenoids and the faucial tonsils were removed, under chloroform. Her weight increased following the operation, and her breathing became entirely normal. Her sleep was quiet and peaceful. On the second night after the operation she failed to wet the bed, and from that date she has been entirely cured of the habit.

I select this case because a number of children having adenoids have had nocturnal enuresis, which without any treatment disappeared after the operation. It is easy to understand that mouth breathing, with its consequent discomfort and restlessness, may well figure as one of the reflex causes of nocturnal enuresis.

Case III.—Maude G——, aged seven, had been a mouth breather all her life. She presented the usual characteristics of children with adenoids. A year ago her large faucial tonsils were very properly removed by a gentleman, without altering the mouth breathing or benefiting the "dead" voice. She suffered from a nasal "catarrh," and in this condition was

[1] Read before the Missouri State Medical Association, at Sedalia, May 19, 1896.

taken to Dr. Outten, who recognized the existence of the adenoids and referred her to me. The relief following the operation, done under chloroform, was immediate and complete.

This case is cited because it is one of the many in which an assurance of relief is given, the faucial tonsils are removed, and the adenoids allowed to remain. Of course, the obstruction to nasal respiration remains as before. I urge, therefore, that, in all cases in which the faucial tonsils are hypertrophied and catarrhal and other obstructive conditions exist, a careful search be made at the same time for adenoids, and their removal be insisted upon whenever found.

Case IV.—Hoyt B——, aged eleven years, was referred to me by Dr. Morris, in January, 1895. His history was the frequent one of associated nasal catarrh, earaches, etc. He was strong, well grown, and handsome, except for a confirmed habit of mouth breathing, which had resulted in an extremely faulty arrangement of the teeth. The upper incisors projected half an inch below the lower ones, leaving them always visible beneath the apparently too short upper lip. His mouth breathing was found to be due to the presence of adenoids, which were removed. He was then referred to a skilful dentist, whose efforts to straighten the teeth will, I believe, be entirely successful. To attempt to do this without first rendering nasal respiration possible is clearly an error. It is doubly important that cases like this latter, which, especially in girls, result in great marring of personal beauty, be attended to very early in life.

Case V.—Edward H——, aged five years, was a sufferer from frequent attacks of croup, of cold in the head, and earache. He was brought to me on January 8, 1895, and a diagnosis of hypertrophy of the pharyngeal and the faucial tonsils was made. I urged an operation, which was refused by the parents. For a time an expectant treatment was followed, with the usual result—a failure. He sustained an attack of acute purulent otitis media, and passed into other hands. Some months later, coming into still other hands, a superficial operation was made upon the adenoids. In November, 1895, he had a heavy cold, accompanied by a severe croup and acute otitis media. The father returned to me, and on November 21st both the adenoids and faucial tonsils were removed. His hearing, which was noticeably dull, was restored by gentle inflation of the middle ear. He passed through the winter for the first time in his life without croup or earache.

I cite this case because it is one out of a vast number in which the subjects suffer from repeated attacks of earache and of various forms of middle-ear and mastoid disease. They go on from year to year, suffering from recurrent attacks of otorrhœa, which are treated solely through the aural speculum, and the cause of the trouble is allowed to persist. A succession of these attacks leads to the development of the exceedingly frequent cases of chronic purulent otitis media, with their accompanying necrosis of bone and polyp formation and the attendant loss of hearing.

In his classical paper on adenoids, Wilhelm Meyer stated that seventy-four per cent. of his patients suffered from some degree of deafness. Woakes goes still further, in declaring that ninety-five per cent. of children with adenoids have middle-ear disease. I believe that in every case of middle-ear disease the nasopharynx should be carefully explored for adenoids, and that these, when found, should be thoroughly removed as an early part of the treatment of the aural condition. When this is done we shall realize the truth of the statement of Halstead, that "it has been the misfortune of otology that the ear has been viewed too much through the aural and too little through the nasal speculum and rhinoscopic mirror."

Case VI.—Oscar M——, aged eleven years, Plattsburg, Mo., was brought to me, October 25, 1895, by Dr. DesMond, of that town, with the following remarkable history. His mother and three maternal uncles and aunts died of consumption, and on his father's side there were three cases of paralytic dementia. The boy had whooping cough and measles at three years; otherwise he had been well. Two years ago he fell on the floor in a convulsion, the unconsciousness persisting from one and one-half to two hours. This was followed by a period of both deafness and blindness—total and complete—lasting about three hours. At the end of that time he placed his hands to his ears, complained of a sudden severe pain there, and the hearing and sight were as suddenly restored. This attack was followed by others exactly similar in every way. For over a year he had been out of school, because he had attacks while there. He did not have them while at play, but they occurred upon coming into the warm, heated room. The coming of the seizures could not be predicted by himself or his friends. It was observed he never fell or hurt himself during the attacks. A year ago a gentleman in Cincinnati removed a small amount of adenoid tissue from his nasopharynx. His condition was not modified, and when I saw him he presented an absolutely typical adenoid face—the open mouth, the vacant look, the "dead" voice, the flat wide bridge of the nose. He was tall for his age, but somewhat thin and anæmic. The case was evidently of a hysterical character. He had been for some time under careful observation by Dr. DesMond, who had excluded various factors that might have led up to the trouble. Just what causative relation the adenoids bore to the attacks was not clear: but, after consultation with Dr. DesMond, it was decided to clear out the nasopharyngeal space. This was done, the amount of lymphatic tissue being very great. He returned to his home the next day, and I heard no more from him until March 18th, six months after the operation, when he entered my office. He had had no attacks since the operation, he breathed easily and freely through the nose, his appearance was bright and healthy, and he had gained fifteen pounds.

Case VII.—On December 4, 1895, I was hurriedly sent for by Dr. Garcia, to do a tracheotomy on a three-year-old child. The patient, a fat, short-necked little girl, had suffered for three days from a severe attack of croup, which had failed to respond to all the remedies. Her face was pale, there was extreme inspiratory dyspnœa, the respiration was 45, the pulse was quick and weak, and the surface of the body was bathed in a cold perspiration. The case was certainly an alarming one; and to one who had to attempt a tracheotomy on a child at once so young, so short-necked, and so fat, not a promising one. On attempting to use the laryngeal mirror, it was found impossible by reason of the presence of a pair of large faucial tonsils. The forefinger was passed up into the nasopharynx. The space was filled with adenoids. The child had been a confirmed mouth breather all her life. A hurried consultation was held. It seemed worth while to attempt the removal of the faucial tonsils and adenoids before undertaking a formidable tracheotomy. The faucial tonsils were quickly guillotined and the adenoids thoroughly removed by forceps and curette. In less than five minutes the hemorrhage had entirely ceased, and the exhausted little patient slept with closed lips and without a trace of croup or laryngeal stridor. Fearing to leave her, she was watched for half an hour, but continued to sleep quietly. She was seen twenty-four hours later. The parents reported that she had slept the entire night, with closed mouth and no symptoms of croup.

This case is, I believe, entirely unique in teaching that, in some cases at least, an immediate adenectomy

and tonsillectomy may suffice instead of tracheotomy in cases of laryngeal croup of spasmodic character. The explanation lies in the fact that in mouth-breathing children the unmoistened inspired air dries and renders irritable the mucous surfaces of the larynx, thus predisposing toward laryngeal spasm. The restoration of nasal respiration results in proper moistening of the inspired air, with consequent relief from the spasm. A careful observation of many croupy children has shown me that nearly all of them have adenoids or hypertrophied tonsils, or both.

The operation for the removal of adenoids is, when done with proper care, a simple one. The instruments required are a good mouth gag, preferably O'Dwyer's, and several forms and sizes of forceps and curettes. The steps of the operation are as follows: The patient being anæsthetized and in a good light, the mouth gag is introduced on the left side and held by the assistant. The operator, standing on the right side, introduces his left forefinger into the nasopharyngeal space as a guide. The forceps are introduced and the mass of adenoids is seized and removed. This is repeated as often as is necessary to clear out the space. Some shreds of lymph tissue will remain. These should be thoroughly scraped out with some form of the Gottstein curette. An ideal result contemplates the removal of the entire mass. The hemorrhage is generally profuse for a minute, then ceases spontaneously. Should large faucial tonsils exist, it is best to guillotine them immediately before attacking the adenoids. A few simple dressings complete the after-treatment, although such cases should be kept under observation for some time, to note possible recurrences. Many of them are in bad general health, having enlarged glands all over the body. To these I have given with excellent effect the syrup of hydriodic acid in liberal dosage, as being at once efficient in action and pleasant to the taste. The associated deafness, which exists in most adenoid children, begins a spontaneous improvement in many cases; and in almost every one of them a gentle inflation of the ear is enough, after a few repetitions, to restore the normal hearing-distance.

The patient, if under fourteen years, should always be chloroformed, and the anæsthesia should be more profound than is generally employed. There are two reasons for this—first, that the administration of the anæsthetic is suspended as soon as the operation is begun; and second, as pointed out by Dr. Keeble, who has efficiently assisted me in a number of operations, that the nasopharyngeal reflex being more delicate than the conjunctival, we are often misled by the latter test and forced to suspend the operation while more chloroform is being given. For older patients no anæsthetic is required. I have carefully questioned many of them, and have been assured, in nearly every instance, that the operation was almost devoid of pain, the discomfort of having the instrument in the mouth being the chief annoyance. Further, I urge that the slight danger of anæsthesia in children is more than outweighed by the fright and shock attendant upon the performance of this brief though bloody operation without it. Again, the operator is allowed more time in which to do his work carefully and completely. To do a quick, hurried operation on a struggling child is to leave the way open, in most cases, to a recurrence of the growth. The truth is attested by two of the cases herewith reported as having been operated on by others, and by several of my own operated on before I learned to insist upon thorough anæsthesia. The danger to the Eustachian tubes and other adjacent structures is greatly lessened under chloroform. But a short time ago I showed to Dr. Summers, who is present to-day, a young woman of eighteen, in whose nasopharynx the Eustachian tubes were separated by an interval of less than half an inch. The careless use of wide cutting instruments in such a case must have resulted in great laceration of the Eustachian orifices and consequent deafness. In this case a slender forceps and a narrow curette removed the growth.

In conclusion, I wish to protest against the weak and careless policy so often indulged in, of allowing children with adenoids to grow up in a condition of mental and physical inferiority to their playmates, and of thus fixing upon them, in their adult life, infirmities and disabilities which no skill can entirely remedy—a policy which is justified by the bad advice so often heard, that "the child will outgrow the trouble."

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MERYCISM.

BY LEWIS S. SOMERS, M.D.,

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THE voluntary act of regurgitating the food for the purpose of remastication is the normal method of digestion in a large class of the lower animals. To this condition the name merycism or rumination has been applied, the latter term being used most frequently and often wrongly, the condition being erroneously associated with involuntary regurgitation. Occurring occasionally in the human subject, it is most frequently seen in degenerates or neurasthenics, or as the result of prolonged mental strain, and usually bearing a remarkable parallelism to the degree of the neurasthenia. Nacke has reported his own case; at the age of thirty years, becoming neurasthenic from excessive mental work, he was subject to periodical attacks of merycism.

The mechanism of the condition starts with the act of regurgitation, which is preceded by a rapid inspiratory effort and simultaneous closure of the glottis, during which the diaphragm is forced downward, with contraction of the stomach walls, so drawing the contents of the stomach through the cardiac orifice; this is immediately followed by a deep expiration to prevent the return of the food. The stomach contents are regurgitated to the mouth in small quantities, then masticated and again swallowed, the process being repeated at intervals until complete digestion has ensued or another meal been partaken.

The following subject, presenting the various phenomena of merycism, applied to the aural clinic of the Union Mission Hospital, October 11, 1893, for relief from progressive impairment of hearing:

Albert McC——, male, aged five years. Family history is negative, except as to an uncle and cousin on the maternal side, neither of whom could talk until after their sixth year.

Personal history: Born at term, nearly asphyxiated on account of prolonged labor; with this exception delivery was normal, no instruments being used. Attention at this time was attracted to the large size of his head. He was unusually intelligent as an infant, and with the exception of an indefinite history of coryza and convulsions at three months of age, was healthy until his third year, when he had measles. Previous to this he could talk as well as any child of the same age, and hearing was normal, but the rubeola was followed by a total loss of hearing without aural suppuration, and in a short time he could not talk, simply making unintelligible sounds. He has one brother, ten years of age, who is healthy. He has been well as regards general health since the attack of measles.

The boy was robust in appearance, could not talk, and presented the appearance of chronic hydrocephalus as far as the size of his head was concerned.

Measurements of the head were made, and showed a marked increase in size over the normal. The hard palate was "gothic" shaped, there was slight hypertrophy of the tonsils, and the pharynx was sclerotic. Nose, turbinates hypertrophied. Ears, both membrana tympani thickened and retracted. He could not hear watch or voice on contact, but bone conduction was normal. Under treatment hearing was restored, and he could talk fairly well.

He was then absent from the clinic for about six months, when his mother brought him back, with the complaint that "he ate his food like a cow." On questioning, it was ascertained that he would regurgitate his food and masticate it with apparently greater enjoyment than during the original eating. This was entirely voluntary on his part, and occurred at irregular intervals, but principally about one-quarter to one-half hour after meals. Frequently he would hide to avoid censure, and when found would be sitting alone, masticating the remains of a former meal with evident relish. When this condition was first noticed, true vomiting would sometimes take place from his efforts to regurgitate more than his mouth would hold; but this disappeared as his experience increased, for he soon became able to judge of the amount required to masticate at one time. Dr. John H. Dripps then saw the case with me, and made a diagnosis of neurasthenia. The patient was put on a semi-solid diet, meat in small pieces to be eaten slowly, and the mother instructed carefully to attend to his meals and use large amounts of "moral suasion." He also received the syrup of the iodide of iron and calisaya. Improvement was gradual, but at times he would apparently relapse into the former condition of merycism. When last seen, about six months ago, his mother stated that he remasticated his food only at long intervals, and she considered him cured.

A lowered or perverted condition of the nervous apparatus plays an important part in the etiology of merycism. Heredity is of some importance, as concerned in the transmission of a vitiated nerve tone. This hereditary influence was in the minds of some of the earlier writers when they laid stress on the descent of the person affected with the disorder from herbivorous parents, or thought their ancestors possessed two stomachs, like some of the lower animals. In a number of cases studied by different authors, neurasthenia was credited with being the underlying condition, and at the same time some disorder of the stomach was present. Lemoine and Linassier divide the condition into two varieties, a simple and a pathological form, while they have divided the latter form into several subvarieties depending upon the degree of dyspepsia present. Mimicry has appeared to be a factor in a few reported cases. A low grade of stomach irritation is probably present in nearly all cases, and by reflex action gives rise to the desire to regurgitate the food; this irritation may be the result of local pathological changes or simply a manifestation of lowered nerve tone.

The frequency with which merycism is seen among the insane, and the fact that it may be voluntarily produced or even suppressed, are in favor of its nervous etiology. Improper mastication of the food probably plays an important part in its etiology. Hammond describes a case in which rapid eating was productive of the condition, it being usually absent when the food was taken slowly and properly masticated. In these cases it appears to be an effort of nature to secure sufficient mastication, as when the food is regurgitated proper mastication always occurs, from the pleasure afforded the patient both by the mere act of chewing the food and by the pleasant taste associated with it.

A study of the regurgitated food has shown that digestion had not commenced or occurred to any great extent, thereby not interfering with the pleasant taste which seems to be excited. Analysis of the stomach juices has been productive of so widely varying and inconsistent results that no definite changes have been observed; in not a few cases the chemical examination showed nothing differing from the normal.

Merycism takes place usually on an average of fifteen minutes after a full meal, but the time may be delayed to over an hour and varies with the individual case, depending upon the size of the repast, or the haste in which it was partaken, or whether severe exercise occurred immediately after the meal. The time consumed in the second is usually greater than during the original mastication, frequently lasting for several hours. The food may be regurgitated after each meal, and also at intervals during the day, while some persons with the habit will rechew the food only at special times. The condition seems confined mostly to the male sex, and exerts but little influence upon the general health, although as a natural consequence, if the habit is long continued, the stomach is bound to suffer, and if the regurgitated food is not properly masticated gastric catarrh may result. The health mostly continues good as long as the food is properly chewed and the taste remains pleasant. As soon as the taste becomes sour or acid, it becomes evident that morbid alterations are taking place in the stomach, the health then suffering.

Treatment consists in removing the cause as far as possible, and minute attention to the food and manner of eating. The patient should be directed to eat slowly and properly masticate. Solid food, for a time at least, should be prohibited, or, if used, should be taken in small amounts. An effort should be made to repress the movements which cause the regurgitation, and the dorsal or other position unfavorable to the act should be insisted on for a definite time after each meal. Gastric sedatives, such as small pieces of ice swallowed at intervals, are useful, while tonics and laxatives are of service in some cases. Strychnine and electricity should be given a thorough trial, the latter being used over the region of the stomach or internally directed to the cardiac orifice.

Progress of Medical Science.

Causes and Treatment of Abortion and Premature Labor.—Dr. Romheld (*Centralblatt für Gynäkologie*) has studied 225 cases with reference to the causes of these conditions, and has reached the following conclusions: Syphilis is the most important cause and accounts for 27 per cent. of the cases: retroflexion of the uterus is accountable for 18 per cent.; chronic metritis and endometritis, 10 to 15 per cent.; uterine fibroids, 4.7 per cent.; abnormal conditions of the placenta, 4 per cent.; anteflexions of the uterus, 3.5 per cent.; molar pregnancy, 1 per cent.: Bright's disease and lateral deviations of the uterus, 5 per cent. Constipation and anæmia are predisposing causes. Heredity does not appear to have much influence. The treatment is essentially prophylactic.

The Treatment of Prostatic Hypertrophy and Retention by Cauterization through the Rectum.—Dr. Negretto (*Gazz. degli Osped.*, December 27, 1896) reports four cases which he treated in the following way: The patient is anæsthetized after thoroughly emptying the rectum, and a rectal speculum is passed. The upper part of the rectum is plugged with gauze and under the guidance of the finger, a specially devised hook with graduates is passed into the prostate to steady it. The prostate is then cauterized over the extent required. The operation lasts

but two minutes. The bowels are kept confined and a catheter is kept permanently in the bladder for some time. A purge is given on the sixth or seventh day and the catheter is removed on the tenth or twelfth day. The patients were fifty-six, sixty-two, seventy-four, and seventy-eight years of age respectively, and had suffered from the disease for from three to five years on the average. In each case the congestion was speedily relieved and the size of the prostate notably diminished. The author thinks this method superior to excision of the vas deferens or to castration.

The Maragliano Serum.—A correspondent of the London *Lancet* writes from Rome that the Maragliano serum promises as good results in the treatment of pulmonary phthisis as antitoxin has given in the treatment of diphtheria. Because of the nature of tuberculosis the antitoxin can never assert its power so rapidly and decisively as in diphtheria. Dr. Maragliano has had most success in private practice, because in such cases the patient usually consults a physician in good time and has the comforts and careful attendance of home; in hospital practice the patient is usually far gone in the disease, his strength has been sapped by pyrexia or hæmoptysis, and his resisting power is low through malnutrition. Even in these cases Dr. Maragliano has had most encouraging success. His followers of the Neapolitan school, though slow to adopt this treatment, have not been less successful, and Dr. De Renzi, the dean of Italian clinicians, announces that he has had forty cases of cure by the Maragliano serum in his wards and equally gratifying results in private practice. He advises one not to despair even though two hundred injections have failed to produce the desired effect. He observed that improvement was noticeable even in the most intractable cases, and one need only suspend the treatment for a short time to witness the rapid exacerbation of all the symptoms and hastily to resume the injections. Dr. De Renzi has inoculated phthisical patients with five milligrams of Koch's tuberculin and has obtained a strong reaction; but applying the same treatment to patients already under the Maragliano treatment the reaction was less marked, showing that they had been immunized against the "protein tubercolari." In proportion as he increased the number of injections of the Maragliano serum he augmented the immunity against the tuberculous poison, until after thirty or forty injections the reaction to the same dose of tuberculin was scarcely appreciable. According to Dr. De Renzi's opinion there is no remedy for phthisis equal to the Maragliano serum; it seldom fails to relieve, and, if applied in time and persevered in, it almost invariably effects a cure.

Obstructed Labor Due to Congenital Cystic Disease of the Kidneys.—Spence (*British Medical Journal*, March 13, 1897, p. 651) has reported the case of a woman, forty-one years old, married seventeen years, who had borne five children at term, and had had one miscarriage, whom he was called to see some twelve hours after rupture of the membranes, followed by continual dribbling of liquor amnii, and weak and inefficient pains at long and gradually lengthening intervals. The previous labors had been tedious, but otherwise normal. The os was found to be dilated to about the size of a silver quarter-dollar and the head was presenting normally. The head slowly descended and the os gradually dilated. The labor made but little progress until a full dose of ergot was administered, when the pains became stronger and more frequent, and the head was extruded from the uterus. The umbilical cord was wrapped once about the child's neck, but it was readily displaced. The body remained firmly impacted in the uterus, and for a time could not be dislodged, even with the aid of traction upon the head, and subsequently upon the axillæ. Finally, the arms were brought down, and then strong and continuous traction resulted in the delivery of the fœtus. As soon as the head was born the child gave three or four gasps, but it was dead upon the completion of delivery. The child, a female, was fully developed, weighing nine and one-half pounds, and measuring twenty and one-half inches in length. The abdomen was enormously distended, from the presence of two large, indurated masses, one on either side, occupying the flanks, and almost meeting in the middle line. They were movable, and could be easily manipulated through the abdominal parietes. On opening the abdomen the masses proved to be enormously hypertrophied and cystic kidneys, weighing twenty-five ounces.

Secretion of Cerumen.—Dr. Mishkin (*Atlanta Medical Journal*, January 30th) says that an increased secretion of cerumen is usually the result of disease of the middle ear or of a catarrh of the nose or throat. It is rather unusual to find the hearing perfect after the removal of a mass of impacted cerumen; the introduction of irritants within the auditory canal increases the secretion of cerumen. Those who suffer are often the victims of misplaced efforts at cleanliness, twisting the end of a towel and screwing it into the ear. Nature is not given a chance to displace the materials it forms, but meddlesome attempts to hasten the process push back and pack inward the emerging mass, and by the irritation increase the secretion of wax.

An Analysis of One Hundred and Twenty-One Cases of Cirrhosis of the Liver.—As a result of a study of 121 cases of cirrhosis of the liver among 3,053 medical cases recorded in the post-mortem records of the Manchester Royal Infirmary, Kelynack (*Birmingham Medical Review*, February, 1897, p. 86) reaches the conclusion that common atrophic cirrhosis cannot conveniently be divided into alcoholic and non-alcoholic varieties. Most examples encountered in hospital practice occur in alcoholic subjects. Nearly 50 per cent. of the patients die directly from the effects of the hepatic lesion. More than 12 per cent. die from active tuberculosis. Tuberculosis of the peritoneum exists in a little over 9 per cent. Either active, latent, or obsolete tuberculosis is encountered in nearly 24 per cent. of all cases. Cirrhosis of the liver appears to be the commoner in males, in about the proportion of two to one. The average age at death is for males forty-five and a half years, for females forty-two years. Ascites occurs in 56 per cent. of all cases. It is usually less pronounced in females than in males. It occurs constantly in association with hæmatemesis, but the two are not to be considered as mutually exclusive. The weight of the liver averages in males a little more than fifty-three ounces, in females nearly fifty-four ounces. The liver is increased in size in 33 per cent. of all cases, diminished in size in about 61.5 per cent., and normal in size in only about 5.5 per cent. The liver varies in size in its ante-mortem and post-mortem conditions. Typical hobnailed livers are not common at the present time, although evidence of alcoholism is being constantly encountered. The spleen in cases of cirrhosis of the liver weighs on an average in males fourteen and a half ounces, in females a little more than eleven and a half ounces. The spleen is enlarged in 83 per cent. of cases, is normal in nearly 9.25 per cent., and diminished in size in 7.75 per cent. The cyanotic spleen of hepatic cirrhosis is larger and heavier than that met with in cardiac cases. Renal cirrhosis occurs in association with cirrhosis of the liver in only a little more than 18.5 per cent. of all cases.

MEDICAL RECORD:

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QUACK ADVERTISEMENTS IN OUR DAILY NEWSPAPERS.

JUST now there is a great outcry against indecency in secular journalism, and the fact that certain dailies are being dropped from club lists and public libraries has with some of our lay contemporaries been magnified into the importance of State news. This is certainly a good sign of the times, and tends, although in a suspiciously interested manner, to educate public opinion in the proper direction. To the impartial observer, however, it is quite evident that the parties who throw the stones are by no means free from guilt themselves. Much of the effort to be very good is ridiculous on its face. It is, after all, the old trick to balance the beam against the mote in the journalistic eye. While all this discussion is going on concerning what is pure and the proper education of the people, no attention appears to be paid to the shameful, lying, and indecent advertisements which are so common in all daily and weekly newspapers, good and bad. The high-minded utterances of the editorial columns are so different and so distinct from the blatant lies in the rented department of the paper that they remind every casual reader of the fact that he who sups with the devil must have a long spoon. While no one will deny that such a practice is openly abetting fraud, there appears to be no effort on the part of even the most respectable periodicals to discourage or check the growing evil. In all the leading newspapers there appear regular bids from the professional abortionist, in bold defiance of all ordinary law or common decency. Many of these quacks have been repeatedly indicted for criminal practices, and their cases have been freely reported in the very papers which publish their standing advertisements. Even religious journals sell their spaces to these humbugs, and under the guise of uplifting the spirit on the one hand degrade and destroy the body on the other. The quick relief of discharges by the use of balsams in capsules needs no detailed explanation for the man with gonorrhœa, nor is "the decline of manhood" mistaken for overwork, consumption, diarrhœa, or grippe. The "female pills" appeal to the erring who become the unfortunate victims to preventable accidents, while every reader who has a womb is informed that it can never be kept healthy without the use of a notorious grandmother's tea. The illustrated idiots who are cured by snuffs, inhalations, vegetable compounds, and soaps fill the sold spaces with the most transparent lies, and carry with them the most outrageous insults to common sense and ordinary judgment. It is absurd to suppose that the conductors of these papers do not know better than to give such frauds a hearing, and yet the editorial columns are constantly aiming to educate the people, to protect the real interests of the masses, and to expose wrong doing in every other line. Such advertising columns are constantly delivered up to calumnies against legitimate medicine, to the most shameful charge of ignorance of the ordinary family doctor, and the wonderful wisdom of the self-renowned vendor of a potent cureall. What would be the result if club committees should presume to criticise such a course on behalf of our best dailies, and what would be the effect if the banishment of such periodicals could be daily published in some rival paper? How few, indeed, could be found which could consistently publish such edifying news!

A SIGN OF THE TIMES.

THE amalgamation of the Bellevue Hospital Medical College with the Medical Department of the New York University, which has recently been announced, is an event of far greater significance than may, on first thought, appear. We are so unaccustomed to the spectacle of a medical college voluntarily renouncing its autonomous existence that, for a moment, we forget that it is merely a sign of the times. During the past decade New York has witnessed a marvellous transformation, which is now for the first time becoming fully apparent, in both medical teaching and medical colleges. In this time the three great medical colleges of the city have passed from the control of a few individuals who had gathered together and obtained a charter for granting medical degrees, and have become corporate parts of the two great universities of this city. The one to take the initiative in this step was the former College of Physicians and Surgeons. Shortly afterward the University Medical College, which for years had a bowing acquaintanceship with the University of the City of New York, so that the latter lent the former its mantle once a year at commencement, began coquetting in real earnest with the university, which had now taken a new lease of life, a new location, and a new name. This led, a short time ago, to the assimilation of the University Medical College by the New York University. In a very similar way Bellevue Hospital Medical College has, in the past, tried to "arrange" a union with Princeton and with Cornell universities, but there has always been some one to rise up and proclaim: "I forbid these banns."

It is probably not hazarding the truth to say that the motives that have prompted these private institutions in endeavoring to become an integral part of great public institutions were not by any means selfish ones. The owners of private institutions, such as all the medical colleges in this city have been

until very recently, have found it practically impossible to secure the slightest endowment, an absolute necessity for the existence of any large educational enterprise. To this there has been one illustrious exception in the shape of a gift to the College of Physicians and Surgeons, but the acceptation of the gift entailed such financial obligations that no private corporate body, such as it was then, could undertake to carry them. The consolidation with Columbia was the result. The other colleges were less fortunate in finding a philanthropist who would surround them with buildings which the moneys received from students would be insufficient to run. One of these colleges sought to strike the golden mean by getting just enough money to make it neither topheavy nor worth having by passing $100,000 from its right hand to its left. And while that hand held the rudder the sailing seemed fairly clear to uninterested lookers on.

To meet the exigencies of the present medical practice act of the State of New York, very different facilities are required than when the making of physicians was not sponsored by statutes. Institutions that had gone on for years putting the moneys obtained from students that remained after paying current expenses into the pockets of their respective "sevens," instead of into a sinking fund to provide for the rainy day which is now upon them in a sort of equinoctial storm, have found themselves face to face with the alternative of closing their doors or of attaching themselves to some endowed institution. Far-seeing men, who would rather commit their lusty youth to such a spouse than to take the chances of having the traditions of their institutions handed down to posterity by its alumni, have made their choice, and we believe wisely.

The union of the medical colleges of this city with the great universities points unerringly to the fact that the day of the private medical college enterprise is gone. The evolution, development, and dissolution of such colleges might be taken as a text to illustrate that the existence of such colleges is conditioned by their environment. In the past they have existed, and for a few years longer they may continue to exist in small cities and in country towns where the expense of running them is commensurate with the salary of a janitor, but in large cities their death knell was sounded a few years ago, and already the cortege is under way and proceeding with such momentum that nothing can stop it.

Advantage alone can accrue to the medical profession from such action as that taken by the Bellevue Hospital Medical College and the University Medical College. Both of these institutions have an honorable past. The former during the third of a century that it has been in existence has made for itself an enviable name. It has had the reputation of being a college in which the necessities for making a practical physician were taught. It has such repute not alone in this country but abroad, where it was one of the first to be recognized by the examining boards of the British universities. In joining hands and forces with its older rival, it will probably bring a leavening and virile influence that will make itself manifest in the character and the possessions of their combined offspring, future students.

We understand that the details of amalgamating the components of the two colleges, the faculties, have not yet been arranged. It is proposed, however, to have one single faculty, and this not necessarily selected from the membership of the two existing faculties, although naturally the links of the chain that formerly constituted the charmed circle stand a better chance of being forged into the new one than any raw metal. The difficulties of kneading the two faculties into a composite whole will probably be a considerable one, and the clashing of professorial individualities that have been on different sides of the fence in Twenty-sixth Street for a number of years may be attended by their mutual destruction, and then the men who are walking this city day and night with professorial ambitions partially or wholly concealed beneath their waistcoats may have a chance. In the mean time, however, their eyes are centred on University Heights, and they know not which way to turn.

EARLY EXPERIMENTS IN ORRHOTHERAPY.

It is a curious evidence of the slender results of empiricism and lucky hits in medicine, as in other sciences, that for nearly one hundred years vaccination remained the only example of serum therapy or pro phylaxis. Its employment was almost universal, but it remained alone of its kind, and its use was confined almost exclusively to the prevention of small-pox —yet not entirely, for good effects seemingly due to the action of the vaccine virus were noted by some keen observers in other affections.

One of these observers was Doctor, now Sir James A. Grant, of Ottawa. In a short article in the *Medical Times and Gazette* of March 14, 1863, the writer recorded some results which he had obtained in the treatment of certain dermatoses by vaccination. The first case was one of obstinate palmar psoriasis. After the unsuccessful employment of all the usual remedies, Dr. Grant resolved to make a trial of vaccination, "in order to observe the alterative effect of the vaccine virus upon the system, not without previous consideration, but with a firm conviction that under certain circumstances vaccine introduced into the system is one of the most powerful blood purifiers we possess. The operation was successfully performed, the pustule passing through the various stages from incubation to its separation. As it advanced from the third to the seventeenth day, the disease on the hands and fingers gradually receded, and on the twentieth day from the date of vaccination the parts recovered their natural appearance and continued so."

Three other cases of skin disease were reported, in all of which the eruption disappeared after vaccination. Arguing from the results obtained in these and other cases, Dr. Grant thought that vaccination should not be reserved solely as a means of protection against small-pox, but its employment should be "extended to the treatment of many cutaneous diseases . . . arising from irritant poison generated in the organism, or in that vital fluid, the blood." "Over such impuri-

ties," he added, "vaccination beyond a doubt possesses a powerful influence."

Vaccination has since been tried, with alleged success, in the prevention or treatment of other affections, notably in that of influenza by Dr. Goldschmidt, of Madeira. But whether it is actually curative in other affections, and, if so, whether the cure is effected by virtue of an antoxin, or because of a substitutive action, or perhaps through suggestion excited by the operation, we are not as yet in position to determine. Dr. Grant's cases, however they may be explained, are interesting as an early example of orrhotherapy other than in the prophylaxis of variola.

News of the Week.

Koch's Modified Tuberculin.—Recent advices from our Berlin correspondent announce the fact that Prof. Robert Koch has perfected tuberculin so that he is enabled to assure the profession that it now stands in the same relation to tuberculosis as a healing serum as antitoxin does to diphtheria. At least, such is his assertion in the recent issue of the *Deutsche medicinische Wochenschrift*.

A Physician's Gift to Education.—Dr. John C. Terrell, who practised medicine for many years in Roxboro, N. C., but who has spent the last few years of his life in Philadelphia, where he recently died, bequeathed $50,000 to the public schools of Person County, N. C., and in addition a sum sufficient to build a new school building in each of the twenty-nine townships of the county.

Medical College Consolidation.—At a special meeting of the State board of regents on April 8th, the proposition to consolidate the Bellevue Hospital Medical College and the New York University Medical School was considered and the consolidation was authorized. The name of the consolidated college will be the New York University-Bellevue Hospital Medical College. The faculty of the new college will number one hundred and sixteen, and there will be ample laboratory accommodation for the students in the Loomis and Carnegie laboratories.

The President's Physician, it is reported, will be Dr. Newton L. Bates, medical director of the navy, who will be stationed in Washington for the coming four years. President Cleveland's physician was Dr. Robert O'Reilly, of the army.

Driving Out a Healer.—A man has been drawing crowds recently in Providence, R. I., by claiming to be Schrader, the "divine healer," who was last heard of in Colorado, some time ago. But there is a medical practice law in Rhode Island, and, as Schrader had no license, the board of health forced him to leave. He then went to Worcester, Mass., and at once began blessing the people and treating their ailments. The man declares that he makes cures without pay, but his patients are made to understand that if they drop a dollar or two on the table the money will not be thrown into the street.

A Skiagraphical Medical Society.—It is proposed by those interested in the employment of the Roentgen rays in medicine to establish in London a society for the special study of this fascinating subject.

The Prince of Wales' Hospital Fund, in commemoration of the Queen's diamond jubilee, has been started by a subscription of £1,000 by Mr. W. W. Astor, formerly of New York.

An Unfortunate Mistake was committed by the County Medical Society's agent in arresting a reputable registered physician last week under the impression that he was practising without a diploma. The society has done such good work in protecting the interests of the profession that we trust the doctor will forgive its misdirected zeal.

Chicago Colleges of Medicine should now follow the example set in New York and double up. There are nineteen, which would just make nine and one to spare, or another could be founded at once, to make out a round ten, and this surely ought to be enough for the next two or three years.

The British Medical Association Meeting.—The arrangements for the sixty-fifth annual meeting of the British Medical Association, to be held in Montreal at the end of August and the beginning of September, are now almost completed, and the preliminary programme is being distributed to the members. The proceedings will begin on August 31st by the installation of the president-elect, Dr. Roddick, who will then deliver his presidential address, the subject of which will be "Medical Education in Canada." On the afternoons of September 1st, 2d, and 3d, general addresses will be delivered in the Windsor Hall; they will be of a more or less popular character, and will be open to the public. The address in medicine, as we announced some weeks ago, will be delivered by Dr. W. Osler, of the Johns Hopkins University; that in surgery by Mr. William Mitchell Banks, surgeon to the Liverpool Royal Infirmary. The reader of the third address will, it is said, be a Frenchman; but, as the gentleman first invited declined because of a previous engagement at Moscow, another had to be selected, and his name cannot be announced until his acceptance has been received. The meetings of the sections will be held from 9:30 to 1 o'clock on the morning of each day. The following are the chairmen of the various sections: Medicine, Dr. Stephen Mackenzie; surgery, Mr. Christopher Heath; obstetrics and gynæcology, Dr. W. J. Sinclair; psychology, Dr. R. M. Buche; anatomy and physiology, Dr. Augustus Weller; pathology and bacteriology, Mr. Watson Cheyne; ophthalmology, Dr. E. Nettleship; pharmacology and therapeutics, Dr. D. J. Leech; laryngology and otology, Dr. Greville Macdonald; dermatology, Mr. Malcolm Morris.

A Vivisection Bill has been introduced into the Michigan legislature, which is free from many of the objections which similar measures to regulate experimentation on animals often contain. It provides that persons desiring to experiment upon animals must first

obtain a permit from the secretary of State, which will not be granted except upon the person furnishing proof of justifiable intent. No experiments of a painful nature can be made unless the animal is anæsthetized. Other provisions of the bill look to the inspection of laboratories and other places where vivisection is carried on.

Small-pox.—There have been found seventeen cases of small-pox in this city since March 1st last. In consequence of this, the staff of the bureau of contagious diseases has been temporarily increased by the appointment of fifteen new inspectors. Some of these have been assigned to inspection duty; others are held in reserve in the office to attend promptly any case in which symptoms of small-pox are reported. In every case of small-pox reported, inspectors are at once sent to vaccinate the persons living on the four sides of that block, and also the four sides of the adjoining block.

Definition of a Medical Charity.—Dr. Campbell Black, of Glasgow, has a way of speaking out in meeting that is distressing to some of his colleagues. He has recently been talking about the dispensary abuse, and says that the "end and aim of a medical charity is to make consulting physicians and surgeons, and it is for this purpose nowadays that all hospitals, great and small, special and general, exist."

A New Hospital in London.—The Hebrews in London propose to celebrate the sixtieth year of the Queen's reign by erecting and endowing a home and hospital at Tottenham for Jewish incurables. A site of about four acres has been acquired, and accommodation will be provided for fifty patients.

The Objectionable Features in the New Charter.—Dr. George B. Fowler, health commissioner, writes: "Among the criticisms of the new charter, none has been more severe than that directed against Sections 1,247 and 1,249, relating to the duties of physicians in reporting cases of contagious and infectious disease. These sections are referred to as if they were entirely new and unprecedented and designed to give the health department a dangerous and tyrannical authority over the members of the medical profession. Now the fact is that these sections are not new. They constitute Sections 608–610 of the Consolidation Act of 1882, under which the city has been governed for fifteen years, and were originally passed forty-seven years ago, Sections 1,247 and 1,249 being in Chapter 275, Laws of 1850, and Section 1,248 in Chapter 384, Laws of 1851." [The mere fact that a thing is very old does not necessarily prove that it is very good.—Ed.]

Jubilee Exercises of the American Medical Association.—The committee of arrangements has set aside an hour on the second day of the meeting for exercises to commemorate the founding of the association in Philadelphia in 1847. The founders of the association believed that it would raise the standard of medical education and combine the medical profession of the United States in one body, and the committee has taken steps to secure the presence upon the stage with Dr. Davis of the presidents of the State medical societies and of the State boards of medical examiners, as an exhibit showing the success attained through the instrumentality of the association. In addition to an address by Dr. Davis, there will be two or three other short addresses to add to the interest of the occasion. Of the original members of the association, there are still living, the committee states, Dr. N. S. Davis, of Chicago; Dr. Alfred Stillé, of Philadelphia; Dr. John B. Johnson, of St. Louis; and Dr. David F. Atwater, of Springfield, Mass.; and the committee hopes that these gentlemen will all be present to take part in the meeting.

Obituary Notes.—Dr. Charles Hammer, aged sixty-five years, died at his home in Schenectady, April 8th, of apoplexy. Dr. Hammer was formerly president of the County Medical Association. He was a native of Germany, and came to this country in 1854 and settled in Schenectady in 1867.—Dr. Sherman Street died at Arkville, N. Y., Friday, April 2, 1897, aged ninety-four years. He began the practice of medicine at Roxbury, N. Y., about 1840, having received a degree from the University of Vermont. Shortly before the anti-rent troubles he removed to Arkville, where he practised until within a few years of his death.—Dr. Thomas S. Dawes died on April 11th, at his home in Saugerties, N. Y., of apoplexy. He was born in Massachusetts in 1822, and was graduated from the Albany Medical College in 1848. He had practised medicine in Saugerties for forty-five years. He was at one time president of the Ulster County Medical Society, was a member of the New York State Medical Society, of the American Public Health Association, and an honorary member of the Berkshire County (Mass.) Medical Society. He was for six years a member of the State board of health.—Dr. C. R. Wiley died at Vineland, N. J., of pneumonia, on April 2d, at the age of fifty-three years. He was president of the South Jersey pension examining board and consulting physician to the New Jersey Training-School for Feeble-Minded Children.—Dr. Hugo Engel died of pneumonia, at Philadelphia, on April 5th, at the age of fifty-three years. He was a native of Berlin, and began the study of medicine in Germany, graduating from Jefferson Medical College in 1874. Subsequently he became chief clinical assistant in the out-patient medical department of Jefferson Hospital, and later professor of therapeutics and nervous diseases in the Medico-Chirurgical College. He translated Da Costa's "Diagnosis" into German.—Dr. Edson Sewell Bastin, professor of materia medica and botany in the Philadelphia College of Pharmacy, died on April 6th, of cerebral hemorrhage, at the age of fifty-four years.—Dr. Leverett Silliman Kelsey died of pulmonary tuberculosis, at Mount Vernon, Ohio, April 9, 1897. He was born September 4, 1854; graduated at the Medical College of Ohio, 1879; was resident physician of the Hospital of the Good Samaritan until March, 1880. In 1882 he took a degree at the Bellevue Hospital Medical College, New York. He subsequently practised medicine for fifteen years with great success at Richmond, Ind.

Leprosy is said to be spreading in Spain in a somewhat alarming manner. In the village of Alcublas, near Valencia, more than a dozen families are said to be affected.

The Notification of Tuberculosis. — Commenting upon the New York health department's action in regard to the notification of tuberculosis, *The Hospital* says that "it is impossible to shut one's eyes to the fact that this is the direction in which many other sanitary authorities are now drifting, and that the notification and the State control of consumption may before long become burning questions. Those, however, who have studied the causes of tuberculosis will recognize how shallow is the pathology of those who profess to be able to stop its ravages by notification, and other like measures for the muzzling of the microbe. The first and the main thing that has to be understood is that consumption, when it permeates a community, is not merely the result of the scattering of the infection, but is the outcome of, and perhaps one might not unfitly call it the punishment for, certain well-known sanitary sins. We may, therefore, be allowed to doubt whether any sanitary administration will ever be able by aid of notification to absolve us from the consequences of our misdirected civilization."

Medicine and Politics.—The interesting announcement is made that the authorities of Schuylkill County, Pa., have decided to take "out of politics" the appointments for the new $50,000 hospital erected at Pottsville in connection with the almshouse, "in order to ensure more efficient service."

Typhoid at Mount Sinai.—The Mount Sinai Hospital management is congratulating itself that the typhoid epidemic, which has lasted for three months, is now over. There have been in all twenty cases—the superintendent, seventeen nurses, one maid, and the elevator boy. One case terminated fatally.

A Second Nurse in the Bellevue Dispensary.—An additional nurse has been appointed to the staff of the Bellevue Dispensary. This permits one nurse to devote her entire attention to the gynæcological while the other is engaged with the surgical work.

The Good Samaritan Dispensary.—The sixth annual report of this institution, just received, shows that while over 10,000 more visits were paid by patients, the number of actual patients was more than 100 less than in the preceding year: 3,000 fewer prescriptions were given, and almost $3,000 was saved in expenses. During the past week this institution has carried out a competitive examination for the position of attending surgeon for skin diseases. We understand that in spite of the fact that there is a salary attached to the position, it was competed for by a number of well-known men. The Good Samaritan deserves to secure the services of excellent men, and it usually has succeeded in doing so. The service is large and good; the patients, with a few exceptions, are of a class requiring medical aid; the building is one of the finest in the country; and, above all, its theory that the physician who does the work should be compensated is an object lesson which other institutions might well follow.

A Falling Off in Medical Students.—The number of medical students in Missouri is reported by the *Kansas City Medical Record* to have decreased over sixty per cent. this year, and yet St. Louis heads the list of cities as regards the number of her medical schools.

Information Exchanged.—Dr. Merideth, on leaving his office to attend a patient, wrote on the slate on his desk: "Will be back at eleven o'clock." When the doctor returned he found this under his notice: "Will not be back at all. Burglar." A number of small articles were found missing from the office.

An Antivivisectionist Statement.—A Mr. Coleridge, an officer of a London antivivisection society, has published a letter, written by him to the Prince of Wales, asking that the hospital fund to commemorate the Queen's diamond jubilee may be so distributed that none of it may go to any hospital in whose school any experiments are made on animals. The writer insults the prince's intelligence by informing him, and apparently expecting him to believe, that there are laboratories, attached to several of the hospitals in London, where "hapless dumb animals, daily and hourly, are slowly cut up alive without even the pretence of anæsthetics."

The First Ovariotomist.—An attempt having recently been made to deprive Dr. McDowell of the honor of having performed the first ovariotomy and to transfer it to Robert Houston, of Glasgow, Mr. Greig Smith has resifted the evidence in an article in the *Practitioner* for March, and decides without hesitation for McDowell. Houston, he says, believed that ovarian cyst was a simple dropsy of the ovary, and was to be treated by tapping, or, if there were secondary cysts, by incision. His case was one of incision, and he clearly describes it as such. No one of his contemporaries says it is anything more than incision. One of them, indeed (Donald Monro, in his 'Treatise on the Dropsy,' second edition, London, 1756), definitely claimed it as such, and uses its success as an argument against extirpation." But although not an ovariotomy, Houston's was, he says, a bold position, and for such he deserves great credit. To him is also due the honor of having been the first to suggest operation for extra-uterine fœtation.

The French Congress of Alienists and Neurologists will be held this year at Toulouse, on August 2d and following days. The questions proposed for discussion are: 1, The diagnosis of general paralysis; 2, infantile hysteria; 3, the organization of the medical service in lunatic asylums.

A Label for Doctors.—The Russian government has decided to label medical men by means of a silver shield, one inch wide by one and one-half inches long, having a raised design of two intertwined serpents. This is to be worn conspicuously on the breast, and it is hoped that it will prevent the killing of the doctors by excited peasants, a practice that they frequently

indulge in during epidemics of cholera and other especially fatal diseases.

The Population of France in 1895, according to statistics recently published, was less by nearly 17,000 than it was the year before. The falling off is manifestly due to the decreasing birth rate, which since 1890 has been below the death rate. A comparison of the statistics by decades during the present century shows a progressive decrease. During the years 1801–10 there were 33 births per 1,000 inhabitants, and this rate has declined with each decade to 32, 31, 29, 27, 26, 26, 25, and 24; during the first half of the last decade (from 1891–95) the rate has been 22 births per 1,000 of the population. Such statistics would seem to justify the fear, so widely felt, that France is doomed to become extinct as a nation.

"Treatment" is the name of a new journal, the first number of which was published in London on March 11th. As its name implies, it will be devoted chiefly to practical therapeutics, yet it will admit articles having a direct bearing upon diagnosis or prognosis as well as those dealing solely with treatment. It will be divided into four parts, each with a chief editor and a staff of assistants, and each part will appear six times a year. We notice in the first number an abstract of an article on the bicycle treatment of scoliosis by Dr. Kiliani, which appeared originally in the MEDICAL RECORD of October 31, 1896, but which is here credited to an English annual.

The Medical Society of London has elected to honorary membership Dr. T. G. Roddick and Sir W. H. Hingston, of Montreal.

Another Case of Small-Pox was discovered a few days ago in the New York Hospital, the disease having evidently been acquired from a patient who had been taken into the hospital about two weeks previously through a mistake in diagnosis.

To Prevent the Clouding of Laryngoscopes.—An ingenious device to prevent the clouding of dental mirrors, which is, of course, equally applicable to the mirrors used in nose and throat work, has been made known by an English dentist, Mr. George Wallis. This consists simply in smearing the surface of the mirror with soap and then polishing it with a dry cloth. If this is done, the troublesome warming of the laryngoscope over a lamp is entirely unnecessary. This method has long been used by housewives for polishing mirrors, but we do not know of it ever having been employed by laryngologists.

Navy Department.—Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending April 3, 1897: March 27th.—Surgeon C. U. Gravatt ordered to examination for promotion, Washington, D. C., April 5th. March 29th.—Assistant Surgeon J. C. Prior ordered to the naval laboratory, New York, and department of instruction, April 5th; Assistant Surgeon F. C. Cooke ordered to examination for promotion, New York, April 5th; Assistant Surgeon G. D. Costigan detached from the *Vermont*, April 6th, and ordered to the *Lancaster* per steamer of April 7th. April 2d.—Assistant Surgeon D. H. Morgan, detached from the naval laboratory, New York, April 6th, and ordered to the Naval Academy, April 8th.

Deaths from Chloroform in Great Britain during January and February of the present year numbered twelve, as against seven for the first two months in 1896. During the first two weeks in March eight more deaths occurred.

The Colored Home and Hospital of this city has sold its property on First Avenue and will move farther up town. The present site has been occupied by the hospital since 1848.

A Filthy Water Supply.—According to the *Times-Herald*, the water supplied by the city of Chicago is so bad that the health department has uttered the warning that not even boiled water is safe to use. Heavy rains and stirring up of the water by high winds have so befouled the lake about the cribs that the city pipes are filled with diluted sewage.

The Medical and Chirurgical Faculty of Maryland.—The annual meeting of the State Society of Maryland will be held in Baltimore, at the Faculty Hall, on Tuesday, Wednesday, Thursday, and Friday, April 27th to 30th inclusive. On Tuesday evening there will be the annual discussion, the subject selected being "Peritonitis."

A Dead-Body Trust.—These are troublous times for trusts, and the latest to come to grief is a pool of Cleveland medical colleges for the distribution of subjects for dissection. According to the *Leader* of that city, the Cleveland University of Medicine and Surgery has formally withdrawn from the trust on account of alleged unfair treatment on the part of the other colleges, it having received only two bodies when it asked for twenty. This leaves the Western Reserve University Medical College, the Cleveland Medical College, and the Ohio Wesleyan Medical College in the pool. These colleges, the *Leader* says, are making strenuous efforts to induce the Cleveland University of Medicine and Surgery to return to the fold, but so far have met only with cold rebuffs. The latter institution promises a lively competition for the pool. It has already beaten the pool in making application for two bodies in charge of Coroner Arbuckle.

The American Medico-Psychological Association will meet in Baltimore on May 11th, 12th, 13th, and 14th. During this time the Maryland State Insane Asylum, generally known as "Spring Grove," will celebrate the one hundredth anniversary of its foundation. It is interesting to note that Doctor Richard Sprigg Steuart, who did so much for this asylum during his lifetime, was the one who suggested the present site of the Johns Hopkins Hospital.

The Baltimore City Council is considering the advisability of reducing the annual appropriations to hospitals and charitable institutions by establishing an institution for the care of waifs and the indigent sick; also establishing a drug store in each ward in the place of supporting dispensaries.

Clinical Department.

A CASE OF CEREBRAL SYPHILIS WITH TYPHOID FEVER SUPERVENING.

By J. M. O'NEILL, M.D.,

BUFFALO, N. Y.

I HAVE lately had a case under my care which is within my own experience unique. My patient, a man of about thirty years of age, had been suffering from a syphilis of long standing. He first contracted the disease some five years ago, at which time he was under my treatment for a period of five weeks; he then, by the advice of friends, underwent the Hot Springs treatment. From the time when I first attended him I did not again see him until the 25th of October last, when I was called in and found him suffering from most of the symptoms of syphilis in the tertiary stage—he had hemiplegia of the left side, gummatous growths, lesions, etc. I administered large doses of bichloride of mercury, producing salivation, at the same time giving him moderate doses of iodide of potassium, and until the latter part of January he appeared to be progressing as well as under the circumstances could have been expected, when he developed symptoms which for a short time somewhat puzzled me. The symptoms were those of typhoid, but not thinking that in his condition such an attack was likely, and knowing that some authorities—notably Huebner—have recognized a typhoid stage as occurring sometimes in cerebral syphilis, I did not at once diagnose the case as one of typhoid. However, as the symptoms continued and grew more acute—diarrhœa, sordes, delirium, and a very obstinate hiccough—I made an examination and found on his abdomen typhoid patches well defined, and in all respects there could be no doubt that it was a case of true typhoid. The patient lingered for about a week in this state, and died.

The feature of this case which struck me as abnormal, and to which I wish to draw attention, is that a person whose system at the time was saturated with mercury should have been the victim of typhoid. One would imagine that he should have been in such an aseptic state that he ought to have been proof against the germ of typhoid.

PUERPERAL CONVULSIONS.

By FRANCIS W. GALLAGHER, M.D.,

EL PASO, TEXAS.

MUCH has been written of late in favor of operative interference with the contents of the womb and against bloodletting in the treatment of eclampsia. The experience, except of a few physicians, includes but a small number of cases. As a rule, puerperal convulsions are not classified, for purposes of comparison, into ante-partum and post-partum varieties. This division is exceedingly important when considering statistics, as post-partum eclampsia is much less fatal than are convulsions preceding labor. For this reason the percentages of mortality vary within very wide range.

Dr. George Van Schaick, of New York, says, in the New York *Therapeutic Review*, that while some authors claim as low as fourteen per cent. of mortality only, his personal inquiry among five physicians with large obstetrical experience revealed a death rate of eighty per cent., and that further inquiry of two experienced nurses had shown that together they had seen nine cases without a single recovery. No intelligent or valuable deductions can be drawn from any treatment when it is not explicitly stated whether or not the convulsions preceded or followed labor. Contrary to what, from the journal reports, one would judge to be the American practice, the French obstetricians—among others Tarnier and Charpentier—strongly advocate non-interference with the contents of the womb (except when labor begins spontaneously) and bleeding, as affording the best results for the safety of the mother.

My experience includes but six cases of ante-partum eclampsia, and of these but four are available in considering therapeutic measures. These four strongly indorse the value of non-interference with the progress of labor and the value of bloodletting as means of treatment.

CASE I.—A multipara. I was called in consultation on a Wednesday morning, after her second convulsion. The patient was comatose from the time of her attack. She was bled, and next day was conscious and apparently doing well. I know nothing of the subsequent treatment. The patient did not have another convulsion, but died on the following Monday morning.

CASE II.—Also a multipara. She was bled twice within three hours, and subsequently treated with hypodermic injections of chloral. This patient had had fourteen convulsive seizures, and was in profound coma when first seen. She made a good recovery.

CASE III.—A primipara. This patient was not seen for some hours after her first seizure. During this interval she had a number of convulsions, and all of this time she was in deep coma. She was bled, and convulsive manifestations were controlled for some hours by inhalations of chloroform from time to time. Hypodermic injections of chloral were also given. This patient also recovered.

CASE IV.—A primipara. This patient, like the two preceding, lived a long distance in the country, and had been in convulsions and coma for some hours when seen. She, like the others, was bled and was given chloral hypodermically, and also recovered.

To analyze briefly the foregoing: The first patient lived several days after her last convulsion, and the cause of death is not known. However, the length of life after the last convulsion demonstrates, I believe, the value of bloodletting. The recovery of the other three patients is further demonstration of the value of the treatment.

May not the more favorable statistics of post-partum eclampsia be due to the loss of blood accompanying labor?

February 6, 1897.

BULLET LOCATED IN THE MOTOR AREA OF THE BRAIN WITH *X*-RAYS.

By PHILIP D. BUNCE, M.D.,

HARTFORD, CONN.

A. B——, sixteen years old, was accidentally shot, October, 1895. A 22-calibre bullet from the ordinary breech-cap cartridge entered the skull through his left nostril, with hardly any external wound.

The patient's own account is unreliable, as his mental condition has deteriorated since the accident. He says his left leg became powerless at once, but that his arms and face were all right.

Immediately after the accident and for several days he was semiconscious. On leaving the hospital he had paralysis of the face, arm, and leg on the left side, and had to use a cane.

December 17, 1896, no paralysis of face; paralysis of left arm, with contractures and some atrophy. Left knee jerk very much exaggerated, but he can walk rapidly, in spite of pronounced toe drop, without any cane.

By means of the *x*-ray apparatus the bullet was distinctly located with the fluoroscope. No exact

measurements were made, but the bullet seemed to be located about the upper third of the fissure of Rolando on the right side.

The Crookes tube used in this case differs from that in ordinary use, in having an auxiliary bulb which increases the power of the *x*-rays very much. It was necessary to use a strong current, together with storage batteries, before a satisfactory result could be obtained. Two unsuccessful attempts were made to get a photograph, with an exposure in both cases of one hour.

Considerable trouble has been experienced since the tests, from the hair coming out on that side of the head nearest to the Crookes tube. Also considerable dermatitis is present over the same area.

Operation was not advised, as it was thought the destructive changes in the brain were permanent.

13 Pratt Street.

CASE OF CONGENITAL AFFECTION OF THE HEART IN A WOMAN TWENTY-SIX YEARS OLD.[1]

By CHARLES E. NAMMACK, M.D.,

Assistant Visiting Physician to Bellevue Hospital, New York.

Sarah J——, twenty-six years old, native of United States, has been a patient of this hospital several times. She has been told by her parents that she was a blue baby. According to her own recollection she has passed safely through measles, mumps, chicken pox, pneumonia, pleurisy, and three years ago twice vomited a large amount of blood. To the writer's knowledge she went through the course of a moderately severe bronchitis in October, 1896, without any uncommon symptoms other than marked irregularity of the heart's action and a deepening of her habitual cyanosis. Her family history throws no light on the etiology of her present condition. She is emotional in temperament, and given to that morbid introspection and self-analysis which pertain to subjects long resident in hospitals.

The symptomatology of her case is as follows: Cyanosis, which is increased by the most trivial disturbing influences and which is most marked in the visage, especially upon the mucous surfaces. Her stature is stunted and puny. The tips of the fingers are bulbous and the nails incurvated. Her bodily temperature has never been charted as less than 97.2 F., but fluctuates from slight disturbing causes. Menstruation is regularly performed at present, but periods of amenorrhœa have occurred since puberty. While in bed her pulse ranges from 52 to 80, and her respirations seldom fall below 20. Precordial pain is not a common complaint, but she frequently suffers from headaches and various neuralgiæ. There is no record of mucous hemorrhages other than the two attacks of hæmatemesis mentioned by herself. She is disqualified for the active duties of life, but assists in the ward work to the extent of her ability. Thus far, intercurrent diseases have not been badly tolerated. There are no signs of pulmonary tuberculosis.

Opinions as to the exact anatomical changes in this case have been almost as varied as observers have been numerous. It seems tolerably certain, however, that the following lesions exist: First, stenosis at the pulmonary orifice, as shown by hypertrophy of the right ventricle with dulness extending beyond the right border of the sternum, diffused cardiac impulse, thrill, and systolic murmur in the second intercostal space on left side; second, imperfection of the interventricular septum, indicated by a loud systolic murmur, heard with greatest intensity near the apex and transmitted to the axilla and back and not transmitted to the vessels, with obscuration of the first sound; third, a patulous condition of the ductus arteriosus, manifested by murmur over the upper part of the sternum and accentuation of the second pulmonic sound.

The limits of this paper preclude any discussion of the theories of the etiology of cyanosis in these cases, as this is still unsettled ground. The prognosis as regards duration of life is better in this case than in any other form of congenital heart defect of serious character. Sixteen per cent. survive the twentieth year and one individual reached the age of fifty-seven (Barton Cooke Hirst).

Our patient receives no special medicinal treatment except to meet temporary indications. Hygienic management, especially protection from cold and physical exertion, is so beneficial that she spends but little time each year out of the hospital.

42 East Twenty-Ninth Street.

[1] Patient presented before the New York Academy of Medicine, section on pædiatrics, March 11, 1897.

CHRONIC DIPHTHERIA.

By JOHN H. MOORE, M.D.,

Bridgeton, N. J.

Chronic diphtheria is rare. Mackenzie has cited a case in which the membrane persisted in reforming for three months. Other cases are reported by Isambert, Barthez, and Heybre. (See "Reference Handbook of the Medical Sciences," vol. ii., p. 470.)

The following case, reported in detail, cannot therefore but prove of interest. A. H. L——, aged five years, a healthy, robust child, though subject to attacks of tonsillar inflammation, was taken with the usual symptoms of diphtheria, December 30, 1896. In my first examination of the child the tonsils were found uniformly swollen and dotted with points of exudation, while the entire pharyngeal mucous membrane was the seat of catarrhal inflammation. The clinical features were those of acute follicular tonsillitis. There was no evidence of constitutional involvement.

In view of the fact that the child had been exposed a few days before to possible contagion of diphtheria, he was isolated and his case was carefully watched. He was treated with a mixture of tincture of chloride of iron and glycerin. The throat cleared in three days and the child appeared entirely well. On January 3, 1897, slight hoarseness appeared, which on the following day increased to complete aphonia, with a strong tendency to laryngeal stenosis. I promptly injected two thousand units of antitoxin, and in view of the increasing obstruction to respiration advised early intubation. This was done at night of the same day by Dr. Edwin Rosenthal, of Philadelphia. At the same time the second dose of two thousand units of antitoxin was given. The patient was at once relieved and fell into a restful sleep. He soon began to expectorate large quantities of shreds of membrane, which apparently gave permanent relief. During the three days following there was a steady improvement in the constitutional condition.

On January 7th, the membrane reappeared in the larynx. Two thousand units of antitoxin were injected, followed in several hours by another injection of one thousand units. The tube, which had been replaced, was coughed up, yet within twelve hours all the symptoms were greatly ameliorated and the patient was apparently on the high road to recovery. Up to the 10th of the month he seemed entirely well, the throat being free from membrane. On the following day, however, he began to be dull and apathetic, and a patch of membrane was seen forming upon the soft palate. I promptly injected fifteen hundred units of antitoxin and at night gave another injection of one thousand units. Within twelve hours after the first

injection of antitoxin there was great improvement. The lassitude had disappeared and the appetite returned. Improvement continued till January 16th, when another relapse occurred, preceded by the same symptoms as before. This time the membrane occupied a much more extended surface, involving nearly the entire pharyngeal mucous membrane and the posterior nares. I made a local application of corrosive sublimate, 1 to 5,000 solution, and followed up with systematic application of Loeffler's solution No. 2. Antitoxin was again injected, the dose being one thousand units, which was repeated in five hours. Repeated bacteriological tests showed the presence of the bacilli diphtheriæ, but why they persisted in reasserting themselves and why the antitoxin failed to produce the characteristic immunity to the disease were the points of special interest.

During all this time I had used mercury freely, either in the form of the mild chloride or the bichloride, as adjunct to the treatment. Noting that some clinical observers have found reasons to believe that the constitutional effects of mercury are antagonistic to antitoxin, I determined to discontinue the mercury and depend wholly upon antitoxin, and, if possible, keep up a condition of immunization by regular and systematic repetition of the dose. In accordance with this plan I administered antitoxin in five-hundred-unit doses night and morning, and continued for five days, when, there being no further indications for treatment, it was discontinued. There was no relapse and the progress to complete recovery was speedy and entirely uneventful.

The prominent features of the case are the persistent tendency to relapse, the relapse always being a new infection and the point of infection probably chronic ulcers, and the prompt response of the disease to antitoxin, as shown by the early amelioration of all the symptoms and the disappearance of the membrane. No injurious or untoward effects, either general or local, were noted from the frequent and repeated injections of antitoxin. During the entire period of illness the child received sixteen thousand five hundred units of concentrated antitoxin.

As regards the effect of the administration of the antitoxin upon the temperature of the child, each injection was followed by a slight rise, which soon subsided. During the progress of the disease the temperature was several times found to be subnormal for a few hours' duration, a temperature as low as 95° F. being recorded. There is no doubt that in this case intubation prolonged life till the antitoxin could produce its effects, and that in the selection of antitoxin that product which represents the largest number of immunizing units in the same quantity of serum is to be preferred, since this reduces to a minimum the possible globucidal action upon the blood and the tendency to excite urticaria.

ABSCESS OF THE MASTOID, EXTENDING ALONG THE COURSE OF THE LATERAL SINUS.

By WILLIAM G. E. FLANDERS, M.D.,

ATTENDING SURGEON AT THE HÔTEL DIEU, BURLINGTON, N. J.

This case is one that shows how extensively bone may be diseased in the mastoid region, without local symptoms, and also that pus may actually come in contact with the dura without causing grave constitutional symptoms.

Mrs. S. H——, called at my office December 17th, complaining of deafness in the right ear which had followed an attack of influenza, from which she had partially recovered. I examined her with the following results: B. C., normal; A. C., R. E., $\frac{3}{40}$; L. E., $\frac{3}{40}$. Spoken voice could be heard at six feet with R. E. The external auditory canal was normal; the membrana tympani was contracted and there was a slight tinge of redness about the centre; there was complete absence of tenderness about the canal, the external ear, and the mastoid process. The temperature was normal. The ear was syringed out with hot boric-acid solution, and the throat, nose, and nasopharynx were cleared out with the normal salt and Dobell's solution. The patient was directed to use the hot boric-acid wash for the ear twice daily. She returned in two days, feeling much better. Hearing was $\frac{6}{40}$ in the affected ear. There was no indication of middle-ear disease. Practically the same treatment was given as on the previous visit. On the 20th she sent word that she was well except for a slight discharge from the external auditory canal. The 22d she came into the office complaining of pressure and unnatural heaviness about the head. The angle of the mouth was drawn to the left and the lower lid of the right eye drooped, and it was impossible to close it. There was a slight discharge of pus from the external auditory canal of the right side; the membrana tympani was perforated in the upper posterior quadrant, and pus was oozing through this opening. Temperature was normal. She was sent home and put to bed on a light diet. The ice coil was applied over the mastoid process; cathartics were given, etc. The discharge from the auditory canal was quite free at this time.

The 23d she was much improved as to her general condition, but the paralysis remained about the same. She continued comfortable, but on the morning of the 25th the paralysis had increased and I advised immediate operation. At 3:30 P.M. I operated, assisted by Dr. William B. Lund. After the parts were thoroughly shaven and prepared, I made the usual incision and exposed the mastoid process. After denuding it of its periosteum, I removed with a half-inch trephine a button of bone over the antrum, also exposing a part of the lateral sinus. When this was removed, I found quite a quantity of pus, the cells being broken down and forming a general pus cavity. With mallet and chisel I removed all of the bone between the opening and the tympanic cavity. I then discovered that the pus had burrowed along the course of the lateral sinus for a distance of about two inches. It had separated the membrane for its entire depth and about one inch in width. The bone was removed along this pocket by the rongeur. As there was such a large amount of pus in the tympanic cavity and the ossicles were evidently diseased, I removed them together with the drum membrane. We then had a free passage from the external auditory canal out through the opening in the mastoid process. The wound was washed thoroughly with normal salt solution and the greater part of the incision over the mastoid was closed with silkworm-gut sutures. The wound was packed with iodoform gauze and dressed with a large covering of sterilized gauze. The patient rallied from the anæsthetic without shock. At 10 P.M. she had a temperature of 99.2° F., which was the only time that it was above normal. She made an uninterrupted recovery and at the end of four weeks she was able to resume her household and social duties.

This case adds one more to the list of those that have been reported, showing that external signs of inflammation and tenderness upon pressure are not safe guides as to the condition of the mastoid cells.

Early Motion in Fracture of Lower Limbs.—Allowing the patient to walk around at an early date lessens the duration of time required for cure and the chance of muscular atrophy.—BARDELEBEN.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PÆDIATRICS.

Stated Meeting, April 8, 1897.

J. H. FRUITNIGHT, M.D., CHAIRMAN.

Exophthalmic Goitre Treated with Thymus Gland.—DR. CHARLES E. NAMMACK presented a girl, twenty-one years of age, who had applied for treatment for palpitation of the heart, prominence of the eyes, and swelling in the neck, symptoms which had first been observed ten years ago. To-day all three symptoms were marked, but were less striking than before the use of thymus gland, which was begun two months ago. The pulse rate was 144, and among the symptoms were anæmia, mental depression, frequent attacks of profuse perspiration, tremor, transient albuminuria, nocturnal incontinence, dyspnœa. Among the theories regarding the etiology of exophthalmic goitre was that which attributed it to perverted function of the thyroid gland, and to counteract such influence some had removed the gland, some had administered thyroid extract, and in both instances the method had received both praise and condemnation. Later thymus gland was administered, and the result had been summed up by Mackenzie that the action when beneficial was probably due to a nutritional influence, such as cod-liver oil exerted in certain conditions, and not to any specific action. In the present case Dr. Nammack had begun by giving a three-grain thymus tabloid, said to be equal to eight grains of the gland, and had increased the amount to nine tabloids, equal to seventy-two grains of the gland. The patient claimed to have received greater benefit from this treatment than from any other—the nervous symptoms and palpitation were less, the nutrition was better, the exophthalmus less; it was more difficult to judge of any variation in the size of the goitre.

DR. A. D. ROCKWELL discussed the treatment of exophthalmic goitre. He had seen about sixty cases altogether, and the treatment had been chiefly dietetic and hygienic and the use of electricity. Some had not been improved, but the majority were markedly benefited. He employed galvanism, using large clay electrodes, which enabled him to give from fifty to one hundred milliamperes. One author had claimed that the benefit was through a mechanical effect of the current on the thyroid.

DR. H. L. TAYLOR asked about the influence of diminished chest expansion, as pointed out by Dr. Bryson, and Dr. Nammack replied that the later review of the subject by Patrick, of Chicago, would show, according to that gentleman's view, that the diminished chest expansion was not a cause but a result of the deficient muscular power accompanying the disease.

Congenital Stiffness of the Shoulder and Elbow Joints of Both Arms.—DR. HENRY LING TAYLOR presented the patient, a child seventeen months old, who was first seen by him when six weeks old. At that time there were stiffness, sembling ankylosis, at the shoulder and elbow joints, and to some extent in the wrists and fingers. The mother stated that the doctor put the left arm up in splints for two weeks after birth for dislocation of the shoulder. While Dr. Taylor found greater stiffness in the left limb, there was considerable also in the right. A neurologist had made the diagnosis of birth palsy from injury to the brachial plexus, but Dr. Taylor thought this would not account for stiffness of the joints. There were no other signs of malformation.

DR. MARY PUTNAM JACOBI thought the skiagraphs passed around gave evidence of incomplete formation of the joints, and it was her impression that the articular surfaces had not been as fully formed as usual, not in proportion to the development of the shaft of the bones; hence the imperfect joint function.

DR. R. H. SAYRE thought the skiagraph showed a larger space than normal between the radius and the articulation at the elbow, whereas the end of the ulna had some appearance of having slid up somewhat on the humerus, and that the first step toward obtaining motion would be to make traction and bring the ulna down.

DR. GALLANT inquired whether there had been asphyxiation at birth and efforts to revive the child. He made the inquiry because observations under Dr. Van Arsdale at the Good Samaritan Dispensary had shown that efforts at resuscitating children by lifting them by the hands, or other movements, and of dragging children by the hand, as mothers did when passing over curbstones, were not infrequently followed by stiffness at the elbow and helplessness of the hand. If the case were in an infant, it would make no attempt to raise or use the arm, which hung at the side. There had been seen at the dispensary about seven hundred and fifty cases of subluxation at the elbow-joint in children from two to ten years of age.

The mother replied that the child had to be resuscitated when born.

Congenital Dislocation of the Shoulder-Joint.—DR. F. TILDEN BROWN presented the case because it was related to the subject of the paper which Dr. Phelps read later. The diagnosis was not always made between congenital dislocation and obstetric palsy of Erb. Both accidents might occur from the same cause, efforts at delivery made by the obstetrician. In the case presented the mother had sustained great nervous shock when the infant was five months old, and from that date no longer experienced fœtal movements. Delivery took place at term, without aid, the labor lasting thirty-six hours. It was noticed within at least a few hours after birth that the right arm hung at the side and movement caused pain. The same condition was present when Dr. Brown operated several months later. When the humerus was rotated the head could be felt a little behind and under the acromion. The position of the wrist and fingers was partly flexion; the elbow could be flexed with a little force. Skiagraphs showed the head of the humerus out of place. Attempts to pull the bone into position were unsatisfactory. He then cut down upon the joint over the deltoid posteriorly, and on rotating the arm the head of the humerus snapped into the glenoid cavity. The wound healed kindly. There was still some spasmodic flexure of the hand. Photographs of the original condition showed prominence over the shoulder and pronation of the hand.

Infantile Athletics.—DR. HENRY LING TAYLOR read the paper. When one considered the muscular structure it became evident that man was not destined for a life of inactivity. The manner of obtaining an existence by ancient man, or man in the uncivilized state, necessitated much exercise, and at the present day we found ourselves with a physical system whose healthy function was not in harmony with rest. Growth itself implied exercise, and it was not without significance that fœtal movements began at least five months before birth, and the infant was ushered into the world with a cry. In waking hours its small limbs practised vigorous movements, an act superficially unimportant, but which was necessary to growth and power. Our purpose should be to encourage freedom of movement, but instead mothers swathed the baby in much fine linen and prepared the way for debility

and sickness. What a contrast between the bringing up of the baby carried and jolted on the back of the African mother and that of the baby raised under the restrictions of city life! It had been observed that in cities infants showed much more vigor at birth than they did a year or two later.

Dr. Taylor advocated short dresses at an early period, so that the little one could kick freely, two air baths daily, with play and romping, and rubbing, or washing and rubbing of the surface. The feet were better off without shoes or even stockings. The natural tendency to play should be encouraged in children, and long tasks should not be imposed upon them, as they tire much easier than grown people under work. The baby must not be encouraged to walk too soon before sufficient physical development had taken place, lest injury result. One author had suggested undue strain in some form as a cause of anterior poliomyelitis, which usually occurred before the third year. Young children needed freedom as well as guidance, and companionship with animals and nature. They should have large doses of country life.

Congenital Dislocation of the Shoulder; Its Diagnosis and Treatment.—Dr. A. M. Phelps read the paper. It contained the histories of six cases of congenital dislocation of the shoulder, in four of which reduction was effected by operation, in two without operation. The first case which he had operated upon came on from San Francisco in the spring of 1895. The patient was seen by a number of surgeons and orthopædists, all of whom said they had had no experience with the condition. The patient was a boy eight years old, and, according to the statement of the parents, the trouble with the arm had existed since birth. Dr. Phelps found all of the movements of the arm interfered with, and the position of the head of the humerus, backward of the glenoid cavity, interfered especially with placing the arm across the chest. The hand could not be carried to the mouth. Movements of the humerus were accompanied by movements of the scapula. The whole arm was rotated inward, the palm turned backward, the elbow protruded a little from the side of the chest, the head of the humerus presented a bony prominence below the spine of the scapula. Flexion and extension of the forearm were weak, pronation and supination were normal.

After consulting with Drs. Gibney and Morris, he cut down upon the bone, making a curved incision along the lower edge of the deltoid on the scapula, and turned the flap down. It was best, however, to curve the incision downward and turn the flap upward, as it would give better drainage. He found the posterior edge of the glenoid cavity gone, and the cavity was about two-thirds the normal size. He cut away a portion of the head of the humerus in order to fit it to the socket, cut away a portion of the redundant capsule posteriorly, replaced the bone, and put a stitch in behind to help retain it in place. A drainage tube was left in a week. The result had been satisfactory. He had reported the case at the orthopædic section of the academy, April, 1895. It would be noted that in this case, and in some of the others, a part of the edge of the glenoid cavity was gone, having apparently been broken off, and in one or two instances a fragment of the bone was found, facts which pointed to trauma as the cause of the dislocation. In the reader's opinion, the condition was probably not uncommon, and had passed as a paralysis. But the same efforts at delivery which might cause a paralysis might also cause the dislocation. Doctors ought always to examine children carefully after birth for this and other injuries or deformities. The two cases treated without operation were in children in the Post-Graduate Hospital. Five cases were of the left shoulder, whereas two of Scudder's were of the right shoulder. Whether this had any bearing upon etiology, he was unable to say.

Dr. L. W. Hubbard presented a patient who had come under his observation soon after Dr. Phelps reported his first case, and the latter at his request operated. He found it easy to map out the head of the humerus below the spine of the scapula. Following the operation suppuration took place, which necessitated a counteropening, and as a result of the scars motion was not so complete as it might otherwise have become.

Dr. Phelps remarked that the suppuration was due to some catgut which he used in the wound. He also called attention to the fact that there was in these cases shortening of the clavicle and scapula, compared with the other side.

Dr. Hubbard added that a neurologist had found some reaction of degeneration in the muscles of the arm in his case before operation, and this had disappeared subsequently. It seemed to have been due to some pressure neuritis, and replacing the bone in its normal position had relieved this. The case was a congenital one.

Dr. R. H. Sayre had seen one or two of the reported cases, and another in an infant in which the dislocation was manifest in a skiagraph. The head of the humerus had slipped back of the glenoid cavity. The motions were limited, and there was a certain amount of spastic contraction of the muscles. He inferred from the history that there had been considerable violence at birth. He thought there could be no question as to the advisability of operating when replacement could not be made and maintained without it.

Dr. A. P. Dudley said he had sent the first case to Dr. Phelps, the parents of the patient being friends of his, and when he had examined the patient it was his opinion that there was a dislocation. Doctors who had seen the patient before that were of opinion that it was one of paralysis. Dr. Dudley did not doubt that the injury had occurred during the delivery. He had seen the patient a year after Dr. Phelps operated, and had heard from the parents within two weeks. The boy was undergoing gymnastic training, and at present there was little difference in the use of the two arms.

Dr. Phelps said twenty-one cases had now been reported, six with operation, Dr. Gerster having reported one case with operation, Dr. Phelps four with operation. As stated, the two cases in which he had made reduction under ether without operation were in young children. This method promised success during the first year, although one case had been reported in which it had been successful at the fifth year.

When to Operate in Appendicitis. — Gersuny (*Therap. Woch.*, November 15, 1896) does not believe in indiscriminate operating, but restricts it to three forms of appendicitis: "1. Patients that demand intervention themselves, on account of persisting abdominal distress. 2. When the suppuration is of a progressive character and threatens perforation. 3. When the perforation has occurred and there is a general peritonitis, which cases require operation at once. He has cured two patients, four hours and twenty hours respectively after perforation. An operation is strictly contraindicated in cases of extreme heart weakness. In ordinary typical cases, rest, opium, and deprivation of food are sufficient treatment. In atypical cases all preparations must be made to proceed to an operation if it become necessary. When there is hope of spontaneous recovery, it is allowable to interfere, but when the danger is imminent it becomes our duty to interfere."

Surgical Suggestions.

Fracture of Lower End of Radius.—Dr. Roberts (*The American Journal of the Medical Sciences*, January, 1897) says, in writing of the treatment of fracture of the lower end of the radius, that the deformity must be overcome, even if great force be applied. One should grasp the metacarpus with one hand, the lower part of the forearm with the other. The thumb of the surgeon's hand which holds the metacarpus should be placed on the palmar surface of the carpal fragment of the radius, as it lies just behind the thenar eminence. Extension and counterextension are to be made for a moment; the hand should then suddenly be bent backward in strong dorsal flexion, and at the same instant the surgeon's thumb should push the lower fragment backward into place. This can be done in an instant, and does not require an anæsthetic. The reduction will be painful, but it is so sudden a manipulation that the patient does not require an anæsthetic. When the fragments are driven into place there will be noticed a grating sensation.

Cocaine Anæsthesia.—Dr. John A. Wyeth (*The Southern Clinic*) speaks as follows: "In operations upon the hands or fingers, as in opening phlegmons, a rubber tourniquet may be thrown around the base of the finger or the wrist, compression being sufficient to arrest entirely or very much retard the return of blood to the heart until the operation is over; then, in the line of the proposed incision, the cocaine may be used a little more recklessly than is advised in operating upon the body. So painful, however, is a phlegmon of the finger that I have made it a rule never to carry the needle through the inflamed integument, but to introduce it preferably upon the back of the finger, where the tactile sense is less, and to carry it beneath the skin to some point near the proposed line of incision, and inject the cocaine from the under surface. In this way complete anæsthesia may be obtained, and these painful swellings incised, evacuated, and dressed before the tourniquet is removed and sensation restored. It is important in loosening the tourniquet not to remove it entirely at once, but to allow the circulation to be restored only for a few seconds, then to tighten the tubing for four or five seconds, and repeat this until several minutes have elapsed before the constriction is finally removed. This precaution is taken to prevent the sudden passage of any excess of cocaine into the circulation. In operations upon the leg, the thigh, the forearm, or the arm, the same control of the circulation may be exercised by constriction of the limb between the wound of operation and the heart."

Gynæcological Complications of Gonorrhœa.—Dr. Thomas Moore Madden, of Dublin, Ireland, writes, in the *American Journal of Surgery and Gynecology*, November, 1896, as follows: "The greater prevalence of disease of this kind in hospital than in private practice is, I think, unquestionable, and is explicable by the unclean personal habits and neglect of prophylactic treatment too generally observable in the former class of patients. In some of the instances of the kind observed in my hospital, the disease was distinctly and immediately traceable to the recrudescence, under the stimulus of sexual intercourse, of an infection contracted prior to marriage by the patient's husband, and suffered to run on into an ignored chronic, slight, gleety discharge, containing those specific and still pathogenically active micro-organisms by which gonorrhœa is communicable. More usually, however, the infection so conveyed is not recognized until its remote consequences are brought under gynæcological observation, earlier non-detection in these cases being due, first, to the common occurrence of non-specific hemorrhagic discharges from the vulvo-vaginal mucous surfaces, as well as to their comparatively lax structure, owing to which it is that, save when the infective virus is exceptionally intense and is chiefly localized in the more sentient tissues of the vestibule and meatus urinarius, women thus affected seldom manifest those evidences of local inflammatory action—scalding in micturition, pain in coitus, glandular complications, febrile disturbances, etc.—which generally attend acute gonorrhœa in the male.

Cancroids of the skin surface are treated by Dr. Kuhn (*Gaz. Méd. de Paris*, January 30th) with a combination of chromic acid and arsenious acid in the proportion of one gram of the former to five centigrams of the latter. In case of ulceration of the lesion being already present, the proportion is decreased: no calming substance need be added, since ulceration produced by the chromic acid is not painful.

Treatment of Appendicitis.—I think that the preliminary treatment is often worse than useless, and that the measures adopted in the very beginning are of extreme importance as regards the prognosis. A common procedure is the administration of a large dose of morphine, which quiets the pain and relieves the distress of the patient, but masks all symptoms. This prevents the proper study of the early stage of the complaint, the stage which is the most important both as regards diagnosis and treatment. The question of the rapid or gradual increase in severity and the advent of sepsis are obscured by the opium treatment. A patient presenting himself with severe abdominal pain, whether he has fever, nausea, vomiting, prostration, and constipation, or not, should be suspected of having appendicitis. The most probable cause of sudden, severe, and not otherwise easily explained intra-abdominal pain, is appendicitis. Such a patient should be put to bed and thoroughly examined; very little opium or other anodyne should be given, but the patient must be kept at rest and most carefully watched. If the diagnosis can be made during the first six hours, and the patient can be kept under observation for six hours longer, the progress of the disease may tell the whole story. Certainly, in twenty-four hours from the beginning of the attack we may be able to decide not only as to the diagnosis, but as to the probable course and result of the case. In my opinion, many of the casualties in this disease are due to neglect of the precaution which I have just recommended. The earlier the choice can be made between operative and palliative procedures the better for the patient.—Dr. Charles McBurney, *Medical News*, December 12, 1896.

Pneumectomy.—F. Terrier in the *Progrès Médical* of December 12, 1896, reviews up to date this operation, which has been performed on man for tuberculosis, cancer, and pulmonary hernia. In tuberculosis the three successful operations reported were circumscribed lesions in otherwise sound lungs and bodies, and it is more than probable that they might have been cured without surgical intervention. Blok's patient died under his hands, and he committed suicide to escape criminal prosecution. Surgical intervention in neoplasms due to cancerous infection elsewhere has been unsuccessful, owing to the presence of several foci, which it was impossible to find and entirely exterminate. In two cases, when a cancer in the thorax wall had spread into the pleural cavity, Krönlein and W. Müller operated with success, although one patient relapsed four years later, when a second operation was performed, which was equally successful. In these cases the surgeon must not hesitate to resect the

number of ribs necessary to open up the intrathoracic extension of the neoplasm. In cases of hernia from stabs, etc., when the lung simply protrudes, to close mechanically the incision, all that is needed is to disinfect the wound as thoroughly as possible and suture the serosa. The reduction must be made as early as possible, and the opening closed if the tissues are not already degenerated. If they are, resection of the gangrenous portion and reduction of the pedicle is the only procedure. Two instances have given satisfactory results. In case of actual hernia, Tuffier incises the tumor, reduces the herniated lung with resection of the sac and *débridement* of the orifice, detaching the wound all around, and suturing the ring. Experiments on animals have shown that the partial and even total resection of a lung is possible and even easy in many animals, but Milton, of Georgia, he states, was the first to perform pneumectomy on man. The surgical operation most frequently required is for traumatic hernia with pulmonary parenchymatous complications.

Otitis Media.—Don't use the nasal douche to relieve "cold in the head." Don't allow the ear to ache for a whole week without performing paracentesis. Don't keep up long-continued syringing, moppings, etc.—Burnett.

Pyosalpinx.—Adhere to the suprapubic operation. The vaginal route does not fulfil the conditions of a complete operation.—Joseph Price.

Fractures of the Skull.—It is absolutely unfair to contrast the results of surgery to-day with those of the pre-antiseptic era. Rules then enforced are now entirely abrogated, and the methods of to-day would have made our ancestors protest most loudly. One respect in which we violate precedent is in our disregard, to-day, of the periosteum or pericranium. This is sacrificed without hesitation when found to be infected or torn, or lacerated beyond possibility of repair. A flap of scalp it is known, will adhere as kindly to denuded bone as to periosteum, and we have even learned that skin grafts can be applied and relied upon to adhere to this same bone—if not upon the same day a little later when granulations have appeared. In the various plastic operations necessitated about the head, we may also transplant flaps upon otherwise uncovered bone without the slightest hesitation. We have, furthermore, learned to treat fractures mainly in accordance with what we decide as to intracranial complications, or through what we can see either through the wound, if present, or through an opening intentionally made under antispetic precautions for purposes of exploration. It is even conceded to be better policy to remove fragments of bone whose vitality is uncertain, and to sacrifice ruthlessly any tissue injured or lacerated to such an extent that sloughing would probably occur, or so exposed as to have become necessarily infected.—Park, "*Surgery by American Authors*," vol. ii., p. 31.

On the Removal of Foreign Bodies from the Œsophagus.—The *Bulletin de l'Académie de Médecine*, December 8, 1896, notes that the cathode ray has been improved so much that the location of coins, etc., in the œsophagus has become an easy matter, and then by opening down to the œsophagus the foreign body can be palpated and manipulated upward (without making an incision into the œsophagus) until it can be reached through the mouth and withdrawn with a pair of Mathieu forceps with corrugated blades. Children often swallow foreign bodies with dimensions equal to fifteen millimetres; they are usually arrested at the narrowest portion of the œsophagus, and if the objects remain upright it is difficult to recognize their presence by the usual methods, if the children continue to drink and swallow and do not complain of pain. In these cases radiography is of the greatest advantage, as it shows the exact location of the object. An incision down to the œsophagus then will allow the object to be forced upward and extracted through the mouth, avoiding an incision into the organ and thus not interfering with alimentation afterward.

Eye Operations.—A convenient way of dressing the eye after an operation is to apply to the lashes and to the edges of the lids an ointment composed of ten grains of iodoform to one drachm of vaseline, and over this a pad of iodoform wool, kept in place by a carefully applied bandage: this dressing may be changed every day.—Hartridge.

To Dressers.—In every case you dress ask yourself the question why you do each and every one of the different steps of the dressing. Do not blindly follow directions. Try to get a clear conception of the object you have in view, and then be careful to observe whether this object is attained.—Gould.

Bubo.—Dr. Clifford Perry considers that the best treatment of non-suppurating buboes of chancrous origin is by the intraglandular injection of one-per-cent. solution of benzoate of mercury—a method of treatment first advocated by Welander, who claimed to have cured without suppuration fifty-six out of seventy-eight cases.

Multiple Papillomata Affecting Both Vocal Cords, in which the use of instruments was not desirable, were completely removed by using a spray of alcohol. The patient sprayed the larynx six times a day for over four months.—Bryson Delavan.

Surgery of the Appendix.—Already there are indications of the adoption of a compromise between the comparatively late operation of English surgeons and the immediate resort to operative interference of the Americans.—*Bristol Med.-Chir. Journ.*

Hot Water, besides assisting sterilization, relieves the pain of inflammation and limits the inflammatory process. Its use is indicated in severe injuries of the extremities, and its heat is antagonistic to septic germs. In acute prostatitis its use by rectal irrigation is very beneficial, also in some hemorrhoidal states and uterine disorders. In acute tonsillitis, gargling with water at 130 F. has been carried out with success.—*Zeits. f. Krankenpfl.*

Sequelæ of Herniotomy.—There are instances in which, after successful reduction by taxis or operation, acute symptoms still persist. In such instances the following conditions have been found to exist: (1) A strangulation of the bowel exists elsewhere. (2) It has become kinked or twisted upon itself. (3) The reduced gut lies within the abdomen *hors de combat* and paralyzed. Peristalsis is impossible and all the symptoms of obstruction persist. In such a case, if suspected, the abdomen should be opened and an artificial anus established in the damaged loop. (4) The gut has become gangrenous or perforated after reduction. (5) Acute peritonitis has followed. (6) Enteritis may follow, attended by diarrhoea (in which the stools may contain blood), by paroxysmal pain, by vomiting, by a sunken abdomen, and great prostration. (7) As remote effects of the operation may be mentioned obstruction symptoms, due to firm adhesions of the once-strangulated loop, to stricture of the bowel following cicatrization after ulcer, and to the fixing of the involved piece of gut into the form of a permanent loop by means of unyielding adhesions.—Frederick Treves, "*System of Surgery*," vol. ii., p. 709.

Acute Hemorrhagic Septicæmia in a physician from a post-mortem prick was cured by the twelfth day by injections of antistreptococcic serum. At first three and one-half cubic centimetres were injected every four hours, and after the eighth injection seven cubic centimetres were employed until twenty-eight in all had been given.—Balance *and* Abbott, *Brit. Med. Jour.*, ii., 1,033, 1896.

A Hot Spray of salt solution will be found invaluable in clearing the trachea after tracheotomy when the mucus has become thick and tenacious.—Leonard Dobson.

Transplantation of Lipoma.—An opera singer operated upon by Czerny for interstitial mastitis with adenoma had a lipoma removed at the same time from the lumbar region and transplanted in such a way that the absent breast would not be noticed in her professional work.—*Gaz. Hebd.*, January 3d.

Death from Chloroform.—Though I admit the necessity of the most scrupulous attention to the respiration, I feel confident that, to teach that the pulse may be neglected, must inevitably lead beginners into difficulty. I have in my own records four cases in which the pulse became imperceptible at the wrist at a time when respiration was being effectively performed.—E. H. Empley, M.B., *Hon. Anæsthetist, Melbourne Hospital.*

Raynaud's Disease.—In about one-fifth of all cases, other distinct nervous phenomena have been noted. Nervous shock not infrequently determines the onset. Hutchinson reports a case following on a heavy domestic bereavement. In one of my own cases, a slight emotional disturbance was sufficient to produce an attack.—A. M. Finch Noyes.

Paralysis of Respiration.—It would appear that when the respiratory movements suddenly cease, a period of ten or eleven minutes elapses before the cessation of the heart's action, and that resuscitation may take place seven minutes, and probably longer, after the complete cessation of respiratory movements. —A. V. M. Anderson.

Hot-Snare Tonsillotome.—The instrument devised by Dr. Gradle (*Journal of the American Medical Association*, September 26, 1896) is stronger than the ordinary snare cannula. The handle consists of two parallel bars eleven centimetres long, mounted in vulcanite blocks. A third block is fitted with lateral rings for sliding along the bars. This, fitted to two brass bars, operates the snare. Steel piano wire is used. The current is connected with the posterior ring.

Diagnosis of Psoitis.—Dr. Gangolphe points out a sign of psoitis, in connection with a suppurative case of traumatic origin. It is pain upon pressure over the lesser trochanter, a pain which is accompanied with swelling and œdema of the upper and internal portion of the thigh.—*Gaz. Méd. de Paris*, February 13th.

Anæsthesia.—In a word, surgery before and after anæsthesia was Galilee in storm and Galilee after the "Peace, be still."—Samuel Keith.

1. The inhalation of ether procures for the patient a more or less perfect immunity from the conscious pain and suffering attendant upon labor. 2. It does not, however, diminish the strength or regularity of the contractions of the uterus. 3. It sometimes increases them in strength and number. 4. The contraction of the uterus after delivery seemed perfect and healthy when it was administered. 5. Its employment not only saves the mother from pain in the last stage of labor, but also in some degree from the occurrence and consequences of the nervous shock attendant upon the delivery. 6. Its exhibiiton does not seem to be injurious to the child.—Professor Simpson.

It is dangerous to have the air too heavily charged. The record of chloroform accidents shows most cases plainly due to sudden inspiration of too heavily charged air. Chloroform must be mixed thoroughly with air. Pouring it upon a handkerchief or napkin does not necessarily secure this, and may be a very faulty and dangerous method. An Esmarch mask, a bottle arranged for dropping, gives the best results.—Theo. F. De Witt.

After all it matters little where the stuff was got, or who first actually inhaled it at Edinburgh. Simpson was the guiding spirit, and but for his indefatigable energy and boldness as a clinical experimenter, and his power and resourcefulness as an advocate, the discovery of chloroform might well have been still-born.—*British Medical Journal.*

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL AND CHIRURGICAL SOCIETY — MALARIAL PARASITE IN WEST AFRICAN FEVERS—PULSATING EMPYEMA—MEDICAL SOCIETY — INTESTINAL ANASTOMOSIS—SENILE DECAY.

London, March 26, 1897.

At the Medical and Chirurgical Society meeting, Surgeon-Captain Duggan read a paper on the parasite of malarial fevers at Sierra Leone, where he resided for two years, and examined the blood in nearly four hundred cases, and made a special study of fifty. He found parasites in the blood from the finger in every case. The parasite was a minute body of a ring shape and in a later stage it enlarged slightly and contained a few minute grains of pigment. In a fatal case he found sporulating forms in the blood from the surface of the brain; but he did not meet with this in freshly drawn blood from the finger except once or twice. The parasite is so small that it occupies only about a third of the red corpuscle; he counted five spores in one parasite. He found crescent forms after some days of fever. He found the tertian parasite only once and then in a man who had had malarial fever in the West Indies two years before. He never met with the quartan parasite. The appearances were similar to those described by Marchiafava in the summer-autumn fever of Rome. In dried and stained preparations of finger blood, a nucleolar body was sometimes seen at the periphery, and sometimes in the centre, and sometimes two could be seen.

Dr. Thin remarked that the West Coast fevers were much more fatal than those in the south of Europe, and this was perhaps due to a plurality of parasites. He said that on one occasion four out of five artisans died almost immediately after arrival in Sierra Leone, one being attacked on the second day and dying on the fourth. Quinine was a most valuable protective if regularly given. Dr. Manson mentioned Plehm's work in the Cameroons as similar to Captain Duggan's, and urged the importance of microscopic examination, as cases of severe malaria were formerly returned as sunstroke. He said the plan of discharging men after three days' hospital treatment, common in the army, was inadequate, for the parasite would again appear in the blood in about a week, so that the patients ought to remain two or three weeks in hospital, and if para-

sites persisted the patients should be sent home. He referred to transmission by mosquitoes, and said he had found the flagellated forms in the stomach of the insect. In his reply, Surgeon-Captain Duggan remarked that mosquitoes were scarcely essential, as they were not numerous in the fever districts of the West Coast, and appeared only for a short time in the year.

Dr. Samuel West read a paper on pulsating empyema, of which there are two kinds—intrapleural and extrapleural. The impression given varies, as does the explanation. In large effusions the general shock is such as may be felt through a solid growth or extensive pneumonia, and is more a shock than a pulsation. There is also a wave-like pulsation usually limited to one or two front intercostal spaces, and this is probably a surface wave of fluctuation. Distensive pulsation, such as is met with in a large abscess, is due to the fluid being contained in resisting walls under tension, and in such cases thickening and rigidity of the lung and mediastinum are found at the post-mortem. It is these last cases which are the most fatal, for the changes are such as to prevent recovery.

Intestinal anastomosis has again been before the Medical Society, where Mr. Harrison Cripps related three cases, and spoke in favor of careful stitching and against bobbins and buttons, which he regarded as sometimes the cause of avoidable deaths. In this he was supported by Mr. Sheild, who preferred to dispense with apparatus and trust to his fingers and silk sutures. A paper was also read by Dr. Savill on senile decay, in which he dealt with normal and abnormal symptoms of old age, but Dr. Clifford Allbutt would not admit that the changes described were physiological and incidental to old age. Some of them were certainly such as he had once described clinically under the title of "Senile Plethora."

OUR PARIS LETTER.

(From our Special Correspondent.)

PROFESSOR DIEULAFOY—HIS GREAT WORK ON INTERNAL PATHOLOGY—THE HÔTEL DIEU—APPENDICITIS A SURGICAL DISEASE—DISCUSSION BY PROFESSORS LUCAS-CHAMPIONNIÈRE, JALAGUIER, AND RECLUS—PRESENTATION TO THE ACADÉMY OF MEDICINE—HOW THE HOSPITAL IS SUPPORTED, ETC.

PARIS, April 1, 1897.

THE Hôtel Dieu is the principal hospital of Paris—that is, the most important, not only from a professional but also from a bureaucratic standpoint. It is in the Hôtel Dieu that the professors at the Faculty of Medicine of Paris graduate, so to speak, or finish as professors of clinic the careers that they began years before as *professeurs agrégés*. In other words, a clinical professorship there is the highest medical position in France—there exists none beyond. The words used by Professor Dieulafoy (of whom and his remarkable work on internal pathology we propose to speak in this letter), in his inaugural address to the students, on the occasion of his entrance into the Hôtel Dieu as professor of clinic, were these: "To-day the faculty causes me to climb the supreme round." They are only confirmatory of what is already acknowledged regarding this exalted medical position.

The present Hôtel Dieu is built upon the site of the old one, and dates from 1865, although the inauguration did not take place until July 28, 1877. It is a massive pile, consisting of granite or gray stone of that formation, and occupying the whole of a large block; one main building fronting on the Parvis Nôtre Dame, with the other, the rear building, on the Seine, the portico and entrance into the spacious courtyard being on the Nôtre Dame side. This courtyard is divided into two by a second portico or bridge of granite connecting the several wings on either side of the vast edifice; those on the right as one enters being devoted to female, those on the left to male wards. At the farther end of this second courtyard is the church, built in the Greek style, likewise of granite, where mass is said every Sunday morning, which the inmates of the hospital have the privilege of attending. Besides the main front and rear buildings there are three additional ones, running from one side street to the other, and forming six wings, with always the same disposition regarding distribution of male and female wards—all the buildings being two stories high. The class of diseases treated at the Hôtel Dieu is general—that is, embracing all medical and surgical diseases; patients are allowed to receive visits from friends on Thursdays and Sundays, from one to three o'clock; and those in danger of death, constantly. M. Joret, the director, informed me that the annual expenses of the hospital average about 1,302,718 francs. According to the last budget issued, that of 1895, the number of inmates was, on the 1st of January, 621; during the year, 10,923; 9,557 had left the hospital; there had been 1,203 deaths, and there remained 784. The number by (365) days of all those treated, including out-patients, was 352,403. It should be noted that the Hôtel Dieu with its annex accommodates 800 indoor patients.

It is on the lower floor that Professor Dieulafoy has the two large wards, in the right and left wings respectively, that compose his service. It is here that the crowd surges every morning at half-past nine o'clock, to listen to his clear, brilliant, and incisive diction, as he stands by the bedside, diagnosticating, prescribing for, and lecturing upon each case, rapidly and with ease; not dwelling too long upon the greater and more obvious points, and bringing out into relief and their true importance symptoms that might otherwise escape attention altogether. His book, entitled "Manuel de Pathologie Interne," is truly his book; it is Dieulafoy, the profound, skilful pathologist, the ready, unerring practitioner, who writes just as he speaks. And it is for these reasons, as well as on account of his vast experience at the hospital and in private practice, that his work in four volumes, with its well-drawn woodcuts and artistically executed colored plates, due to the well-known talent of Dr. P. Bouvier, is considered the best epitome of the practice of medicine yet published. This is the tenth edition, and the volumes, which are of a convenient size for the table, the overcoat pocket, or the carriage, are a decided credit to the editors and publishers, the Messrs. Masson & Co., of Paris. The books, which are printed on a smooth agreeable paper, are tastefully bound. The first volume is devoted to diseases of the respiratory and circulatory systems—their etiology, semeiology, diagnosis, and treatment. The second volume opens with a long chapter in twenty sections on diseases of the urinary tract, comprising some two hundred and thirty-nine pages. The remainder of this volume is devoted exclusively to diseases of the nervous system. This subject is so eruditely, so concisely, and so exhaustively handled that it might by itself well make a monograph for specialists in neurology. Diseases of the digestive apparatus claim the entire third volume. The fourth and last volume embraces the remaining classes of disease, and treats successively of "General and Infectious Diseases," such as "Eruptive Fevers," "Typhoid Diseases," "Infectious Diseases belonging to Man," and "Infectious Diseases Belonging to the Animals." Then follow two chapters on "Venereal Diseases" and on the "Pathology of the Blood." The ninth, tenth, and eleventh classes into which Profes-

sor Dieulafoy has divided his work, irrespective of chapters and sections, are entirely taken up by "Rheumatismal and Dystrophic Maladies," "Maladies Affecting the Locomotor Apparatus," and "Intoxications."

The work throughout is replete with valuable pathological data, suggestions, and formulæ for treatment. It is, however, to the third volume that we would direct attention, and more especially to the exhaustive and masterly section on appendicitis, at the close of which he summarizes all that is known at the present day on the subject, including his own experience, as follows:

(*a*) Appendicitis is the result of the transformation of the appendicular canal into a closed cavity at any point; the length and narrowness of the canal rendering it particularly liable to such transformation.

(*b*) This transformation into a closed cavity takes place by different mechanisms, as proven by examination of appendices removed by the surgeons. The partial obliteration of the appendicular canal and its transformation into a closed cavity is due to the slow and progressive formation of a calculus, harder or softer, according as the inorganic substances (salts of calcium and magnesium) unite in quantities more or less considerable with the organic and stercoral substances of the calculus, to form not a calculus come from the cæcum, as has been wrongly asserted, but a veritable appendicular lithiasis, that Professor Dieulafoy compares to renal or biliary lithiasis. Having demonstrated by numerous examples the pathogenic similitude of these three lithiases, their coexistence in a same family, and the heredity of calculous appendicitis, he proposes to place it for the future in the pathological patrimony of gout and arthritism.

(*c*) In other circumstances appendicitis is not calculous, but the consequence of a local infection and tumefaction of the walls of the appendix, a process quite comparable to the obstruction of the Eustachian tube in cases of otitis and to the obliteration of the biliary canaliculæ in catarrhal icterus. The transformation of the appendicular canal into a closed cavity may in other cases be the result of a slow, progressive, and fibrous stricture, analogous to a urethral stricture; or finally of a veritable strangulation by bridle, bend, or twist; the closed cavity varying in size and form in accordance with the pathological anatomical conditions. But it cannot of itself cause accidents if the microbes contained therein are not endowed with sufficient virulence. The form may be ovoid or ampullaceous.

(*d*) The appendicular attack, whether benign, grave, light, or violent, only declares itself when the closed cavity is actually constituted. It is then that the microbes, until that moment inoffensive, multiply and exalt their virulence. The same process is observed here as in the very remarkable experiments of Klecki after ligation of an intestinal loop, and at times a terrible source of infection from toxins is set up, principally by streptococci and coli bacilli; the virulence and toxicity of the products (microbes and toxins) are sometimes so considerable that the patient may succumb from the infectious appendicitis *ipso facto*, the lesions and symptoms of peritonitis being hardly outlined.

(*e*) The appendicular attack can heal spontaneously, at least apparently, if the infectious agents contained in the closed cavity possessed but little virulence or have lost their virulence by phagocytosis; or if the canal has recovered its permeability. However, we must be on the lookout for "recidives," as the infection may continue its evolution through the appendicular walls, without a new formation of closed cavity being again necessary.

(*f*) In many cases the appendicular infection ends in ulceration, in purulency, in necrosis, in gangrene, or in perforation, and thus gives rise to all the different varieties of peritonitis. In others, microbes and toxins traverse the walls of the affected appendix without perforation, and become the direct cause of any of the different varieties of peritonitis, such as acute septicæmia of the peritoneum, general peritonitis, encysted peritonitis, abscess of the liver, metastatic abscesses in different regions.

(*g*) The medical treatment of appendicitis is entirely insufficient; the only rational treatment is surgical intervention, practised in time.

Professor Dieulafoy's section on appendicitis is certainly a *chef d'œuvre*, and is profusely illustrated with cuts of appendices containing calculi, and others transformed into closed cavities by means of twists and bridles. It is Professor Dieulafoy who has established the pathological principle of "closed cavity" in appendicitis. He pays a tribute to the work of American surgeons in this department of science, and accepts McBurney's point designated on the abdomen (the middle of a line drawn from the anter -superior iliac spine to the umbilicus) as corresponding exactly to the point of implantation of the vermiform appendix on the posterior and internal portion of the cæcum.

The work, as already announced, is the most important that has been presented to the Academy of Medicine for some time. In the discussion of this subject on the 23d of March at the Academy of Medicine, Professor Lucas-Championnière expressed the opinion that appendicitis was set up secondarily, and that obstruction of the intestine was the primary cause, producing accidents resembling appendicitis as well as true appendicitis. The proof was the cure of appendicitis without operation, or, again, the continuance of the accidents after resection of the appendix. In conclusion, he said, we must before everything else think of intestinal evacuation. Opium can give only bad results in cases of accidents due to intestinal obstruction. Subjects having repeated attacks of appendicitis should not be condemned to rest, but, on the contrary, made to exercise.

Numerous observations by Professor Potain tend to prove that appendicitis is not an habitual complication of entero-colitis.

Professor Reclus considers that appendicular accidents are due to the stagnation of a virulent liquid in the appendix. This would seem to be confirmed by the gurgling felt and heard on palpation over the right iliac fossa, and resembling that existing in typhoid fever. Professor Reclus then spoke of the difficulty of diagnosis in cases of hysteria, which by its abdominal phenomena may simulate the symptoms of appendicitis, even to the cæcal tumefaction by hysterical or spasmodic contraction of the muscles of the abdominal wall.

At the meeting of the Société Médicale des Hôpitaux, held on the 19th of March, Dr. Merklen reported three cases of grippal appendicitis, and Professor Jalaguier similar accidents after infectious diseases, such as measles, mumps, and typhoid fever. It would seem that in these cases the microbes of the intestine become more virulent and localize their action in the appendix.

Returning for a moment to the Hôtel Dieu, among the other professors of the faculty having services there are Dr. A. Proust, professor of hygiene and director of the service of hygiene of France; and Professor Cornil, the distinguished bacteriologist and senator. The chief surgeons are Professors Duplay and Panas. The hospital is supported largely by private donations, the municipality of Paris making up any deficit from the funds of the Assistance Publique.

This subsidiary system obtains for other hospitals and institutions in Paris, and not in Paris only but throughout France and in the larger cities of Europe as well.

THE DISPENSARY ABUSE.

To the Editor of the Medical Record.

Sir: I wish to reply to Doctor Rodman's letter of the 3d inst., which considered the suppression of the dispensary physicians' advertising dodges as impracticable to ameliorate dispensary evils, and instead suggested the following as a remedy: "Let the dispensary doctor discriminate between those who can and those who cannot pay." Continuing, he also writes: "At Vanderbilt Clinic, which is maintained for students . . . without exaggeration between one-third and one-half of the patients treated are capable of paying a doctor's fee. . . . What benefit is derived from statistics showing so many thousand patients treated?" I will endeavor to answer some of his inquiries.

1. Statistics are valuable to institutions chartered to teach medicine for private gain, because, in their catalogue announcements sent broadcast striving for pupils, those dispensary statistics are juggled with to the exclusion of the current report of the examination department of the University of the State of New York, which shows that the regular schools are deteriorating:

8% candidates for license rejected in 1892;
7% " " " " 1893;
20% " " " " 1894;
26% " " " " 1895;
28% " " " " 1896.

This sort of announcement would not make happy reading, especially when compared with the results of the irregular schools, which are advancing in standard and show a decided decrease in the number of rejections of their candidates each year since 1892.

2. Dispensary appointments are now held by physicians who hold office on suffrage. They are compelled to have their patrons' clinic supplied with material, no matter from what social scale or source of life obtained, and when off hand we take, for example, an institution like the New York Polyclinic, with its

30 professors,
14 adjunct professors,
31 lecturers,
24 instructors,
58 clinical assistants,

though the hospital contains only seventy beds, it will be at once apparent from what source patients are obtained, and how futile it is to expect a dispensary physician to reject an interesting patient, though rich, when he himself, in turn, would be rejected for doing so.

3. Doctor Rodman also states: "The evil applies to the younger physician especially, the very men who are only too glad to get work in the dispensaries, that take the bread out of their mouths." From frequent repetition this statement is supposed to be true, but, if the doctor would inquire how long the physicians in the various dispensaries have held office, he might be surprised to learn that the periods range from five to twenty years; any one occupying such a position for a briefer term is doing so because his predecessor is now reaping the rewards which his philanthropic life in this vale of tears deserved.

4. If nearly one-half the number of patients treated at the Vanderbilt Clinic are able to pay a physician, I would respectfully ask Dr. Rodman: Why are they not rejected? If not now, will leaving it to the honor of physicians controlling that institution bring about a change? Alas! no.

5. I would suggest that interested physicians obtain a card from each dispensary, and notice the personal advertisement of physician on the same; then read article 3, page 16, 3d ed., Code of Medical Ethics, adopted by the Medical Association, and consider whether the suppression of this disgraceful quackery should not be summarily dealt with. The inquirer will also notice that, the lower the standard of the institution as represented in the annual report of the University of the State of New York, he will find their representatives proportionately the greatest offenders:

"Let's take the instant by the forward top,
For we are old, and on the quick'st decrees
The inaudible and noiseless foot of time
Steals, ere we can effect them."

Martin W. Curran, M.D.
101 Lexington Avenue.

To the Editor of the Medical Record.

Sir: I have been watching with interest the articles on dispensary abuse in your valuable journal, especially the painstaking, well-written, definite, and practical one by Dr. Walter Brooks Brouner. The statistical table given on page 336 of the Medical Record for March 6th represents hard work and plenty of it (let disbelievers compile one for 1896).

"Are Dispensaries Abused?" Under this heading he states that those most competent to judge, viz., men officially connected with institutions, were of opinion that quite a percentage of those treated were able to pay a doctor, and that in his own capacity as assistant at one of these clinics he frequently comes in contact with men who can expend and have expended sufficient to buy a bicycle, say $30 to $100, and thus improve their health, but cannot afford $1 to a doctor for the same purpose.

"What Constitutes Ability to Pay a Moderate Fee?" He cites the difficulty of judging from external appearances, and of sifting the deserving from the undeserving; but very correctly adds that when carfare, ten to twenty-five cents for medicine, and loss of time are taken into consideration, the patients delude themselves. Only two months ago I had a letter from a friend in New York, who for a chronic disease had been going the rounds, as it were, of free clinics and dispensaries, and on account of these very reasons —time, carfare, etc.—this patient arrived at the conclusion that it was cheaper and better to employ a doctor privately and consult him.

"Who is Responsible for the Abuse?" Here again he is eminently just (to the public) and correct. The public is not to blame, and we must never look to it to remedy the evil. (Publicity in the daily papers will be a good thing.) The institutions are in a measure to blame, but so long as they are supplied with funds, whose business is it to see that these funds are not abused? Whose business and families suffer if they are misused? It comes straight home to the medical profession. The sooner this honorable body of men looks to its own interests the better. Unity is strength, and without it it is powerless against a fast-growing evil in the large cities, which will soon render the great majority of medical men unable to live respectably, and place those luxuries—medical journals, books, instruments, etc.—beyond their reach. Every person who practises medicine in the State of New York ought to belong to a protective alliance. All it needs is to be started, and here another difficulty presents itself. Your leading men are nearly all connected with hospitals, and owe their large and lucrative practices to these connections. Therefore you can hardly expect the usual promotors of movements to be the first to begin this organizing. All it needs is to be started, each request for membership to be accompanied by printed extracts giving a synopsis of the situation. One fact which you all seem to have lost sight

of is that in this movement we ought to have the hearty co-operation of the druggists (their societies). "A fellow-feeling makes us wondrous kind." Their interests are our interests in this matter.

"How Can We Remedy the Abuse?" This is well handled. The registration of applicants and investigation by inspectors as to their being worthy or unworthy of charity would soon deter the latter from applying, and you would never have the pleasure of meeting the president of one of the largest municipal railroad corporations, nor the free patient who owned the three houses on Third Avenue, nor other patients of excellent standing from outside cities (March 20th, p. 417).

If you consider this letter worth inserting in the pages of the MEDICAL RECORD, and it makes some of its many readers turn back to the number for March 6th, pages 335 to 338, and read or reread Dr. W. B. Brouner's article, it will have done something to advance the cause, and for this it was written.

HARRY E. DENNY, M.D.

SHEDIAC, N. B., March 24, 1897.

VOMITING AND INTUBATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In reading your issue of the 27th inst., my attention was called to a communication from Dr. Greene, of St. Paul, entitled "Vomiting and Intubation." After a careful perusal of this article, I beg leave to call the doctor's attention to the following points: (1) That the closure of the glottis is not absolutely necessary to the performance of the act of vomiting. This is proven by the fact that in chloroform anæsthesia the patient sometimes vomits and the vomited matter gets into the trachea. That the glottis is usually closed during the act of vomiting, I grant you, but it is for the same purpose for which it is closed in the act of swallowing, viz., to keep foreign matter out of the trachea. (2) That although during the act of vomiting the ribs are elevated and expanded, forming the necessary firm support for the diaphragm, they (the ribs) are not held in this position by the forced pressure of the air contained in the lungs, but by the muscles of inspiration, viz., the serratus posticus superior, levatores costarum, and external intercostals. How then would opening the glottis prevent vomiting when it is not necessary for the performance of that act that it be closed?

Hoping that you will allow me thus, modestly, to disagree with the doctor in his physiology, I am,

J. H. LAIRD, M.D.

MOUNT CARBON, W. VA., March 29, 1897.

THE X-RAYS AND HOLTZ MACHINES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I am glad to note Dr. Monell's article on static machines, for I have been doing a little in the same line.

For the last six months, in connection with Mr. James McCormick, Jr., a skilful amateur electrician, I have been making experiments with a small Holtz machine, and the results have been so satisfactory that I have come to the conclusion that any physician who has a plate machine can take *x*-ray pictures, of the extremities at least.

The machine which we worked with was a very small one, having only two plates fourteen inches in diameter; later we put on a third plate, which greatly increased the effect. If one has the machine the next thing is to get a Crookes tube, and much, very much depends on whether you get the right kind. Some are so highly exhausted and the terminals are so far apart that it takes a very high-tension current, a four or five inch spark, to illuminate them, and of course such a tube could not give good results with a current which yields only a one or two inch spark. The tube we used was a large imported one, and yielded splendid results, although the same machine failed to illuminate a very superior Edison tube, for the reasons mentioned. The proper way of passing the current through the tube has to be learned by experience. When it shows, we are told, a bright green glow over the part exposed to the aluminium focus plate, without any dark bands or shadows, it is right; but this does not convey much to the uninitiated.

With this small and inexpensive apparatus we are able to take radiographs of the hand in ten minutes, and of the forearm and elbow in twenty to thirty minutes' exposure; not only this, but we were able to use the fluoroscope; with it I was able to study the results of an old Colles' fracture, and to see the bones in the hand and wrist with startling distinctness. The fluoroscope, too, furnishes a ready means of telling if the current is going in the right direction; when it is, the screen is brilliantly illuminated, but when it is not, although the tube may present a greenish glow, the screen is almost absolutely dark.

No evil effects were noted, although my hand was exposed to the rays as long as an hour at a time. The plates we used for photographing were the so-called "*x*-ray plates," but we got just as good results with a slow B-plate in an ordinary plate holder.

Of course with these small machines the results are nothing when compared to those obtained with the larger ones; but then one may happen to have such an outfit, and it is interesting to know just what one can do with it.

HARVEY B. BASHORE, M.D.

WEST FAIRVIEW, PA., April 1, 1897.

SUTURE OF THE PERICARDIUM.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the last number of the MEDICAL RECORD, Dr. Daniel H. Williams gives a very interesting case of suture of the pericardium with recovery. The only criticism I would make is upon the remark near the close, in which he says: "This case is the first successful or unsuccessful case of suture of the pericardium that has ever been recorded." Allow me to say that Dr. H. C. Dalton, of St. Louis, reported a remarkable and successful case in the *Annals of Surgery* for February, 1895, which is mentioned in the "Annual for Universal Medical Science" for 1896, and also in "Gould's Year Book" for 1897.

F. W. HIGGINS, M.D.

CORTLAND, N. Y.

The Importance of an Experienced Anæsthetizer.—The following notice taken from the *Philadelphia Polyclinic* shows that the time is at hand when the folly of permitting inexperienced persons to administer anæsthetics will be generally understood: "Dr. W. Oakley Hermance has been appointed instructor in the administration of anæsthetics in the Philadelphia Polyclinic, and anæsthetizer in the Polyclinic Hospital. The faculty and trustees recognize the growing sentiment among the profession that the administration of an anæsthetic should be trusted to skilled hands only, and in providing for the proper instruction of the incoming residents of the hospital they at the same time afford an opportunity to the pupils of the college to gain similar knowledge and experience."

New Instruments.

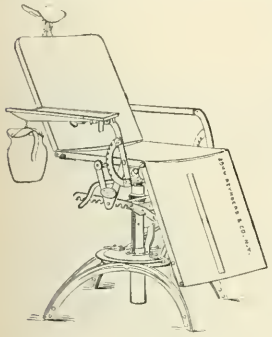
A NEW OPERATING AND DRESSING CHAIR.

DESIGNED FOR USE IN BELLEVUE HOSPITAL, NEW YORK.

By ROBERT MacLEAN TAFT, M.D.,

LATE HOUSE SURGEON TO BELLEVUE HOSPITAL.

While serving as interne in Bellevue Hospital, an idea occurred to me of a new operating-chair, which I thought would render the work of the staff more convenient, rapid, and pleasant. When asked for suggestions, I stated that a suitable apparatus upon which to dress cases was a necessary addition. The commissioner told me to speak to Dr. Rice concerning it, and that if he approved the institution should have one.



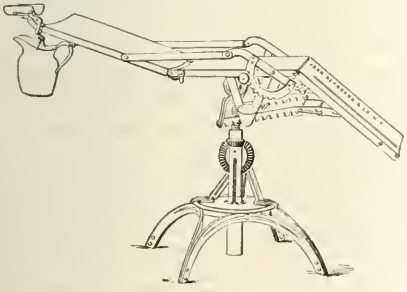
Dr. Rice approved, and the plans were given to the firm of John Reynders & Co. From these they skilfully constructed the chair.

The chair was introduced in Bellevue Hospital in September, 1896. Since that time it has been in constant use, and over eight thousand cases have been dressed upon it. It has not yet been found necessary to send it to the makers for repairs.

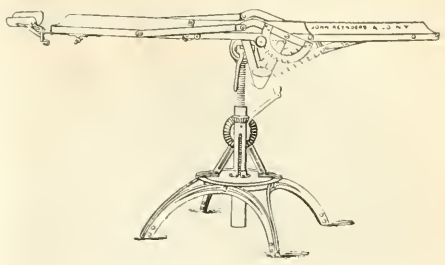
The chair, as will be seen by the accompanying illustrations, is constructed of an iron framework upon which rest thin plates of steel. These are made slightly convex for purposes of drainage. The mechanism is simple in construction and easily cleaned. It does not require much attention to keep it in order. There is no upholstery upon the chair, so that a shower of water can be played upon it without injury. Thus it can be kept perfectly clean and aseptic. It is not awkward, and like a bicycle can be made both light and strong and easy of transportation.

The chair can be raised with great ease when it contains a patient. This is due to a double set of cog-wheels, which work upon a central screw. It can be lowered in the same manner, and does not fall rapidly, but remains in position without locking whenever the power is removed from the crank.

When a patient is dressed he is placed in this



chair. If a hand happens to be the injured member, it rests upon a sort of miniature table or arm of the chair, which can be adjusted to correspond to the injured side. It is always easier for a patient to bear pain if he has support and something to brace against, and if he can turn away his head. The arm and

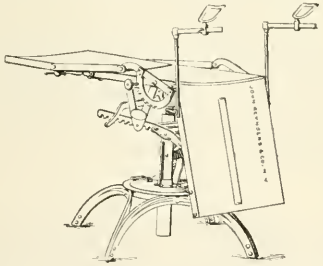


hand attachment consists of two nickel-plated sheets of brass. These are not so closely approximated but that a groove exists between them. This groove communicates with a sloping gutter, which carries the discharged products of disinfection to a drainage pan suspended at its outlet. This support and drainage leaves free the hands of the doctor and nurse. The hands of the nurse can thus be kept clean, so that she does not infect the contents of a jar when she removes one piece of gauze.

In operations about the head the chair is easily adjusted by lowering the backpiece, and a drainage pan hung under the headpiece catches all the solutions. It is much easier to dress cases in this position, and the head, which before was steadied by the doctor's hand, is not jerked away at a critical moment, upsetting all plans. If a patient be intoxicated, better control can be had raising the footpiece and strapping down the knees. A foot or leg can be handily dressed and all solutions are drained off by a groove in the centre.

Thus the chair is capable of suiting the working attitudes of the surgeon. It enables him to do better and more rapid work, with far less fatigue to himself.

The chair revolves upon a broad base, but can be made stationary by a small thumbscrew. This is ad-



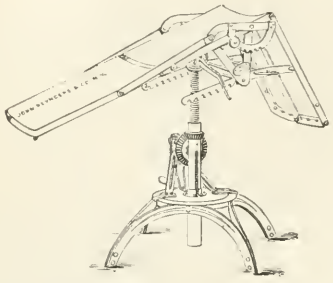
vantageous in perineal or gynæcological operations, as it is then frequently necessary to move the patient toward the best light. If the patient faint, it is only necessary to lift a lever and the chair tips backward; then by depressing this lever the chair is locked in that position until the patient has recovered.

The chair was designed for minor surgical use, but it is readily converted into a table, adaptable to any surgical procedure. If it is to be used as a table, the armpiece is removed, and it is then rendered perfectly flat by raising the footpiece and lowering the back section. In operations upon the neck or tongue, the head attachment is not removed, and the field of operation is then free from soiled towels. When the operation is finished this attachment is then removed, and a bandage is applied without dragging the head or shoulders over the end of the table.

In operations about the perineum an excellent short table can be formed by lowering the footpiece. It is not then necessary to drag the patient to the end of the table, after ether has produced its effects. This table can be raised or lowered within a limit of eleven inches, to suit any operator.

If a gynæcological operation be contemplated, the stirrup attachment is easily applied. In this position it can be used for examination or operation. Frequently during suprapubic operations upon the female, it is necessary to pass a catheter or sound. This can be done conveniently by temporarily lowering the foot section.

A number of Trendelenburg positions can be obtained by means of a simple mechanism. The chair is so constructed that it tips backward if the lever on



the right be elevated, and by depressing this lever the chair is locked in any position. This gives two inclined planes if an exaggerated position be desired. Now by raising the backpiece, the usual Trendelenburg is obtained.

If it be necessary to depress the head during an operation, it can be rapidly done by lifting the lever and then locking it at any angle desired.

In special work about the eye, ear, nose, or throat, the chair can be adjusted so that the operator will find it very convenient to reach any part of the face or neck. The drainage is collected in the pan underneath.

The apparatus seems to me a good application in general surgical work. It is not an expensive chair to build, and, as its mechanism is simple in construction, it needs little attention and no repairing.

I wish to apologize for its faults, as this is the first one which has been made. If others are to follow it, many improvements can be made.

Is Dollar Gas Desirable?—It seems that about two years ago Boston raised a cry for dollar gas, to which the legislature responded with laws under which gas could be furnished at $1 per thousand feet. This product contains about thirty per cent. of carbon dioxide, while coal gas contains only about six per cent. From February, 1896, to January, 1897, there were forty deaths from inhaling gas and many narrow escapes. From January 18, 1897, to March 4, 1897, there were twelve more deaths and an explosion which caused nine deaths and injured thirty persons. The record of deaths from inhaling fumes continues to increase. The gas has a very undesirable chemical action on the pipes. Dr. Draper, the medical examiner, says that many cases of invalidism are directly due to the gas that escapes in imperceptible quantities, and that as a purely refined system of producing death this plan could not be excelled. Boston seems to have obtained more than she bargained for when she got cheap gas.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 10, 1897:

	Cases.	Deaths.
Tuberculosis	199	104
Typhoid fever	6	3
Scarlet fever	225	12
Cerebro-spinal meningitis	1	4
Measles	196	6
Diphtheria	239	28
Laryngeal diphtheria (croup)	13	7
Small-pox	4	0
Chicken-pox	20	0

Breweries.—There are in the entire world 51,000 breweries. Germany heads the list with 26,240; next comes England with 12,874; then the United States with 2,300; Austria has 1,942 breweries; Belgium, 1,270; and France, 1,044.

Incontinence of urine in children and adults is treated by the Fiorani method, which consists in attaching to the wrist a weight of from fifty to one hundred grams, hanging over the foot of the bed. Considering the condition one of psychic origin, or, as he expresses it, a somnambulism of the bladder, the mechanical treatment is usually efficacious.

Eunuchs in China.—The London *Lancet* gives us some interesting information on this subject. The emperor and certain members of the royal family alone are allowed to keep eunuchs. His majesty maintains three thousand, while others are permitted to keep only thirty. Greed, predilection, poverty, and laziness are the four factors in the production of these eunuchs. Dr. Matignon describes the operation somewhat as follows: The subject, with his abdomen and thighs tightly bandaged, is placed upon a low bed and his legs are widely separated. The operator uses a knife resembling a pruning-knife or occasionally a pair of scissors. With his left hand he seizes the parts, twisting and squeezing them to diminish the supply of blood; a single rapid sweep of the hand serves to remove both penis and scrotum, the blade of the instrument passing as close as possible to the pubis. No anæsthetic is used. A small piece of wood or pewter, the shape of a nail, is then inserted into the urethra; the wound is washed two or three times with pepper and water, and, several pieces of paper having been applied to the surface, the parts are carefully and tightly bandaged. Immediately after the bandaging the patient is forced to walk up and down the room rapidly for three hours. For three days he is not allowed to eat anything, and he not only endures the pangs of thirst but he also suffers the agonies of retention, owing to the plug in the urethra. On the fourth day the bandage is removed, and the wretched creature is permitted to pass urine if he can. If the urine flows he is looked upon as cured, but if the overstrained bladder refuses to act he is allowed to die, as the Chinese know nothing of catheterization. Notwithstanding this primitive mode of treatment the operation is usually successful—the fatal cases do not amount to more than three or four per cent. The most frequent complication is said to be incontinence of urine, but if this persists after a reasonable period the patient is condemned to flagellation, which is reported to yield most excellent results.

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Original Articles.

THE OCULAR COMPLICATIONS OF TYPHOID FEVER.[1]

BY CHARLES STEDMAN BULL, A.M., M.D. COL., NEW YORK.

IN most infectious diseases the eye, if affected at all, is involved more frequently in the early stage or even in the prodromal period, but this is not so in typhoid fever; and this fact sometimes helps to a diagnosis, as in doubtful cases of measles. In typhoid fever, simple or complicated, the occurrence of eye symptoms seems to be either a part of the infectious disease itself or among its sequelæ. Generally speaking, if an acute infectious disease begins with severe symptoms of general poisoning, an acute state of degeneration, resembling a scorbutic condition, seems to be developed, and hemorrhages may occur very quickly in different organs. This is true of typhoid fever, and one of the symptoms met with in severe cases of this disease is retinal hemorrhage. The same may also be said in regard to the cause of the appearance of herpetic vesicles on the cornea, though this is a rare symptom in typhoid fever.

In cases of infectious disease of a low type and more chronic character, the walls of the blood-vessels undergo degeneration, the condition being known as endovasculitis and perivasculitis, and is due to inflammatory changes in the small arteries and capillaries. This condition is met with generally throughout the body, and is visible in the eye in the retina, where it gives rise to hemorrhages.

In typhoid fever various lesions may occur in the eye, not only during the height of the disease, but also during the period of convalescence. These lesions may be enumerated as follows, in the order of frequency:

I. Conjunctivitis of the catarrhal type, with little or no secretion, is a very common occurrence in typhoid, as it is in all fevers. The inflammation is usually confined to the palpebral conjunctiva, and the lids feel rough and hot to the patient. Very seldom is there any secretion of mucus, or sticking together of the lashes after sleep, or swelling of the lid, as in the ordinary forms of catarrhal conjunctivitis. The most grateful application is cold bathing, and a lotion composed of one grain of cocaine hydrochlorate and five grains of boric acid to one ounce of sterilized water may be used three or four times a day with benefit.

II. Phlyctenular Conjunctivitis and Keratitis.—Either of these is a not uncommon accompaniment or sequel of typhoid fever. There is a development of clear, transparent vesicles, usually along the corneal margin. These differ in no respect from ordinary phlyctenulæ, except that they do not suppurate, but ulcerate, discharge clear contents, and then dry up and leave no trace behind them. During convalescence, and according to some authors at a later period, there is a great tendency to these phlyctenular affections, and this same tendency has been observed in patients ill from Asiatic cholera. In severe and fatal cases of typhoid fever, in the somnolent or comatose stages, one very rare complication is a true xerophthalmia or xerosis corneæ, caused by desiccation of the conjunctiva and cornea and subsequent external infection. Warm boric-acid solutions, with cocaine and atropine added, and sterilized cocaine ointment, are useful applications in these cases.

III. Loss of Accommodation and Dilatation.—Partial loss of accommodation from paresis of the ciliary muscle, and dilatation of the pupil from partial paralysis of the sphincter muscle of the iris, are by no means infrequent symptoms in typhoid fever. Both these symptoms are due more to the general asthenic condition of the patient than to any lesion in the ciliary body or iris. Both occur during the height of the disease, as well as during the period of convalescence. Total and permanent paralysis of accommodation and of the iris is due to some central lesion, and does not occur in typhoid fever.

IV. Retinal Hemorrhages of various kinds, and more or less profuse, are by no means uncommon occurrences in the height of the disease. The outpour of blood may be so extensive as to break through the limitans interna and penetrate into the vitreous humor. These are the bad cases of tyhoid fever which terminate fatally, and are usually accompanied or preceded by intestinal hemorrhage. The ordinary forms of retinal hemorrhage met with in typhoid fever are of the punctate, linear, or flame-shaped variety, lie in the inner layers of the retina, and occur usually during the third week. They do not form the subject of complaint by the patient, unless they occur at the macula lutea, where they interfere markedly with vision. The patients are usually so lethargic or delirious from the toxic influence of the fever that the presence of small hemorrhages makes no impression on their minds. The profuse hemorrhages are uncommon, but cause marked impairment of vision. I was recently called in consultation to see a patient in the third week of a severe attack of typhoid fever, who had had a profuse intestinal hemorrhage in the morning, and shortly afterward complained that she could not see. I saw the patient a few hours later, and found an enormous retinal extravasation of blood in both eyes in the region of the macula lutea. Shortly after the occurrence of the intestinal hemorrhage, the patient's temperature, which had been 106.4° F., sank rapidly to 99.6° F., and in two hours rose again rapidly to 107° F., and the patient died in about thirty hours.

Sometimes a profuse intestinal hemorrhage will cause amaurosis from the great loss of blood, without there being any retinal hemorrhage. This is due to the general peripheral anæmia and contraction of the arterial walls caused by the loss of blood, and is of the same nature as the amaurosis met with after profuse epistaxis or menorrhagia. Should these patients recover, the blindness is apt to end in atrophy of the optic nerve.

The location of these retinal hemorrhages varies in different cases, and upon the location depends the shape and appearance of the extravasation presented in the ophthalmoscopic picture. In the innermost layer of the retina, nearest the hyaloid membrane, the

[1] A paper read before the Practitioners' Society, April 2, 1897.

extravasation is linear or flame shaped, and marked by meridional striations, because spread out in the direction of the nerve fibres. In the middle and more external layers of the retina, the extravasated blood follows the supporting layers of Muller's fibres or connective-tissue framework of the retina, which run perpendicularly to the retinal surface. The ophthalmoscopic appearance of hemorrhages here is punctate or irregularly circular or blotchy. In rare cases the hemorrhage is profuse, and breaks through the membrana limitans interna, another spreads out beneath the hyaloid membrane. Seen with the ophthalmoscope, such a hemorrhage appears as a large round or more frequently elliptical red mass, with its long diameter horizontal, and with sharply defined margin. Such a hemorrhage usually occurs at or just below the region of the macula.

The causation of these hemorrhages is somewhat obscure. They may be mere symptoms, or they may possess more of an independent nature. In all cases of spontaneous hemorrhage, a weakened condition of the walls of the blood-vessels is to be supposed, or a perverted quality of the blood, or both combined. The normal intra-ocular tension presents a natural obstacle to the rupture of a retinal blood-vessel, and there is no reason for supposing that this intra-ocular tension is in any way abnormal in typhoid fever. Moreover, the heart's action is usually enfeebled in typhoid fever, at least during or after the second week of the disease, and hence the intravascular tension is not increased. The ophthalmoscope does not reveal in these cases any evidence of a rupture of a blood-vessel, though of course such rupture may exist and be concealed by the extravasation. The cause of an intestinal hemorrhage we know to be due to ulceration of the intestinal lining, but such ulcerative processes do not exist in the retina. Hence we assume that, except in cases of profuse extravasation, the retinal hemorrhages are due to what is known as "diapedesis," resulting from a pathological relaxation of the walls of the blood-vessels, through which the blood corpuscles escape. In adults of middle age or over, this may be due to arterio-sclerosis or phlebo-sclerosis, but this is not likely to be the case in children. It may perhaps be more correct to regard the condition as one of extreme depression of the whole system, amounting almost to degeneration, somewhat analogous to what is met with in scorbutic conditions, and this is the view held by Deutschmann and others. There is neither embolism nor thrombosis of the vessels to be found in these cases, and hence there is no question of occlusion of the vessels.

Since this paper was written, a very interesting case has been reported by Dr. Finlay, of Havana, in the *Archives of Ophthalmology*, vol. xxvi., No. 1. The patient was a boy, aged ten, in the third week of typhoid fever, with a temperature of 40.5° C., with the intestinal symptoms but little marked. There suddenly appeared ecchymoses all over the conjunctiva of one eye, and two days later over the other eye, with rapid and enormous œdematous swelling of the conjunctiva and eyelids. A number of large ecchymotic spots appeared subsequently in various parts of the body. There were also some ecchymoses in the nose and mouth. The corneæ of both eyes sloughed out entirely, and the vitreous of the left eye was a mass of clots. The vitreous of the right eye did not suppurate, but appeared of a bright red color. Both eyes were of course sightless, and subsequently became shrunken. The case was undoubtedly one of spontaneous orbital and intra-ocular hemorrhage, occurring in the course of typhoid fever, and it is the only one of the kind on record. There was no spontaneous pain, merely an itching, and there were no local inflammatory symptoms until after the occurrence of the hemorrhages. The case might have been mistaken for a case of thrombosis of the cavernous sinus, as venous thrombosis from weakening of the heart's action is one of the complications of typhoid. But the ecchymotic spots on the eyelids, the multiple subcutaneous hemorrhages all over the body, and the absence of any œdema over the mastoid region, which is considered by Fuchs and others as of diagnostic importance in the differentiation of a thrombosis from an orbital phlegmon, are all points in favor of the diagnosis of an orbital hemorrhage. There must have been some degenerative changes in the walls of the blood-vessels, in connection with the general depressed vitality accompanying typhoid fever; or, as Finlay suggests, there may have been a complicating purpura. The boy had previously been well, was not a malarial subject, and there was no discoverable taint in the family. The case has been extremely carefully reported by Dr. Finlay, and is well worth perusal.

V. Paralysis of External Muscles.—Paralysis of one or more of the external muscles of the eyeball is also a not infrequent occurrence during the period of convalescence from typhoid fever. The paralyses met with some time after the close of the convalescent period are due, according to some authorities, to a chronic nephritis, which is a not infrequent sequel of typhoid fever. They are said to be nuclear in character, are rapidly recovered from, but also tend frequently to relapse. Other authorities regard these paralyses as due directly to a neuritis, caused by the typhoid poison. These muscle palsies almost never occur during the height of the fever, but appear during convalescence, and sometimes even long afterward. Hence either of the above causes might account for their occurrence. Some of the cases reported have appeared so long after the original disease as to make the connection doubtful. Nothnagel has reported cases of double ptosis and sixth-nerve paralysis, occurring during the third week, but these are very rare.

During the height of the fever paralysis of the ocular muscles almost never occurs. Should the patient recover and the muscle or muscles remain paralyzed, the resulting annoying diplopia may necessitate surgical interference in order to restore binocular single vision. A case of this sort is reported by Runeberg,[1] in which the paralysis affected the left superior oblique muscle, and occurred eighteen months after the attack of fever. This gives rise to perhaps the most annoying form of diplopia, which cannot be relieved by prismatic glasses, and the result of any operative procedure undertaken for its relief is always doubtful. Fortunately the paralyses occurring during or shortly after convalescence are the most frequent, and are almost always recovered from. The cases of paralysis which occur long after convalescence, and which resist treatment so obstinately, are very rare.

VI. Neuro-Retinitis or Retrobulbar Neuritis.—This is a rather rare complication in typhoid fever, and is supposed to be due to a more or less circumscribed meningitis at the base of the brain. This may subside, leaving a moderate or slight impairment of vision, but is more apt to end in atrophy of the optic nerve. The ophthalmoscopic picture resembles that of retrobulbar neuritis due to excessive indulgence in tobacco and alcoholics. Von Petershausen has reported a case of double neuro-retinitis, with hemorrhages in the region of the macula, but with little or no exudation, occurring during the height of the fever.[2] Leber and Deutschmann have reported a similar case ending in atrophy of the optic nerve, probably due to hemorrhage within the sheath of the optic nerve.[3] These patients are usually too sick to

[1] Jahr. f. Aug., 1875.
[2] *Ibid.*, 1893.
[3] Arch. f. Ophthal., xxvii., 1.

admit anything more than an ophthalmoscopic examination being made. If it were possible to examine the field of vision with a perimeter, there would undoubtedly be found a central or paracentral defect in the field; a scotoma for color, if not for form also.

Amblyopia or defective vision, and hemianopsia without ophthalmoscopic symptoms, have also been observed during the period of convalescence from typhoid fever. They are probably due to some lesion in the tractus, or to some cortical irritation at the convexity of the brain. They are rare sequelæ.

A case of annular defect in the field of vision without ophthalmoscopic evidence has been reported by Hersing. A very interesting case of extreme narrowing of the retinal arteries in both eyes, with paleness of the optic discs and loss of sight, has been reported by Heddaeus.[1] This patient had been very ill and had become greatly emaciated. Subsequently when he had entirely recovered, the retinal arteries regained their normal size, but the discs remained pale and the vision very defective.

VII. Inflammations of the Uveal Tract.—Inflammations such as iritis, cyclitis, and choroiditis, both serous and plastic, are occasionally met with during the height of the disease. They may be unilateral or bilateral, and of varying intensity. The inflammation is of the serous or plastic type, and is never purulent. When the choroid is involved, opacities of the vitreous humor are usually present. They are floating opacities of the punctate or stringy variety, and are never fixed or membranous. As a result of such choroiditis, the nutrition of the lens is interfered with and cataract may develop. Even when the lens remains transparent, the resulting vision in these cases is always impaired, as it is usually in all cases of choroiditis from whatever cause, owing to the retina becoming involved in the inflammatory process. Fortunately this complication on the side of the eye is a rare one in typhoid fever.

TRANSITORY DISTURBANCES OF CONSCIOUSNESS IN THEIR MEDICO-LEGAL ASPECTS.[2]

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All those who have had experience in criminal psychology have met cases in which grave crimes have been committed, the perpetrators afterward claiming to have been entirely unconscious thereof. These cases acquire special medico-legal interest, inasmuch as criminals are apt to simulate a condition of unconsciousness during the time of their criminal action for the purpose of escaping punishment. It is a well-established fact, which needs no further comment, that there are many different forms of transitory insanity, that is, mental disturbances which may last only a few hours or days, and which are frequently followed by partial or complete loss of memory of the events which occur during the attack. The difficulty of forming a correct judgment in this class of cases lies to a great extent in the fact that the expert, as a rule, is not brought into immediate contact with the manifestations of the disease, as he is in the cases of other pathological conditions; but that he sees the individual only after some period of time has elapsed since the attack. His diagnosis, therefore, is necessarily based more on hearsay evidence, that is, on the description of the condition of the person by witnesses, than on the patient's own statements.

The important question thus arises: Can we in a given case decide with certainty whether an individual at a certain time was suffering from transitory mental disturbance, or whether he is simulating this condition by pretending to have no recollection of the events during this period? Although it must be admitted that here, as well as in all other mental diseases, there are certain cases which stand on the border line of health and disease, in which the question whether insanity is present or not cannot be answered by a simple "Yes" or "No," we can positively say that in the vast majority of these instances the psychiatrical expert should be able to give a definite answer to this question.

But, in giving this answer, it is not sufficient to make the simple statement that the patient is sane or insane. In order to prove the existence of a mental malady in court, it becomes the duty of the medical expert to diagnosticate a particular mental disease, that is, to show that the symptoms of the special case correspond to a well-established form of mental disturbance. Unfortunately, even at the present day the defence of "temporary" or "transitory" insanity is made in criminal cases. Transitory insanity does not constitute a scientific diagnosis. It can be considered only as a collective term or an expression of the laity. It is required of the expert in court to show what special form of transitory insanity he is dealing with. It will, therefore, be well to consider the most important forms of transitory disurbances of consciousness in which crimes may be committed.

Whenever we hear of a person who has committed a crime of which he claims to be unconscious, we must primarily think of epilepsy, since it is this neurosis which is more apt than any other neuropathic condition to produce such a state of temporary unconsciousness. The diagnosis of an acute attack of psychical epilepsy must further be based: First, upon the previous life and the present condition of the individual; secondly, upon the nature of the attack itself. Heredity is an important factor in deciding whether or not we have to deal with an epileptic individual. Mental diseases, epilepsy, or alcoholism in ancestors predispose to this neurosis. Injuries to the head may also form an etiological factor in this disease. It is of the highest importance to ascertain whether the person has previously had epileptic convulsions, and whether he presents what is known as the epileptic character. The physical examination must bring out any degenerative stigmata, as epilepsy is a condition of degeneration. In considering the attack itself, we have to bear in mind the relation of acute psychological disturbances to the genuine epileptic convulsions. Most frequently the mental disturbance is post-epileptic, that is, it occurs immediately after an epileptic attack. Less frequently it is ante-epileptic, the convulsions following the conditions of insanity. Those cases are comparatively rare, which are known as equivalents, in which the mental disturbances take the place of an epileptic attack. In the rarest cases, the attacks have always been purely psychical, actual convulsions never having taken place, a condition which is known as larvated epilepsy. If the mental disturbance occurs in close connection with an epileptic fit which has been observed by reliable witnesses, and if it can be proven, in addition, that the individual has suffered from previous epileptic attacks, the correct forensic view will generally be reached without difficulty. On the other hand, in cases in which we have to deal with so-called equivalents or with larvated epilepsy, a correct diagnosis may become much more difficult. Furthermore, if we consider that ordinary epileptic attacks may have escaped observation for a long time, having occurred at night, or in the absence of witnesses, the

[1] Monatsbl. f. Augenheilk., 1895.

[2] Read before the Society of Medical Jurisprudence, New York, February, 1897.

question will naturally arise whether we are justified in diagnosticating an epileptic transitory insanity without consideration of other facts, such as the previous life of the patient or actual epileptic convulsions, simply from the clinical aspect of the attack itself. It is by no means impossible for epileptic attacks to have escaped notice, since we know that such seizures may last but a few seconds or minutes, a condition which is called petit mal, and which is believed to predispose the individual to mental disturbances much more than ordinary epilepsy. I may say, however, without hesitation, that in most cases we are able to form a correct judgment as to the diagnosis.

Although there are many different types of psychical epilepsy, which I cannot here discuss in detail, and although these different types are apt to undergo manifold variations, there are still certain features common to them all, which prove their epileptic nature and which can hardly be simulated. In many cases the paroxysm, as in ordinary epilepsy, is preceded by the so-called aura, which consists of peculiar sensations, such as a severe headache, vertigo, etc., or of hallucinations, mostly of an anxious or terrifying character. The paroxysm generally begins quite suddenly. The face becomes pale, the eyes stare, and respiration is labored; hallucinations and illusions of persecution lend an expression of anxiety to the face; an explosion of ferocious impulses now bursts forth, sometimes resulting in crimes of the most violent and brutal character. The individual's actions may seem without motive, absurd, and contrary to the manifestations of his true character. This condition, which may last from a few minutes to several hours, usually comes to a sudden end. The patient becomes covered with sweat and passes into a stupor, which may last hours or days, and from which he cannot be aroused as from an ordinary sleep. When he awakens, there is either a total or a partial absence of recollection of the events during the paroxysm.

Any of these symptoms may vary within wide limits. Some of them may be missing altogether, while other unusual features may appear. The diagnosis, therefore, must never depend upon one or a few symptoms, but must be based upon the general aspect of the entire attack. The following case will serve as an illustration of a typical attack of psychical epilepsy. A peasant, twenty-nine years of age, had suffered since his sixth year from epileptic seizures with consecutive stupor, which usually lasted several days. After awakening from this stupor, he never had any recollection of the events which occurred during the attack. The attack itself was always preceded by an aura, which took the form of a sensation as of something arising from the stomach. For a few days before an attack he was usually depressed and irritable. One day, after he had experienced the usual aura repeatedly, he had a long series of epileptic convulsions within twenty-four hours, after which he passed into a semi-stuporous condition. The following day he appeared in the yard, where a boy and a girl were chopping wood. The boy asked him sympathetically if he would like something to eat. He raised his hand to strike the boy, who thereupon ran away. He then attacked the girl, who was unable to escape, and with a blow of his fist upon her head knocked her down. At the boy's cries of alarm, the neighbors rushed to the scene and observed that he was staring at the girl, who was lying at his feet. At the cry of the neighbors, "For God's sake, John, what are you doing?" he picked up an axe from the ground, struck the girl several times on the head with it, then turned toward the horrified, fleeing spectators. He overtook one of the women and beat her upon the hand until she fell in a faint. He next struck an approaching dog with the axe, then lifted his shirt before a laborer who was present, and with the words, "See here," exposed his buttocks. Then he tried to break in the door of a house with the axe, ran after a man and struck him lightly, was finally overcome and bound. He then passed into a stupor, which lasted for several days. When he regained consciousness, he inquired with tears why he was bound and chained. He had absolutely no recollection of the events of the preceding days, and was very weak and exhausted.

In this case, the mental disturbance occurred in immediate connection with the epileptic convulsions, which fact placed the diagnosis of epileptic insanity beyond any question of a doubt. A very instructive case from my own experience will serve as an illustration of the same affection without this diagnostic aid. A German prince of about fifty-five years of age was on a visit to St. Petersburg. He suddenly appeared one morning at the window of his hotel with a rifle, and shot into the street, slightly injuring several people. When his room was entered, he threatened to kill any one who approached him. It was only with the greatest difficulty that he was overcome, especially as he was a powerful man, who displayed enormous strength, struggling and fighting like a wounded tiger. He was immediately brought back to Germany, and placed in a hospital for the insane, where he was put under my care. When I first saw him two days after the onset of the attack, he was in a semi-stuporous condition, talked abruptly and incoherently, and answered questions slowly and illogically. Now and then he would come out of his stupor, then would attempt violence upon those about him, so that he had to be confined in a cell. After a very careful examination, I decided that he was suffering from epileptic insanity, the diagnosis resting upon the sudden onset of the attack of his baseless violence and upon his stupor. I was later informed by his relatives that about twenty years before he had been attacked as follows: At that time he was the captain in a cavalry regiment in the Franco-German war. While his regiment was engaged in a battle, he suddenly led his men against a German infantry troop. When he was approached by a lieutenant, he would not listen to any argument, but rode straight ahead with staring eyes, repeating the words: "They are French guerillas, let us kill the guerillas." He was disarmed by his officers, passed into a stupor, and subsequently remembered nothing of the incident. After he was under treatment in the institution for several weeks, I was called to his room one day, where I found him in typical epileptic convulsions. He again became stuporous for two days and when he awoke from this condition he appeared to be in a perfectly normal state of mind. He was, however, greatly astonished to find himself in an institution for the insane. He could not recall anything from the time of the beginning of the attack in St. Petersburg up to the present moment. Although I had seen him at least twice daily, I was apparently a perfect stranger to him. He remained in the institution as convalescent for several months longer, and never showed any trace of mental disturbance during that time.

In both these cases the behavior during the paroxysm was in itself characteristic of insanity. Any layman could recognize without difficulty the fact that these actions were the outcome of some mental disturbance. In both cases, the violent actions were entirely without motive. The furious attacks were directed against people who were perfect strangers, who had no connection or relation to the maniacal aggressor. The entire conduct stood in marked contrast to the real character of the individual.

There are, however, other cases, in which the action in itself may in no way indicate a condition of insanity. The behavior of the patient during the

attack may even astound one by its naturalness. He may show in his conduct scarcely any signs of the great change which his consciousness has undergone. The deed which he commits may harmonize fully with his natural mode of thinking and with his natural desires, and may present every aspect of a premeditated crime.

The psychical mechanism of this condition will become clear to us at once, if we recognize the close relation which this pathological change of consciousness bears to the normal dream. While, in the majority of cases, dreams are more or less abrupt and seem to have no direct connection with the mental proceedings of the individual in his waking hours, there are, on the other hand, instances in which the dream seems to be the continuation of the last waking thoughts. In a dream, things may be done which in the waking state may possibly be thought of but never be really executed. So, in analogous manner, it may happen that an individual has ample cause to hate another and that, in a condition of epileptic insanity, he may take his life, a crime which, in spite of his motive, would probably never be committed in a normal state of mind.

Cases of this kind will of course offer much greater obstacles in the way of correct diagnosis. We have to depend in the first place upon the other correlative symptoms, such as the patient's condition before and after the attack, stupor, convulsions, amnesia, etc. We have next to consider the patient's heredity and the history of his previous life. We must ascertain whether he has been subject to previous attacks of psychical epilepsy, and what resemblance there is in the present attack to former ones, as far as the character, the duration, and accessory symptoms are concerned. Finally, it may be possible to learn from witnesses whether or not the patient displayed during the attack certain somatic symptoms, such as staring eyes, pallor or flushing, mechanical movements, etc., all of which may be helpful in reaching a diagnostic conclusion.

A correct judgment might become still more difficult in cases of so-called psychical petit mal, that is, cases in which a disturbance of consciousness may last only a few minutes, during which time certain impulses lead to the commission of misdemeanors or crimes. Many cases of so-called kleptomania are to be referred to this kind of epileptic insanity. The objection, especially among lawyers, that was raised against the original doctrine of kleptomania, according to which a great number of habitual thieves were the subject of disease, was perfectly justifiable. Kleptomania is not a disease in itself, and, if this term is to be preserved, it can be used only as an application for one symptom of a general disturbance. It would be the duty of the expert in such an instance to discover and verify the existence of such a disease. Such attacks of psychical petit mal have often been productive of small thefts, and have brought people of prominence as defendants before the courts. Giraud reports, for instance, the case of a prominent judge, who stole money at his club and many other places, and who was found guilty of petit larceny. He denied the truth of all of the accusations, and the examination of the expert showed that he was suffering from epilepsy, and had committed these thefts during acute attacks of unconsciousness.

The fact, that during these attacks of psychical epilepsy erotic impulses of the most violent type may manifest themselves is of great forensic importance. The most brutal sexual crimes may be evolved during these seizures. Most unnatural perversions have arisen during a state of epileptic unconsciousness. Sexual murders, such as the well-known Whitechapel crimes, are in all probability the result of epilepsy. Sodomy, rape, exposure of the genital organs, are occurrences by no means rare during attacks of psychical epilepsy. A patient of von Krafft-Ebing attempted repeatedly to rape his mother during epileptic paroxysms. After the seizure he recollected nothing of it, and during the intervals he was a strictly moral man without any sexual desire whatever. In this connection I can cite a very instructive case in my own experience. An officer of the German army, twenty-five years of age, was denounced by his valet for having made an immoral attack upon him. A similar charge was made against him by a soldier in his company. He was brought before a court martial and denied any knowledge of the occurrence referred to in the accusation made against him. At the instance of an army surgeon, he was transferred to an insane asylum for an examination into his mental condition. He was brought under my care, and I had him under observation for two months. For the first two weeks nothing abnormal in his condition was noted. He was exceedingly polite, even servile in his manner. One morning, while making my rounds in the building in which he was confined, I heard cries for help emanating from his room. When I reached him, I saw him squeezing a male nurse against the wall. His sexual organ was exposed and in an erect condition. His pupils were widely dilated, and his face was absolutely white. He paid no attention to me when I called him, but stared at his victim and continued to press him against the wall, so that I was obliged to call upon another nurse for assistance. At this moment he had an orgasm, whereupon he began to tremble violently and became covered with sweat. He was put to bed and remained in a stuporous condition for several hours. Upon awakening he was totally ignorant of what had occurred.

This was an epileptic paroxysm and nothing else. As I was fortunate enough to witness the attack, I was able to send a detailed report to the officers of the court martial, on the strength of which the case was dismissed.

The variable conditions of the memory after a paroxysm may give rise to great errors in the correct judgment of a case, especially in its forensic bearings. In the cases which I have quoted thus far there was a total absence of recollection of incidents during the attack. In a certain proportion of cases, the memory may be a partial one, that is, certain events may be vaguely remembered, like those of a dream, while others have entirely vanished from the memory. Again there are cases in which the memory acts peculiarly. A man, for instance, in an epileptic paroxysm may conduct himself in the furious way described. When he becomes quiet and rational and is asked about his conduct, he may give perfectly intelligent answers, and will apparently recollect everything that he did, and everything that happened during the attack. Yet after some time, perhaps the next day, it will be impossible for him to recall these events from his memory. The following case will illustrate this condition: A man, who was under treatment in a hospital for some syphilitic affection, arose after a very restless night at half-past five in the morning. He performed his work as he did every morning, going down-stairs to get water and subsequently assisting in the kitchen. He was suddenly seized by frightful sensations of anxiety and screamed at the top of his voice, "I must die." He ran to the range, removed a kettle from its place, put his head into the fire, and burned the entire scalp from the root of the nose to the occiput. His hands as well were severely burned. With the greatest difficulty, a nurse succeeded in saving his life by forcibly preventing him from further injuring himself. He then became calm and was put to bed. When he was questioned several hours later, he recollected all the events of the paroxysm, which had been

diagnosticated as epilepsy, the patient having experienced several previous epileptic attacks. He said that he had had a very restless night, and frightful dreams, such as he had never experienced before. He thought that the ward in which he lay was hell, that the other patients were evil ghosts, and that the physicians were devils. He noticed that when he arose in the morning he was very weak. The fright came over him very suddenly and he ran to the range. He remembered distinctly having put his head into the fire, and even recalled the burning sensation at the time. He appreciated time and space perfectly, and his answers were all intelligent. His consciousness, however, still appeared somewhat clouded, and it was several days before his mind became perfectly clear. The recollection of all the events of the paroxysm had then entirely vanished from his memory. He could only recall the great horror he had felt that morning, but was totally oblivious of what had happened to him.

I have intentionally selected this case as an illustration of this peculiar condition of the memory, because the destructive impulse was directed against the individual's own person, and not against others, so that any motive for simulation may be excluded with absolute certainty.

In order to explain the psychical mechanism of this condition, I may again be allowed to refer to the normal dream. Most people have probably experienced an occasional distressing dream, from which they have been awakened at night. At this time, they are fully aware of the details of the dream and may even discuss some points of it with themselves. They again fall asleep, and the next morning may recall perhaps that they had had a dream of an unpleasant nature, but its character and details have entirely escaped them.

When it comes to legal matters, a knowledge of this mental condition in insane persons may attain vital importance. Let us take as an example a man who has committed murder during an epileptic paroxysm. The following morning he is hauled before a magistrate and admits that he has committeed the deed because of an irresistible impulse which involved the taking of his victim for an evil spirit or the devil. The man's manner appears to be perfectly normal, and his answers are seemingly intelligent. He is incarcerated and held for trial. After the lapse of some time he is again examined and now alleges total unconsciousness of the murder and denies absolutely the statement he had previously made in court. Would this not appear as the crudest lie? Would any one not thoroughly familiar with cases of this nature accept his statement as true? And yet how close the resemblance is between this supposititious case and the one I have just cited. I frankly admit that the peculiarities of these cases are such that it seems perfectly excusable for a layman to regard them with mistrust. But the professional man who has to deal with criminal cases must be familiar with such instances in order to do justice to his client.

Another important feature of this class of mental disorders lies in the frequently observed fact that immediately after the paroxysm during the stage of clouded mentality the patient may invent stories of all kinds to explain or to excuse his ferocious deed and hallucinations, and subsequently may be entirely unconscious of the history he has given. A medical student, for instance, who, in an attack of epileptic insanity, attempted to kill his comrades, pretended after the paroxysm, without any foundation of truth, to have suffered for a year from illusions of persecution. Another patient, a soldier of the German army, accused himself of pederasty, and gave a most minute description of how he tried to force one of his comrades to have intercourse with him, all of which was later proven to be pure fiction.

In spite of the many variations and peculiarities of these cases of transitory epileptic insanity, they have, as I have pointed out, certain common characteristic features, and, as a rule, should be recognized and diagnosticated as such by the psychiatrical expert.

Another cause of transitory insanity with aberration of consciousness is found in those cases whose sources lie in acute poisoning, either by narcotics, such as ether or chloroform, or by other drugs, such as belladonna, strychnine, etc. Cases of acute insanity induced by the use of alcohol may be of great forensic importance. In this country ordinary acute alcohol intoxication is not considered an excuse for crime. It is, therefore, much more important to differentiate this common physiological alcohol intoxication, if I may be allowed to call it so, from certain morbid conditions of the mind which arise from the use of alcohol, and which may be termed pathological alcohol intoxication. There are certain individuals whose nervous systems show a decided intolerance for alcoholic liquors. Comparatively small doses of alcohol, which would cause no disturbance in a normal person, may evoke a condition of temporary insanity in such an individual. This inferior condition of the nervous system is either congenital, that is, we have to deal with a degenerate individual, in which case heredity plays an important rôle; or this peculiarity may be acquired by injuries, by infectious diseases, or by chronic intoxication from alcohol, opium, etc. The clinical form of this mental disturbance is in many respects similar to the one we have just described as the psychical epileptic attack. In these cases, too, we have the sudden maniacal paroxysm, with wild, ferocious manifestations, followed by a deep stuporous sleep and subsequent loss of memory of the events during the attack. We shall appreciate the close relation between this condition and one of genuine epilepsy much better if we bear in mind that any acute intoxication may also produce epileptiform convulsions which resemble those of true epilepsy. It is but natural therefore that the psychical disturbances arising in this way should resemble the conditions which we recognize as epiletic insanity.

It may be exceedingly difficult, but it is nevertheless highly important in such a case to convince the court that, in spite of the alcohol's being the immediate cause of the mental disturbance, we have to deal, not with a condition of ordinary intoxication, but with an attack of genuine insanity which renders the individual irresponsible for his actions.

The data upon which the diagnosis of acute alcohol insanity must be based and which differentiate it from ordinary alcohol intoxication are these: First, the quantity of alcohol which has been taken bears no proportion to the effect produced. Very small quantities are sufficient to call forth the mental disturbance. The attack may sometimes be due to a combination of smoking and drinking. Secondly, there is usually no relation in time between the drinking and the onset of the psychosis. The latter may start immediately after the use of the liquor, or there may be an interval of time between the drinking and the paroxysm entirely free from manifestations. Further, the psychopathic symptoms and obscuration of consciousness do not develop gradually step by step, as they do in the ordinary intoxication, but make their appearance suddenly, sometimes without any warning. Thirdly, there is also a qualitative difference between the behavior during the acute alcoholic insanity and common intoxication. In the case of insanity the external world is misinterpreted or is not perceived at all. Delusions and hallucinations, mostly of the persecutory type, form the basis for the vigorous motor manifestations. The be-

havior is not the consequence of co-ordinated perceptions, but is purely impulsive, the direct manifestation of intensified propensities. The clinical aspect of this condition may resemble a maniacal delirium. Fourthly, the mental aberration is accompanied by certain somatic symptoms, such as a full, rapid pulse, a flushed face, with injected, staring eyes. There are no staggering gait, no ataxic movements as in ordinary intoxication. Under the high dynamic power of the irritated motor centres in the brain, the movements are firm and energetic and the muscular power becomes highly exaggerated. Fifthly, there is always complete amnesia for the whole period of the psychosis.

Individuals with an inferior nervous system, upon which small doses of alcohol may have the effect just described, are apt to develop a similar condition of temporary insanity without the use of any intoxicants, simply through stress of severe emotions or mental shock. It is a well-known fact that ordinary emotions may cause a suspension in high measure of the intellectual control; yet a normal man even under the greatest excitement will always have sufficient influence over his actions not to be carried away by his emotion to such an extent as to commit a crime. A weak-minded, degenerate individual, however, may in such a case lose all power over himself; his conduct may resemble that of a furious maniac, and after this stage he may exhibit the same lack of memory of the events which have occurred that I have previously described. We have to deal in these cases not with ordinary emotions or affections, but with the special form of temporary aberration well defined in its clinical features and known as "emotional insanity."

Similar to these are certain instances of infanticide, in which women, partly through loss of blood, partly through mental emotions, such as shame and grief, may pass into the state of transitory insanity.

In some cases it may be a combination of intense emotions and the use of alcohol which evokes this form of insanity. The following case will be illustrative: An innkeeper, thirty-nine years of age, was unhappily married. One night his wife eloped with her lover. The following morning he was very much depressed and agitated, and did not eat or drink during the entire day because of his keen disgrace. He served an unusually large number of guests almost continuously during the day, and seated himself about nine o'clock in the evening, fatigued by his day's work, at a table. He exclaimed, "This has been a cursed day for me," drank a glass of claret rapidly, and without another word went into an adjoining room, slamming the door noisily behind him. A few minutes later peculiar noises were heard, and smoke and an odor of burning furniture were perceived. The door was opened and the man's bedclothes were found in flames and he was throwing cartridges into the fire. When he was asked what he was doing he grasped a revolver and cried loudly with wildly rolling eyes: "Go to the devil, all of you, or I will shoot you down like mad dogs." The mayor was then called and soon appeared with abundant assistance. The fire in the mean time had gained headway. In the midst of the flames and smoke stood the man, cursing frightfully. He shot at those who approached him, but was fortunately thrown to the ground; although for twenty minutes it required seven strong men to withstand his furious and vicious attacks, he was finally bound and arrested. He fell asleep and in sixteen hours awoke lucid. His recollection served him only up to the moment when he had gone into his bedroom after drinking the claret. The man remained healthy. He had no hereditary taint, had always been able previously to drink spirituous liquors without having been an habitual drinker, had always been healthy, so that the cause of the attack must be sought in his anger, his physical exertions during the day, and the rapid drinking of a glass of claret on an empty stomach.

Of no less forensic interest are those instances in which the crimes have been committed in a state of deep sleep. Although I think that the great majority of cases which have been recorded properly belong to the class of transitory epileptic insanity, since they offer all the clinical symptoms of the disease, still there are other cases in which the peculiar conduct of the individual can be attributed to no other cause than this somnolence. As a rule these individuals, too, possess nervous systems with a number of pathological stigmata and with a diminished resistance. The history of the previous life of these patients will usually show that similar phenomena have occurred before during sleep, and the opinion of the expert must be based upon the general condition of the individual as much as upon the symptoms of the special event. The following case will illustrate a murder committed under these conditions: A rich young man, a gentleman, farmer by occupation, irritable, subject to sudden flushes, was given to exciting dreams and was regarded by his family as a sleep walker. As he lived in an isolated locality and therefore feared burglars, he always slept with a gun and a sword by his bed. One morning his brother called for him to go hunting. He was still half asleep, but jumped out of bed, swung his sword about as though to attack his brother, who seized him, however, and called him by name, whereupon he at once became conscious of his surroundings. Some time later under similar circumstances, his father appeared in the room early in the morning and was shot dead by his son.

In close relation to these conditions are cases of so-called somnambulism. While in normal sleep an equal diminution of all vital functions takes place, no transformation from simple dreams into co-ordinated movements occurring, in somnambulism, on the other hand, there is a marked disturbance of equilibrium. The psycho-motor sphere lacks the diminution of activity, which is essential for normal sleep, and consequently dreams are put into motion, while the highest psychical centres, which are responsible for self-consciousness, take no active part in the actions of the individual. Such a person walks about with staring eyes like an automaton, with no apparent purpose, or, according to the condition of his associative power, may perform quite co-ordinated movements, without, however, being conscious of them. The events during this condition may either not be recollected at all or there is merely the resemblance of a dream. In some rare instances, the occurrences during one are recollected only during the following attack, and in this manner a remarkable condition of so-called double consciousness is produced.

All these phenomena of somnambulism form a part of a general nervous disease. They are usually a complication of epilepsy. They never occur in otherwise healthy individuals.

Transitory disturbances of consciousness occurring during the course of a regular psychosis, will usually be recognized without difficulty as pathological when the underlying disease is recognized. Nevertheless they may escape notice, either on account of mildness of the symptoms or because of insufficient observation, and acute outbreaks with violent, sometimes even with criminal conduct, as in some forms of temporary insanity, first direct attention to it. The disease which is most likely to give rise to such a condition is melancholia. A person who has always been considered to be perfectly healthy may suddenly be seized by an attack of maniacal violence resulting in self-mutilation or suicide, or even in the murder of the nearest

relatives or friends. A careful examination of the previous history of such an individual may reveal the fact that for some time he has been suffering from mental depression. As attempted suicide, which is the most frequent outcome of such a condition, is, strangely enough, punishable by law in this State, these cases become of great medico-legal importance. The clinical feature of this form of mental aberration, known as raptus melancholicus, resembles acute attacks of epileptic insanity in many respects. Here, too, we have the sudden, violent, destructive outbreak. The furious motor impulses are not satisfied by simply destroying or killing their victim, but usually result in its most horrible mutilation. Attacks of this nature have been correctly called "psychical convulsions:" deepest anxiety and despair are the bases from which these impulses arise. After the enormous psychical tension has led to explosive acts of violence the patient becomes quiet and calm and feels relieved. The memory of events during such attacks may be partially or totally destroyed. Most frequently the involuntary uncontrollable psychical pressure for relief, the destructive impulse, is directed against the individual's own person, resulting in self-mutilation or suicide. In other cases, an unconscious transfer of the delusional sensation of misery is applied to the external world, which appears bad and wicked, and a subconscious impulse to save those dearest and nearest from such vicious surroundings might impel the melancholic even to the murder of his own children.

The correct diagnosis of these cases will generally be easily made when there is no apparent psychical cause for the desperate act of the patient, and when his previous life and environment form a marked contrast to his psychopathic conduct. On the other hand, a proper judgment might become much more difficult if the diseased mental condition were induced by severe blows of fate, so that the grief and despair seem to be well grounded, or when, for instance, parents have been known not to be very devoted to their children. Only a most thorough study of the entire psychical and somatic condition of such an individual can reveal the true nature of the sad event.

After having considered the most important forms of insanity which may give rise to transitory disturbance of consciousness, during which crimes may be committed, the question will naturally suggest itself to the minds of legal men, whether it is not possible for a criminal to claim unconsciousness during the time of the commission of his crime, and whether his case could not be made to correspond to one of the forms of insanity described. Especially is this true if the manifold variations of the different forms are brought to mind. The lawyer is perfectly justified in asking whether we are able to prove, with the same certainty as we make a diagnosis of insanity, that in a given case a criminal is lying, that he is wrongfully assuming a previous condition of unconsciousness. We must frankly admit that, unless we are able to do so, the advances and discoveries of forensic psychiatry cut like a double-edged sword. While it is true that on the one hand we should protect an innocent patient, who should not be held responsible for his criminal act, from unjust punishment, we should on the other hand give impunity to all evil-minded and wicked men by rendering their premeditated crime excusable, under the pretence that they suffered from one of these forms of temporary aberration.

While direct simulation of mental diseases is an extremely rare occurrence and, on account of the great difficulty of playing such a rôle correctly, is rarely successful, nevertheless we not infrequently meet instances in which criminals pretend to have committed their crimes in a state of unconsciousness. Now is it possible in such a case to prove forensically that we have to deal with an ordinary liar? I do not hesitate to answer this question in the affirmative, although I must admit that in these special instances it is far more difficult to make a positive diagnosis of simulation than to diagnosticate an actual disease.

The diagnosis of simulation must be based on two different factors: First, on the exclusion of any criminal features which may lead to the diagnosis of any form of transitory insanity, heredity, epilepsy, chronic alcoholism, previous attacks, post-epileptic stupor, etc.; and secondly, on positive facts establishing the falsity of the defendant's statement. If the individual is apparently normal, if he has never before suffered from a neurosis or mental disturbance, it is not very probable that the sudden attack of unconsciousness is genuine, although by no means impossible. We must not forget, however, that criminals are liable to offer many stigmata of degeneration without being insane in the legal sense. The diagnosis of simulation, therefore, cannot depend on the presence or absence of one or of a few elements, any more than can the diagnosis of disease: but it must be based on the general aspect of the case.

When a criminal untruthfully pretends to have been unconscious at the time of his criminal act, the amnesia is usually complete. He knows nothing of a partial loss of memory, and naturally considers it much more effective to assume to know nothing at all than to have a fragmentary recollection. Premeditated crimes are never committed without motive, although it may not be possible in all cases to prove its existence. Of great importance for the differential diagnosis is a careful consideration of the events occurring during the time immediately before and after the crime. The psychical mechanism of so-called unconsciousness does not consist in narrowing alone of the psychical field, in a suspension of part of the psychical functions, but it depends largely, and this is by far the more important factor, on disassociation of thought with both the previous and subsequent mental processes. As in the ordinary dreams, such a period of unconsciousness forms an individual entity, and, unlike normal psychical processes, is not a link in the great chain of thoughts. This disconnection is plainly marked by clinical symptoms, and their absence may be of great aid in the diagnosis of simulation. We may even be able to detect a direct connection between the period of pretended unconsciousness and the preceding chain of thoughts. The individual under suspicion may possibly have made some preparations for his crime, such as the acquisition of a weapon, conversation with others about his plans, etc.

While patients suffering from transitory insanity generally pass into a stupor after the paroxysm, or at least show a marked contrast in their behavior after the attack, the behavior of crimininals after the commission of their deed always stands in some relation to the crime. They try to escape or to conceal evidences of the act or may make some remarks indicating in some way the motive for the deed committed. There is no disassociation between the period of their alleged amnesia and subsequent time, as appears in pathological cases. While a pure and simple liar will as a rule be easily recognized as such, we may occasionally meet complicated cases in which it will be much more difficult to reach a correct conclusion. An individual may, for instance, suffer from epilepsy or from chronic alcoholism, and also present hereditary stigmata. He may still commit premeditated crimes. Epilepsy alone, so long as it has not developed into a psychosis, cannot be accepted as an excuse for criminal action; it is the duty of the expert in such a case to show that the crime has been evolved during a genuine epileptic attack or during any other psychopathic condition. Further, if we remember that what is known as the

epileptic character consists in an increased impulsiveness, augmented response to emotional stimuli, tendency to lie, it may become extremely difficult to reach a correct conclusion, and sometimes only a protracted study of the individual will lead to a right conception of the case. But it is not only due to this difficulty that we so frequently witness in criminal cases men of high standing and undisputed reputation arrive at quite diverse conclusions. The fault lies not so much in a deficiency of our special science, as in its incorrect application in practice. As long as the psychiatrical expert is compelled simply to answer questions which are put to him by a layman, instead of making a scientific elucidation; as long as he is obliged to appear in court to decide a sharply defined aut-aut, instead of making a psychological analysis, in order to explain the psychical mechanism to which the criminal action is due, so long will forensic psychiatry be unable to benefit mankind in a measure commensurate with that degree of perfection which it owes to modern investigation. I trust that I express no vain hope when I urge that in the near future we may no longer see psychiatrists appearing as allies of plaintiff or defendant, but that lawyers and psychiatrists may work in harmony together to the end that in every case the truth may appear, and that thereby the unfortunate victims of mental disease may receive just, honest, and conscientious treatment, and that, on the other hand, these combined efforts may not prevent society from its due protection against premeditated criminal acts.

A CASE OF A RARE FORM OF PSEUDOHERMAPHRODITISM; TYPE, ANDROGYNOUS; VARIETY, FEMALE SEXUAL PASSAGES SUPERADDED IN A MALE—"INTERNAL PSEUDOHERMAPHRODISM" (KLEBS); "BISEXUAL CONFORMATION OF THE MIDDLE SEGMENT" (HERRMANN).

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EUGENE P——, forty-eight years old, was sent to me by Dr. H. B. Douglass to be treated for an abdominal tumor. The patient was a negro, of medium muscular development and purely masculine type of body; the pelvis of average width; mammary glands undeveloped; growth of hair on face rather scanty, but about such as is commonly seen in the negro. The penis was normal in form and of medium size; the scrotum was small but complete; the left testicle was undescended; on the right side was a reducible inguinal hernia; the perineum was normal. The patient has been twice married, and has a son twenty-five years old. In the lower part of the abdominal cavity in front was a tumor, apparently as large as the closed fist, extending from the median line close above the symphysis to the left. It could be indistinctly felt through the rectum by bimanual palpation. Diagnosis, tumor of undescended testicle.

I operated at the New York Hospital, January, 1897. When the patient had been anæsthetized and placed upon the table, the tumor was found to be situated more centrally and nearer the umbilicus, and freely movable. The abdomen was opened by a median incision extending from the umbilicus nearly to the symphysis and exposing the tumor, which was white, irregularly globular, and attached only by a broad pedicle at its lower end. After the tumor was turned out through the wound, the appearances indicated in the accompanying cut were disclosed. The long broad pedicle of the tumor spread out from its left border over the left side of the pelvis, extended posteriorly to the bottom of the pelvis, leaving a roomy space between itself and the sacrum, Douglas' pouch, and was continuous anteriorly with a broad layer of peritoneum that extended downward and forward and then upward over the anterior pelvic and abdominal wall. Its right border curved inward to a structure (uterus) resembling in appearance, shape, and position the fundus of a medium-sized uterus. From the other side of this uterus ran the mesial border of a similar but much smaller pedicle, which terminated in a white, oval, flattened mass—the right testicle, which had been drawn back from the scrotum when the tumor was lifted out. From each cornu of the fundus ran a pale cord, the Fallopian tube, eight inches long, forward and outward and then backward and outward, ending far from the testicle and showing plainly under the peritoneum. The outer end of each cord was slightly pointed, and like the rest of the cord lay wholly under the peritoneal sheet. No round ligaments could be found. Numerous large veins showed plainly beneath the peritoneum behind and in front of the two cords. On the right anterior wall near the symphysis the peritoneum was raised in a loose fold, showing at its centre an opening through which the finger could be passed into the scrotum. The uterus on palpation appeared to be directed downward, forward, and a little to the right. It was soft, and its lower termination and lateral margins, as well as its relations, if any, with the bladder or prostatic urethra, could not be made out. The bladder lay empty behind the symphysis and on the floor of the broad pouch between the uterus and symphysis. Palpation of the pedicle of the right testicle showed a small cord resembling to the touch a vas deferens.

After showing the parts to my colleagues, Drs. Weir and Hartley, who were in the hospital, I removed the tumor, replaced the right testicle in the scrotum, and closed the wound. The patient made an uneventful recovery, but the testicle slipped back into the abdominal cavity. Examination of the tumor by Dr. Biggs, the pathologist of the hospital, showed the presence of seminiferous tubules, an epididymis, and a vas deferens. The tumor was a sarcoma.

The abnormality is of course due to the coincident development of Müller's ducts, which normally in the male atrophy and persist only as the utriculus hominis or sinus pocularis beneath the veru montanum in the prostatic urethra, and which in the female develop into the uterus and Fallopian tubes. A very slight grade of the abnormality is not infrequently seen in the deepening of the utricle and even in the presence

within it of transverse folds resembling those of the vagina, but examples of more marked forms are very rare.

Hermann[1] collected, in his article on "Hermaphrodism," six such cases more or less similar to the one here given. The supernumerary organs varied from a small vagina opening into the urethra and continuous at the other end with a uterus having only one cornu and a rudiment of tube, to a fully formed uterus with incomplete tubes and a rudimentary vagina formed by a fold at the veru montanum. The details are as follows:

Vagina and unicornate uterus: Betz[2] found in a stillborn male with normal external genitals a male uterus, opening through a vagina at the veru montanum and ending on the right side in a cornu with a rudiment of a tube. No seminal vesicles; left vas deferens obliterated; right testicle not descended. Eppinger[3] found a similar condition in an adult.

Vagina and bicornate uterus: Petit (1720) reported to the Académie des Sciences the condition found in the body of a man, twenty-two years old. The external genitals were normal, but the scrotum was empty; the testicles were small and occupied the position of the ovaries. The epididymis, vasa deferentia, prostate, and seminal vesicles were present. A uterus was attached to the neck of the bladder and opened into the urethra. "From the uterus arose on the right and left two tubes, which extended to the epididymides and had no fimbriated ends." (The heading indicates that Hermann considered the tubes in part the cornua of a bifid uterus.)

Mayer:[4] Four months' fœtus—normal external genitals, testicles, vasa, and prostate; male uterus distinctly bicornate. "The two internal canals are completely separated from each other by a median septum as far down as their lower ends, where they terminate in a blind pouch and project into the vagina. The latter opens, not at the veru montanum, but into the bladder."

Hyrtl:[5] Utero-vaginal canal—two horns uniting to form a single canal opening on the veru montanum. "The mucosa is arranged in transverse folds. Prostate exists; seminal vesicles absent; testicles and epididymides normal, and in the scrotum."

Vagina with partly developed uterus and tubes: Franqué:[6] adult male, cryptorchid, the testicles lying in the inguinal canal. Epididymides and vasa deferentia, the left obliterated. No ejaculatory ducts. Prostate small; two seminal vesicles. "The vagina is formed by a fold at the level of the veru montanum, and is continuous with a well-formed uterus showing cervix and body and surmounted by two tubes, the left complete, the right in great part obliterated."

Dislocations of the Hip.—Treves ("System of Surgery," vol. i., p. 1,006) tabulates as follows the methods of treatment by manipulation of the four common dislocations of the hip: 1. Flex the thigh in adduction in the dorsal and sciatic dislocations. Flex the thigh in the abducted position in the obturator and pubic dislocations. The object of the flexion is to relax the Y-ligament. 2. Abduct and rotate outward in the dorsal and sciatic dislocations. These manipulations cause the head of the bone to retrace its steps through the capsular rent, and relax the short rotator muscles. 3. Extend in all cases. This causes the head of the bone to enter the acetabulum.

[1] Dict. Encyclop. des Sc. Méd., p. 623.
[2] Müller's Archiv, 1850.
[3] Prager Vierteljahresschrift, vol. cxxv.
[4] Icones Selectæ, Bonn, 1831.
[5] Oesterr. med. Wochenschr., 1551.
[6] Scanzoni's Beiträge, iv., 1859.

THE DIAGNOSIS AND TREATMENT OF MULTIPLE NEURITIS.

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The comparative frequency of multiple neuritis, its varied etiology, its prognosis, favorable as compared to the hopeless outlook in the chronic diseases of the spinal cord, with which it is most liable to be confounded, make its study of interest and importance, as well to the general practitioner as to the specialist. To the former, I would more particularly address myself, in asking attention to some points in its diagnosis, prognosis, and treatment, studied in the light of recent advances in our knowledge.

A knowledge of the etiological factors of a disease plays an important part in its diagnosis and treatment, and multiple neuritis is usually divided into different forms, according to its different causes.

With the exception of certain senile and degenerative forms—which differ considerably in their course and in the distribution of the lesion from the other forms—probably all cases of multiple neuritis are due to the presence in the blood of some poison, introduced from without or developed in the body, in the course of a morbid process. The poisons derived from without are definite in character and of known composition. Among them alcohol and lead play the greatest rôle, but arsenic, mercury, silver, and copper among the metals, and carbon bisulphide, nitrobenzol, aniline, and carbon monoxide among the non-metallic poisons, are capable of causing neuritis.

The poisons developed in the body have no such definite composition, or at least we have not yet been able to make out just what their composition is. Among these, that of diphtheria is the most apt to produce a neuritis, but neuritis may develop also as a result of typhus, typhoid, tuberculosis, variola, scarlatina, erysipelas, pneumonia, septicæmia, etc., as well as in rheumatism and diabetes. In lepra a peculiar and characteristic form of neuritis occurs; while in the very fatal beriberi or kakké, endemic in the East and in Brazil, we have a multiple neuritis, apparently infectious in origin and presenting a well-marked clinical picture, which differs considerably from that with which we are familiar in this country. A malarial form of neuritis closely connected with remittent fever has been described as coming from India and other countries, where severe malarial fevers are prevalent. In American books malaria is mentioned as a possible cause of neuritis, but it does not seem to be regarded as a common one. Possibly a closer study of cases of paralysis of the legs which occur in the malarial regions of the Southern States may show that neuritis from this cause is not so rare. Cases of neuritis due to cold are not uncommon. Perhaps they are rheumatic in origin: if not, they are most likely due to the action of some poison, developed in the system as a result of exposure to cold.

A neuropathic constitution is undoubtedly predisposing, and two or more causes may combine to produce an attack. As to the pathological anatomy of the disease, it will suffice to call attention to the fact that multiple neuritis is primarily a parenchymatous inflammation, while neuritis of single nerves is interstitial, confined at the start to the connective-tissue sheath, and involving the nerve fibre proper secondarily only. Multiple neuritis may be acute, but is more usually subacute or chronic. The acute cases may run a course not unlike acute ascending paralysis of Landry, or may present the same symptoms, only in more violent form, as the more chronic cases, being accompanied in addition by fever and constitutional disturbance.

The symptoms of multiple neuritis "are of three classes—motor weakness, sensory disturbance, and inco-ordination" (Gowers). According to the predominance of one or another of these, we have a motor, a sensory, and an atactic form of the disease. These symptoms vary in degree in different cases, but are generally combined.

Alcoholic neuritis is by far the most common, and can very well be studied as a type of the disease. It results from the continued use of alcohol, especially in the form of spirits, is a disease of adult life, and is said to be more common in women drinkers. Neuropathic constitution and exposure undoubtedly predispose to an attack. It begins with tingling and numbness in the finger tips and soles of the feet. Sooner or later this spreads up the limb, and is followed by pain and loss of power, the legs suffering earlier and more than the arms, often exclusively.

The pain is located along the nerves and in the muscles. It is burning, boring, or aching in character, and varies much in degree. The affected muscles are tender and painful on pressure, on account of involvement of the muscle nerves.

The disease shows a tendency to involve special nerves—in the leg, the peroneal: in the arm, the posterior interosseous—supplying respectively the flexors of the ankle and extensors of the toes, and the extensors of the wrist and fingers—homologous groups of muscles, which, when paralyzed, give rise to the "foot drop" and "wrist drop," so characteristic of neuritis.

Any other nerves may be involved in the progress of the disease, those of the extensor muscles suffering most. The "knee jerk" and perhaps other tendon reflexes are lost, or very much diminished; the skin reflexes suffer less. As the disease progresses the muscles atrophy and show altered electrical reactions. In mild cases the atrophy may be slight and electrical reaction only quantitatively altered; but in bad cases atrophy is great, "reaction of degeneration" is found, and recovery is very slow. Normally both nerve and muscle respond to stimulation by either galvanic or faradic current, and with galvanism the strongest contraction is produced by the negative pole (cathode) at the moment of closing the circuit. When degeneration of nerve fibres is present, however, there is loss of faradic irritability by both nerve and muscle. To galvanism the nerve does not reply at all: the muscle responds, and to a weaker current even, but no longer gives a quick, sharp contraction. It contracts with a slow vermicular movement, and may show greater irritability to the positive pole than to the negative. This change constitutes "reaction of degeneration." If the peroneal group of muscles is alone involved, the patient can walk, but cannot lift his feet well. If the other muscles of the legs are attacked he may be completely paraplegic. Sensory disturbance begins with tingling and numbness in the affected region, and hyperæsthesia and painful sensations are soon added. Later anæsthesia, more especially to touch, comes on. Temperature sense is little affected. Inco-ordination may occur to a greater or less extent. It is generally combined with motor and sensory disturbance. When it is the chief or only symptom, we have a special type of the disease, the atactic, and to it I would invite attention, as it is the form which above all others may give rise to an error of diagnosis, its resemblance to locomotor ataxia being marked. The idea that inco-ordination of the legs, with disturbance of sensation, was due always to sclerosis of the posterior columns of the cord was universally prevalent until, in 1883, Déjerine published the clinical histories and results of autopsy in two cases, which showed that these symptoms could be produced by lesions of the peripheral nerves, the cord being entirely uninvolved. For this new form of ataxia, he proposed the name of "nervo-tabes periphérique," and as peripheral neurotabes (or pseudo-tabes) it is described in English books. Déjerine's cases presented many of the chief signs of locomotor ataxia, viz., inco-ordination, diminished sensibility, pains in the legs, Romberg's symptom (inability to stand with the eyes shut), and loss of knee jerk. The spinal cords were found absolutely normal, while the nerves showed degeneration; and, specially to be remarked, this degeneration was almost entirely confined to the cutaneous nerves, the muscle nerves being but slightly affected. The resemblance to locomotor ataxia is still more striking in the rare cases in which the eye muscles are affected.

In neuritis, besides atrophy of muscles, trophic changes in skin, bones, and joints may occur. Slight œdema and "glossy skin" are most common.

In alcoholic neuritis the general symptoms of alcoholism—tremor, coated tongue, and gastric disturbance—are apt to be present. Aside from delirium tremens, there occur more chronic forms of mental disturbance, often following the course of the neuritis in its extension or improvement. The characteristic psychosis is hallucinatory confusion, with a forgetfulness which lasts a long time, being often as slow to improve as the paralysis. Such is the picture of alcoholic multiple neuritis, and sketches fairly well the symptoms of the disease in general.

Lead neuritis, the next in frequency, has a special tendency to involve the extensors of the wrist and fingers, and produces the "wrist drop," which when seen alone at once suggests lead poisoning. The long supinator usually escapes. The homologous muscles of the legs are sometimes affected, but not nearly so frequently as in neuritis from alcohol.

Arsenic affects the same groups of muscles as lead, but the legs are more frequently involved and sensory symptoms are more prominent. Mercurial neuritis has been described, occurring usually during a course of mercurial injections for syphilis. The legs are chiefly affected. Neuritis from poisoning by other metals is not common, but when it occurs it resembles neuritis from lead. Neuritis following acute infectious diseases is far more variable in its distribution, and tends to involve a greater number of muscles than the forms just mentioned. Of all diseases diphtheria is the most likely to be followed by neuritis, which assumes here its most dangerous form, having tendency to involve the nerves to heart and respiratory muscles. The palate is usually affected first; the voice becomes nasal, and liquids which the patient attempts to swallow regurgitate through his nose. The eye muscles are next attacked, there is loss of power of accommodation, and so of vision for near objects. The muscles which move the eyeball may also show weakness. Next in frequency the limbs are involved; less commonly the muscles of the trunk, neck, and larynx, the heart, the diaphragm, the bladder, and rectum. Neuritis is less common after other infectious diseases, and when it occurs its distribution is not very characteristic. Malarial neuritis is said to affect specially the legs.

Beriberi is an acute infectious multiple neuritis. It attacks particularly the legs and heart nerves, the resulting heart weakness giving rise to anasarca more or less widely distributed. In this country it is practically never seen, except in patients who have recently come from regions where it is prevalent.

Leprous neuritis differs considerably from the type we are studying, and will not be discussed in this paper.

An investigation as to possible cause is necessary, as well to diagnose the disease and its form as to institute suitable treatment. The presence or absence of antecedent infectious disease can usually be learned without difficulty, but it is well to remember

that a sore throat too slight to have attracted much attention may have been due to diphtheritic or rheumatic poison, and be followed by neuritis. Alcoholic neuritis occurs not infrequently in persons unsuspected of alcoholic indulgence, especially in women who for years have been tippling in secret. The occupation of the patient should be considered. Lead poisoning is apt to be present in painters, plumbers, and others who work with the metal or its compounds. Accidental sources of lead are drinking-water containing lead, lead glaze on earthenware, and cosmetics. The character of the paralysis has been mentioned. Other signs of saturnism are anæmia, colic, and especially the blue line on the gums. Arsenical neuritis may result from one toxic dose, but chronic arsenical poisoning is not so rare, the chief sources being wall papers and dyes—especially some of the aniline colors prepared with arsenic and not properly freed from it. Other metals are rarely a cause of neuritis, but the possibility of their being should be remembered. Rubber workers are exposed to the action of carbon bisulphide, dyers to that of aniline and its derivatives. When multiple neuritis begins acutely with pains in the limbs and fever, it may be mistaken for rheumatism, unless attention is paid to the seat of the pain—whether in joints or in muscles and nerves—and inquiry as to subjective symptoms of tingling and numbness is made. Neuritis differs from neuralgia in the greater persistence of the pain, in its more symmetrical and wider distribution, and in the loss of function, which is soon apparent.

Very acute neuritis may closely simulate acute ascending paralysis. The latter—a spinal-cord disease apparently—attacks the legs, and ascends rapidly to the trunk, showing no tendency to pick out different muscle groups, causes no loss of sensation, and generally proceeds rapidly to a fatal issue. Diffuse myelitis may at times resemble neuritis, as may spinal meningitis. There is usually wanting, however, the symmetrical distribution of neuritis. There is not so much atrophy and less altered electrical reaction. The tendon reflexes are exaggerated rather than lost, as in neuritis, and the bladder and rectum are apt to suffer. Sensation of constriction about the body, "girdle sensation," is common in myelitis, but almost never occurs in neuritis. Poliomyelitis anterior and locomotor ataxia are, however, the two diseases of all others with which multiple neuritis is apt to be confounded. Poliomyelitis, like neuritis, may run an acute or a chronic course. The acute form, however, is by far the most common, and, unlike neuritis, has a special tendency to attack young children. It begins with fever and constitutional disturbance, and loss of power comes on quickly, but sensory symptoms are wanting. There are wasting of muscles and change in electrical reactions as in neuritis, but the distribution is quite irregular. A few muscles of one leg, both legs, or a leg and an arm may be affected, or any other combination may occur. The age of the patient, the rapid onset of paralysis, its irregular distribution, and the absence of sensory symptoms are the chief diagnostic points.

Locomotor ataxia is slow in course; there is for a long time little or no loss of power in the muscles, but inability to co-ordinate their action. This "ataxia" never comes on until months after the onset of the disease. There is no muscular tenderness or pain, but special tendency to involvement of sphincters and eye muscles, and to optic-nerve atrophy. Romberg's symptom and failure of the pupil to contract for light, while it contracts for accommodation (the "Argyll-Robertson pupil"), are almost invariably present, and "girdle sensation" is very common. In the more acute motor form of neuritis, the distinction is seldom difficult. It is the sensory atactic form, the peripheral neuro-tabes, in which the difficulty occurs, and when the onset of the disease is slow, and there is some involvement of the sphincters and of the eye muscles, with pains in the limbs, the diagnosis may remain long in doubt. The most important diagnostic points of peripheral neuro-tabes are rapid evolution of the ataxia, muscular pain and tenderness, and absence of the "Argyll-Robertson pupil." There may be paralysis of the iris in neuritis, but it is always complete, never with dissociation of the reactions for light and for accommodation. Muscular atrophy is more characteristic of neuritis, but may come on in locomotor ataxia. Involvement of the sphincters only rarely occurs in neuritis, but is common in locomotor ataxia.

In a large number of cases of neuritis, the cause removed, the disease goes on to recovery: but, unfortunately, this is not always so. The acute cases, with involvement of the nerves to the heart and respiratory muscles, are very dangerous and apt to result fatally. Unless such involvement occurs, however, the immediate danger to life is small. With regard to restoration to function, the prognosis varies, depending upon the removability of the cause and the amount of change in the muscles and nerves and in the spinal cord. This latter brings us to a most important point. That in the course of multiple neuritis changes in the spinal cord may occur has long been known. In recent years considerable attention has been paid to the subject, the cords from cases of neuritis and those from animals whose nerves have been cut experimentally have been examined, and the results of a number of such investigations have been published.

That when a nerve fibre is cut degeneration takes place in the part separated from its ganglion cell was shown long ago by Waller. It has since been found that in the part still connected with its ganglion cell, degeneration also occurs. This has been called "retrograde degeneration," in contradistinction to Wallerian degeneration. It may extend into the spinal cord. The combined results of a number of investigations show that in multiple neuritis secondary changes in the spinal cord may occur. These changes may affect the anterior roots, the posterior roots, the anterior, lateral, or posterior columns, and the cells of the gray matter. The location of these changes varies in different cases, but involvement of the posterior columns and posterior roots is most frequent, though the anterior roots and cells of the gray matter often enough show changes. By no means all the fibres in the affected regions are attacked, but the Marchi method shows the presence of a greater or smaller number of degenerated fibres among the healthy ones.

In cases with involvement of the spinal cord, the prognosis is unfavorable. Three signs of spinal-cord involvement given by Gowers are: impairment of the functions of bladder and rectum, girdle pain, and loss of sensation, or paralysis of all muscles below a certain level, *e.g.*, below the knees.

In all except the mildest cases of neuritis, recovery is slow, and is preceded by a stationary period, which lasts one or two months. Some power may be regained after two or three months, but the average duration of the weakness is six or seven months, and it may be a year before all the muscles recover. In all but the mildest cases there is rapid change in electrical reaction. This may be only diminished irritability, or may go on to partial or complete reaction of degeneration. The more the deviation from the normal, the greater the wasting and the longer the duration of the paralysis. Usually power returns before normal reaction, but a recovery of electrical irritability by nerve and muscle, especially to faradism, is a favorable sign. When reaction of degeneration is present and persists, the prognosis is unfavorable, though an exact time limit can hardly be given. In the treatment of

neuritis the first and most important indication is to remove the cause.

The alcoholic should be warned that persistence in his habit will prevent a cure, and if resumed is likely to cause another attack. The elimination of lead from the system can be hastened by a course of potassium iodide with an occasional purge of Epsom salts. Malarial infection calls for quinine; rheumatism for salicylates or salicin. The acute cases due to cold may be treated as rheumatic, alkaline bromides being added to the salicylates. The pain may be so severe as to call for morphine, but the newer analgesics, antipyrin, acetanilid, or phenacetin, may be tried, due regard being paid to their tendency to depress the heart. The pains in the limbs may be relieved by warm or cold applications, though the muscles are usually too tender to bear much weight. Absolute rest of the affected part should be secured, the limbs being best supported on soft pillows.

In diphtheritic paralysis of the palate muscles, it may be necessary to feed with a tube. The diet should be nutritious, with plenty of fat, as cream and cod-liver oil, as soon as the process of regeneration is commencing. As tonics, iron, arsenic, phosphorus, and strychnine should be given. The last is specially valuable, but should not be persisted in for more than three weeks at a time. By judicious changes, a therapeutic course can be kept up for a long time. When pain and tenderness are gone, warm and cold douches to the affected limbs, with massage, are useful, and electrical treatment should be begun. The best results are from use of the galvanic current. It should be applied daily for about ten minutes at a time, first stabile, then labile. A strength of ten milliamperes will usually be sufficient. Later the muscles should be exercised, by interrupting the current, with one pole, preferably the negative, on one motor point after another. For this the faradic current may also be used. When anæsthesia is present and persists, this latter current, with the wire-brush electrode rubbed gently over the affected area, is useful. In chronic cases tendency to secondary contractions should be combated by suitable apparatus. When they occur, orthopædic measures are indicated. I add a sketch of four cases, which illustrate some of the points discussed.

Case I.—A girl of fourteen years, with obstinate chorea, while being treated with large doses of Fowler's solution, suddenly developed weakness in the legs, with foot drop and slight sensory disturbance. The arsenic being stopped she improved, and, receiving electrical treatment, at the end of a month or six weeks was able to walk about again.

Case II.—An imbecile girl of twenty-one, an inmate of an insane asylum, was taken with a number of other patients into the grounds and kept there during the greater part of one day, while something was being done to the ward. She lay upon the grass all the time. In a day or two she was noticed to have a weakness of the muscles of the arms and legs, and wrist drop and foot drop developed. When seen by the writer, about a month or six weeks later, she had foot and wrist drop on both sides; there were weakness and wasting of the muscles of the front of the legs and back of the forearm. She could not walk without support. The electrical reactions in the affected muscles were quantitatively reduced, but no reaction of degeneration could be found. No satisfactory information as to sensory symptoms could be gotten, owing to her mental condition. Under general tonic and electrical treatment she improved, and when last seen, two months later, could walk about the ward. Neuritis from cold (probably).

Case III.—A healthy, athletic young man of nineteen received, on November 29, 1895, a slight wound on the back of the second finger of the left hand, to which he paid no attention. A week later the finger was greatly swollen. Lymphadenitis extended up the arm, and the axillary glands were enlarged. The wound became gangrenous, and the patient presented evidences of a mild septicæmia. His condition improved under treatment, but the wound sloughed and was a long time healing. He returned to school about the middle of January, but soon noticed that he saw double and could not read. His tongue became affected and his articulation bad. He complained of numbness and tingling in his fingers, and his arms grew weak. There was some weakness of the trunk muscles. Next his legs were attacked, and he became paraplegic. Under treatment he improved somewhat, and was sent out of the city to recruit. He then could walk a little. While away he had a relapse, and by the end of February could not get about at all. When seen on March 1st by the writer, he could not stand or walk without crutches. The eye, face, and tongue muscles were normal; the muscles of the arms acted normally, but were slightly weak. Trunk muscles normal, legs weak and their movements atactic. Slight wasting of leg muscles. Tendon reflexes absent; sensation normal, except on soles of feet. Electrical reactions quantitatively reduced in peroneal group and quadriceps; extensor otherwise normal. Under tonic treatment (mainly strychnine and electricity) the patient improved, and by July was perfectly well. Septicæmic multiple neuritis.

Case IV.—A man of fifty years, a habitual user of spirits though never intemperate, had in 1891 an attack which he says was similar to the present one, and from which he recovered entirely, except for slight weakness and a little ataxia of the legs. In February, 1896, he noticed increasing weakness in his legs, but paid little attention to it. In March he consulted a physician, who found some weakness of the muscles of the front of the legs, with tenderness in these muscles and their nerves, and loss of knee jerk. The extensors of the hands were involved, but to a lesser degree. His condition became gradually worse, the affected muscles wasted, the legs became anæsthetic, and paresis of the bladder (affecting the detrusor alone, the sphincter continuing to act) appeared. When examined by the writer, on May 10th, he was bedridden and could not sit up without assistance. The pupils reacted normally; the eye, facial, and tongue muscles were unaffected; the arms were weak, but there was no wrist drop. Back muscles weak. There were great wasting and weakness of all the muscles of the legs. The thighs could be flexed on the body and the legs on the thighs, but the latter only when the thigh was supported. There was foot drop—complete on the left, partial on the right. Tendon reflexes were absent. Below the knees, complete anæsthesia; on the thighs and arms below the elbows, diminished sensibility. The electrical examination was not very satisfactory, but as far as made showed reduced irritability, but no reaction of degeneration. As the legs could not be raised well, inco-ordination could not be made out, but there was some loss of ability to locate the position of the limbs (loss of muscular sense). On October 6th the attending physician reports but little change in his condition, though he has gained some flesh. Alcoholic multiple neuritis, with probable involvement of spinal cord; prognosis unfavorable.

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EPILEPSY PROBABLY CURED AND PARALYSIS IMPROVED BY RELIEVING IRRITATION AND COMPRESSION RESULTING FROM AN OLD COMPOUND DEPRESSED FRACTURE OF THE SKULL, REPLACING THE LARGE AREA OF DEPRESSED FRAGMENTS BY HEAVY GOLD FOIL.[1]

By J. E. SUMMERS, Jr., M.D.,

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C. J——, aged twenty, entered the Clarkson Hospital, June 8, 1895. He gave the following history: In the fall of 1891 he had suffered a compound depressed fracture of the skull, involving the frontal and left parietal bones, extending over an area of about four inches by one and one-half inches. An attempt had been made by the surgeons in attendance to elevate the depressed bone; the patient's condition being so critical at this moment, all operative procedures were abandoned, the case being regarded as hopeless. However, the patient recovered from the immediate effects of the injury and the wound healed, leaving a large area of depression; there was hemiplegia on the right side. In the course of four or five months the paralysis had improved to such a degree that the boy was able to get around unaided, but was very much crippled. In the spring of 1893 he went to Chicago, entered the Presbyterian Hospital, and was operated upon by Professor Senn. The operation consisted in chiselling loose and elevating the bone involved in the depressed area. No bone was removed. The result of this operation was negative in so far as improvement of the paralysis was concerned. A few months after the boy's return home from Chicago, epilepsy developed, at first mild in character, but gradually merging into a very severe type. During the few months prior to my seeing the case, the seizures had become so frequent and violent that the boy's life was despaired of. In one of the seizures I am informed by the family physician that the inferior maxilla was dislocated on one side; in another, the shoulder-joint. The convulsions occurred almost daily, sometimes several within the twenty-four hours. An examination disclosed a marked depression of the skull over the injured area, the bone, which had been freed and elevated, having sunken back into its position prior to the operation in Chicago. There was great loss of strength in the right arm, with considerable wasting of the muscles; the same condition was present in the right lower extremity, which was dragged along when the patient attempted to walk. There was a peculiar hesitancy of speech. Although so great a length of time had elapsed since the original injury, and although the epileptic habit had been long established, I determined to see whether or not the removal of the depressed bone and its replacement by heavy gold foil might not be of benefit. Accordingly, after the usual preparation, on June 8th I proceeded to operate in the following manner:

After applying a strong elastic band around the forehead and occiput, a large horseshoe-shaped flap, convexity downward, was raised over the involved area, with chisels and gnawing forceps, all of the depressed bone was removed, some of which was so strongly adherent to the dura mater that I was compelled to expose the brain substance proper at several points. A piece of heavy gold foil was placed between the scalp and the bone, covering the whole space from which the depressed bone had been removed, and the wound sutured. Drainage was provided for, and suitable dressings were applied. Convalescence from the operation was smooth and uneventful; the wound healed *per primam*, and there were no further convulsions so long as the boy remained in the hospital, which was until July 11, 1895, and he has remained free from convulsions to date (March 10, 1897). So soon as the stomach had recovered from some irritability which immediately followed the operation, the administration of potassium bromide was commenced, in fifteen-grain doses three times a day, and continued up to the period of the boy's discharge from the hospital. This dosage was also kept up for several months after the boy's return home, when it was discontinued.

In addition to the freedom from the epileptic seizures which to date has followed the operation, there has also been a considerable improvement in the paralysis, and likewise in the speech, which now is apparently normal. While this case cannot be declared as a cure, still the result has been most satisfactory, the outlook for the future is bright, and I am inclined to think that the result obtained will be permanent. However, I appreciate that this is not necessarily so, and that perhaps a recurrence of the convulsions may be anticipated. I have operated upon four other cases of epilepsy resulting from fracture of the skull, in two of which the results have been positively negative as to benefit, the seizures recurring in both cases within two months. In two others great benefit has followed the operation. In one the seizures, which occurred almost weekly, are now separated by intervals of three to six months. In the other there has been no seizure since the patient was discharged, this being now seven months.

These results are certainly encouraging, as in the case reported in detail nearly four years had elapsed between the date of primary injury and the operation by me, and about three years had elapsed since the commencement of the epileptic seizures until the date of operation, and one and one-half years have elapsed since the operation to the present time, there not having been any epileptic seizures in the interval—although arbitrarily it has been fixed that three years must elapse from the date of operation before it can be said that a cure has followed an operation on the skull for the relief of epilepsy resulting from traumatism, just as we fix the same period of immunity after operation in cancer of the female breast.

In one of the cases operated upon in which great improvement followed the operation, there was an interval of five years from the date of injury until the operation was done, the convulsions in this case having developed within a very few months after the injury. In the last case, convulsions developed eight years after the fracture, and the operation was performed within six months after the development of convulsions. In the two cases in which the results have been positively negative, the operation was done after the epileptic habit had been formed for many years. These results are as good at least as any I have observed which have been published, and I attribute the favorable showing somewhat to the technique of operation, which has consisted in every case in a complete removal of all depressed bone, and in two cases in addition the removal of a considerable portion of thickened indurated tissue of new formation, that had taken the place of the dura mater, which had evidently been destroyed at the time of the

[1] Read before the Omaha Medical Society, March 23, 1897.

injury; and the introduction of gold foil between the scalp and the bone, in order to prevent adhesion of the scalp to the dura. In one case it was necessary to remove a considerable piece of the dura, and the gold foil was placed between the bone and the brain substance. This was the last patient operated upon.

I have never known in my own practice, nor in that of my colleagues, who with me make it a rule to elevate the depression in every case of depressed fracture of the skull, whether simple or compound, with or without brain symptoms, that epilepsy has developed; and in every case of epilepsy following fracture of the skull which I have observed, no attempt at elevation of the fragments had been made at the time of injury: and I am also of the opinion that in every case of compound fracture of the skull when it is necessary to remove bone fragments, especially when they may be of large size, and more especially when there has been a loss of dura and the brain itself has been injured, gold foil or some other suitable material should be introduced, either between the scalp and the skull, or between the skull and the injured dura just outside the margin of the wound.

I have long since ceased to consider opening the skull for epilepsy in any other cases except those in which the epilepsy has followed trauma of the skull, as I am convinced from my own personal experience, independent of that of other surgeons, that such an operation is useless and simply tends to bring surgery into disrepute, although possibly in a few rare cases excision of smaller or greater cerebral surfaces will prevent for a time the recurrence of focal epilepsy, and in an occasional case may prove curative. It is also only in the rare, exceptional case that a removal of the uterine adnexa when diseased will be beneficial or curative in epilepsy. When the adnexa are healthy their removal will never benefit the epilepsy, but will do good in that it will prevent a possibility of propagation of species.

I reported a few years ago, in the *Omaha Clinic*, a case of insanity which was cured by the removal of diseased uterine adnexa, the patient having been an inmate of a hospital for the insane for about a year, but this was a comparatively very rare and very exceptional result, and teaches very little.

I wish to refer, however, to a case with whose history I am familiar, and which teaches much. A supposed epileptic consulted a gynæcologist in this city, who discovered a diseased ovary and removed it, leading the patient to hope that such operation would cure the epilepsy. She returned to her home, the epilepsy not only unimproved, but worse. She consulted her country physician about some decayed teeth which were annoying her. The physician extracted the teeth, and presto! she was cured of her epilepsy.

Hematoporphyrinuria.—From a study of the literature, in conjunction with an analysis of two hundred and fifty specimens of urine from one hundred and forty-four patients suffering from various diseases, Nakarai (*Deutsches Archiv fur klinische Medicin*, B. 58, H. 2, 3, p. 165) has been able to confirm the statement that hematoporphyrinuria is a constant symptom of various forms of lead poisoning. It occurs also in connection with sulfonal intoxication and intestinal hemorrhage, but it is in general a rare manifestation of other disorders. The pathogenesis of the condition and its prognostic significance appear to differ with different diseases. Whether or not intestinal hemorrhage alone is capable of inducing hematoporphyrinuria in cases of poisoning with lead, sulfonal, etc., as has been maintained, is yet a matter of doubt. Nothing at all is known concerning the origin of hematoporphyrinuria under normal conditions.

A CASE OF CHRONIC GOUT, WITH ROENTGEN RAY ILLUSTRATION.

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EDWARD F——, forty-seven years old, has been a sufferer from gout for twenty-one years. At the beginning he suffered from the usual acute paroxysms, which are believed to clear the organism of accumulated uric acid, but when, by reason of repeated attacks and advancing age, the power of reaction became diminished and the attacks lost their typical intensity, deposits began to form around various joints, which now show the considerable masses presented for your inspection and which constitute a permanent disability. These deposits are made up of infiltrations of urates, chiefly the urate of sodium. The deformities in this case resemble those of arthritis deformans, but the following are the differential points: In gout,

fixation and deformity of the fingers occur through the deposit of urate of sodium in large amounts about the joints, in their tendons and sheaths, so that the fingers are as in splints. In arthritis deformans, the distortion of the hand may be far more marked than in gout, for here there is not a splint-like deposit about the joint, but, in its stead, the development of exostoses on the edges of the articular surfaces, while at the same time the opposite side of the joint may be partially absorbed.[2] The absence of destruction of interarticular cartilage, and of alterations in the ends of the bones, is well shown in the accompanying skiagraph. Since "in doubtful cases it is necessary to pass beyond mere inspection of the affected members,"[3] the Roentgen ray will here prove a valuable aid to diagnosis at the beginning of a case, for it is well known that grave changes in the joint surfaces themselves may occur secondarily in long-continued gout, and the commencement of such changes is now apparent here.

Patient presented before New York Academy of Medicine, section on general medicine, March 10, 1897.

[2] Hare: "Practical Diagnosis," pp. 51 to 55.

[3] Lyman: "Twentieth Century Practice," vol. ii., p. 443.

The forced flexion of the first phalanx of the middle finger into the palm of the hand, which this case presents, is said to be common in gouty men, and is considered by Paget to be pathognomonic of gout. But the deformities of gout may take every position assumed by those of arthritis deformans. When this drawing down of the finger or fingers occurs alone, without deposits of urates or other unequivocal symptoms of gout, it may be due to Dupuytren's contraction. The theory of the gouty origin of Dupuytren's contraction is generally accepted, but discarded by Dr. Robert Abbe[1] because of the almost universal absence of gouty inheritance of the patients who came under his observation, and because he has but once seen a truly gouty knuckle in these patients. Dr. Abbe believes that Dupuytren's contraction is caused by traumatism of the nerve ends in the palm, reflected to the central nervous system and thence to the opposite hand. A second patient presented this evening has a typical Dupuytren's contraction in the right hand, which the patient himself attributes to the use of a saddler's needle in repairing harness. In this second case, there is neither history nor objective evidence of gout.

42 East Twenty-Ninth Street.

Progress of Medical Science.

The Incubation of Parotitis.—In children's institutions the duration of this affection appears to be on an average eighteen or nineteen days; in garrisons twenty-one to twenty-two days. The incubation varies in like manner from fourteen to eighteen days for young subjects, and from eighteen to twenty-two for adults. Since the disease is not contagious after its full development, fifteen days of isolation are sufficient.—Poirrier.

The Surgical Treatment of Peritonitis Following Intestinal Perforation Complicating Typhoid Fever.—From a consideration of the conditions attending peritonitis following typhoid perforation and of the results that have been attained through surgical intervention, Monod and Vanverts (*Revue de Chirurgie*, March 10, 1897, p. 169) conclude that while these results are not particularly encouraging, having been attended with a mortality of eighty-eight per cent., they are more favorable than those that attend simple expectancy, with a mortality of ninety-five per cent. The chances of success from operation under these circumstances will be the better the later the perforation occurs, and especially during convalescence or at the end of a relapse. In the absence of counterindications arising from the general state of the patient, surgical intervention is permissible, however, at any period of the attack at which perforation takes place. To increase the chances of success, the operation ought to be undertaken as soon as possible after the diagnosis has been made. The effects of such intervention, especially those of suture, are excellent as regards the matter of the closure of the perforation, but unfortunately they are not equally good as regards the recovery of the patient. The causes of failure are numerous, and include, for instance, progressive septic peritonitis, new perforation, a bad general state. The last may in itself constitute a counterindication. If the patient is so debilitated or so collapsed as probably to be incapable of withstanding the operation, it will be better not to undertake it. Ordinarily median cœliotomy and suture of the perforation are all that will be required. Intestinal resection and the establishment of an artificial anus may be necessary in more complicated cases. Irrigation and drainage are to be commended. In case of encysted peritonitis, incision and evacuation may be sufficient; sometimes the perforation may be found and sutured.

The Operative Treatment of Carcinoma of the Rectum.—From a thorough study of the operative treatment of carcinoma of the rectum, Taylor (*Annals of Surgery*, April, 1897, p. 385) recommends great care in the selection of cases for operation. Carcinomata that have exceeded the limits of the bowel and have formed adhesions with neighboring parts, had better be left alone. The preparatory treatment is deserving of the utmost attention, having as its object the improvement of the patient's general condition and as great a degree of intestinal asepsis as it is possible to obtain. Free purgation, intestinal antiseptics, and rectal irrigation cannot have a really useful effect, so long as there exists an ulcerating carcinomatous surface swarming with virulent micro-organisms. The use of the curette, whenever possible, followed by irrigation, should accompany the other measures. A preliminary colotomy can scarcely be recommended as a matter of routine. It appears to be chiefly indicated when attempts to empty the intestine and cleanse it have either been impossible or attended with difficulty. A certain number of types of carcinoma of the rectum may be recognized, both as regards their site and their extent, with a view to determining the methods best suited for their removal. Three cardinal rules are suggested as applicable to all cases: 1, Control of bleeding as perfectly as possible; 2, observance of the principles of aseptic surgery as strictly as the field of operation will admit; 3, avoidance of rough manipulation in the separation of the diseased structures, which may be effected for the most part by a process of careful dissection. The perineal operation is best employed for ano-rectal carcinomata—that is, for carcinomata involving the sphincteric zone and extending for some distance above it. If possible, the rectum should not be split in its removal; nor should the finger be introduced to serve as a guide in its separation. Elastic ligatures should be applied and sterilized gauze placed beneath before it is cut. Carcinomata situated in the suprasphincteric region had better be removed by the sacral method. As contrasted with the perineal, this gives more room, while bleeding is more easily controlled and separation of the diseased structures is more readily effected; and finally, it yields the best functional results. Temporary sacral resection should not be entirely disregarded, owing to its manifest advantages over the more extensive mutilation of Kraske and Bardenheuer. If, when the carcinoma is excised, it is found that the upper healthy segment descends easily, it is worth making an attempt to suture it to the anal margin, having previously removed the mucous membrane from the lower segment. In cases in which the ends of the bowel have been united after removal of the carcinomatous segment, it is well not to close the sacral wound completely, for fear of accidents. For carcinomata situated high up, as well as for those of wide extent in the rectum, the formation of a sacral anus is often the only means at our disposal. In such cases it appears advisable to follow the advice of Gersuny and give the bowel a twist in its long axis before attaching it to the skin, the object being to establish a modified sphincteric apparatus. The perineo-abdominal and sacro-abdominal operations are grave; they involve serious risks and can be required only in very exceptional cases. However, attempts must be encouraged that help to extend more widely the indications for complete removal of the disease, and such as are suitable for those desperate cases in which the palliative treatment afforded by an artificial anus has hitherto been the only resource.

[1] Wesley M. Carpenter Lecture, November 20, 1893.

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THE NEW TUBERCULIN.

In spite of the fiasco of 1890, Koch's is still a name to conjure with in the study of tuberculosis, and the announcement that he has again published to the word a remedy for this disease cannot fail to arouse eager expectancy among physicians, and to kindle the hopes of the new generation of consumptives which has followed upon that which the tuberculin of seven years ago could not save.

The article descriptive of this new tuberculin appears in the *Deutsche medicinische Wochenschrift* of April 1, 1897, but any sinister significance which this date might have is removed by the fact that the article itself is dated November 14, 1896, its publication having been delayed, possibly by reason of the author's absence in South Africa. Koch begins with an answer to the objection that there can be no such thing as a provoked immunity against tuberculosis since we never see it in nature. People have tuberculosis for years without acquiring any lessened susceptibility to it, and even cured patients are liable to renewed infection. But this, he believes, is because there is little or no opportunity for absorption of the bacilli or their products in the chronic form of the disease. The organisms are present here in the tissues only in small numbers, and are usually surrounded by dead tissue, or when present in large numbers, as in cavities, the conditions are absolutely unfavorable to the production of immunity by gradual absorption. In acute miliary tuberculosis the bacilli are present at first in great numbers, and then in great part disappear. This, the writer believes, is the result of an acquired immunity, but unfortunately in the acute disease this comes too late. If, however, we can by any means imitate what takes place in acute tuberculosis, while avoiding the fatality of this disease, we shall then be able to confer immunity upon the organism. This is a problem which Koch believes he has now solved, at least so far that he can safely publish his process and its results to the world.

He reviews briefly the steps which led him up to this discovery, and the history certainly furnishes an interesting example of patient working and of perseverance in the face of many obstacles and discouraging failures. He first tried injections of dead bacilli, but these caused bad abscesses and absorption was thereby hindered. Injections into the peritoneal cavity gave better results, and even conferred apparent immunity in some instances; but they also caused pathological changes in the peritoneum, leading to adhesions, constrictions of the intestine, and other disturbances, which often destroyed the animals. When introduced directly into the blood stream these dead bacilli gave rise to the same tuberculous nodules as the live microbes. Then he tried destruction of the bacilli by chemical means and succeeded in preventing abscess formation, but obtained no immunity, for the process destroyed the peculiar chemical constitution of the bacilli and consequently their specific action. Now he tried a glycerin extract, and so fell upon the discovery of tuberculin. This substance, when first injected, causes a reaction, but continued injection finally leads to the point where there is no reaction. We have here an immunity, but it is a toxin immunity and not a bacillary immunity; there may be both, but unfortunately the former usually comes before the latter. Before dismissing tuberculin, the writer said that seven years ago he laid the greatest weight upon its diagnostic value, and it could still be claimed for it that it affords a most efficacious means of diagnosis at a very early period, before any characteristic physical signs are present, and this not in animals alone, but in man as well.

He then comes to a description of the new tuberculin, which is prepared through a mechanical destruction of the bacilli. The great difficulty has been to destroy the protecting layer of sebacic acids, but this was finally accomplished by triturating dried cultures in an agate mortar with an agate pestle, adding distilled water, and separating in a powerful centrifugal machine. In this way he obtained a whitish opalescent fluid, free from bacilli, and a slimy sediment containing the débris of the bacilli and some undestroyed specimens. This sediment was again dried, worked about in a mortar, mixed with water, and separated in a centrifugal machine, the process being repeated until every vestige of the bacilli had disappeared, and nothing remained but a series of clear fluids. The first of these fluids differed from all those subsequently obtained, the latter, however, being identical with each other. The first of these fluids he calls tuberculin O, or "T. O;" the second tuberculin R, or "T. R." Treated with glcyerin, T. O. is found to contain the substances soluble in this fluid, and is similar therefore to the old tuberculin. It also acts like tuberculin, causing a reaction but not conferring immunity. When glycerin is added in quantity to T. R., a cloudiness is produced, showing that this contains substances insoluble in glycerin. It is this fluid, the "T. R." which Koch believes is the remedy for tuberculosis.

The remedy is given in the same way as tuberculin, beginning with a very minute dose, and increasing gradually until the maximum is reached. The fluid contains eight milligrams of the active principle in one cubic centimetre, and is diluted with salt solution in order to obtain a small enough dose. The initial dose is one-five-hundredth milligram, but if a reaction

follows the dose it must be still further reduced. The injections are made every second day, and the dose is gradually increased during a period of two or three weeks to twenty milligrams. If any elevation of temperature occurs, it must be allowed to subside before another injection is given.

The preparation of T. R. requires the exercise of many precautions. In the first place, not every culture of tubercle bacilli is fit for the preparation of an efficacious T. R. Koch's experiments, which he will describe at some future time, have shown him that all tubercle bacilli are not so uniformly virulent as is generally supposed. Cultures which have been grown through many generations in the laboratory will, as a rule, be found to have lost their virulence in great measure, but for the preparation of T. R. only virulent cultures are to be employed. The drying of the culture must be done in a vacuum exsiccator, and all chemical contamination in the process of manufacture must be avoided, for T. R. is very unstable. The cultures and the completed preparation must also be kept away from the light. Complete separation of T. O. and T. R. is obtained only when the completely clear T. O. has taken up at least fifty per cent. of the solid substances, and it is very necessary that the two should be completely separated, for if T. R. contains any T. O. an undesirable reaction will follow the injection. Naturally the preparation of this new tuberculin, with its trituration of perfectly dry cultures of exceedingly virulent tubercle bacilli, is in the highest degree dangerous to the operator, and Koch says that he felt always as though he were dealing with high explosives. The preparation of large quantities should, he thinks, be undertaken only in establishments where the danger could be reduced to a minimum by the use of suitable mechanical appliances. The fluids can be preserved by the addition of about twenty per cent. of glycerin, which is not enough to cause a precipitation of the T. R.

As to the results of T. R. injections in guinea-pigs and in man, Koch speaks with confidence. He has tried it in lupus and in pulmonary tuberculosis, and the results have been such as to cause him the greatest satisfaction. It is useless, he says, to give the remedy with any hope of success to patients who are in the last stages, with but a few months to live, or to those in whom a secondary infection, especially a streptococcal, exists, and in whom the symptoms of sepsis have pushed those of tuberculosis into the background. Furthermore, patients with a temperature of over 38 C. (100.4° F.) are only exceptionally influenced for good by the specific treatment of tuberculosis. In suitable cases, however, an improvement is invariably obtained. He says that he uses the term "improvement" advisedly, although according to the ordinary usage he would be justified in speaking of the patients as cured. He is unwilling, however, to regard any as actually cured until after the expiration of a certain period without any relapse. There were no unpleasant general symptoms observed, and there was no reaction whatever when the dosage was properly graduated. In the case of pulmonary tuberculosis, the only effect of T. R. was a slight increase in the râles, but this symptom soon disappeared, the sputum rapidly diminished in amount and its formation ceased, and the temperature curve declined.

It is possible, Koch says, that some other method of administration may be found more efficacious, or possibly the desired end may be reached better, and more speedily, by some combination of T. R. with T. O. or by a serum preparation obtained by means of T. O. or T. R., experiments with which are now being conducted. But he maintains with entire confidence that any further improvement in the preparation itself is not to be looked for. This preparation is made from fresh and highly virulent cultures, which were alive immediately before the trituration process, and the bacilli are brought into a soluble state without the employment of any chemical means. Nothing better than this can be done, and anything that can be accomplished with cultures of the tubercle bacillus can be accomplished with T. R. and T. O.

Whether the confident assurance of this distinguished investigator will be justified by the results of a general application of his new preparations must be left for the future to decide. At present we can only say, in the words of our Berlin correspondent: "Hoffen wir, dass einem zweiten Tuberculin-Rausch nicht ein zweiter Katzenjammer folgt."

THE PREDIAGNOSTIC TREATMENT OF ABDOMINAL DISEASE.

WHAT to do when first called to see a person suffering from severe abdominal pain is often one of the most perplexing problems of medical experience. The patient's distress, often agony, makes an urgent appeal to the physician's human sympathy, and the impulse to give morphine for its relief is almost like an instinct, unless the wisdom which comes from experience overcomes, for the patient's good, the unreasoning desire to give instant relief. Morphine is, when given at the proper time, a drug of inestimable worth in certain forms of abdominal disease, but when given blindly and in ignorance of the actual condition it may do infinite harm.

In *Treatment*, of March 25, 1897, Mr. Greig Smith proposes a course of treatment in such cases, which will, he says, certainly do no harm, but will probably do good, and which will not obscure the symptoms but will rather help in their evolution and so facilitate the diagnosis. He supposes the case of a person whom the physician finds in bed suffering severe pain, shock, and with the usual symptoms of abdominal disease. It may be colic, intestinal obstruction, perforation of a viscus, rupture of an appendicular abscess, or some other grave condition. In such a case, the writer says, the first thing is to give an enema of an ounce of brandy or whiskey in about three ounces of milk. Hot blankets are then wrapped round each leg and the chest, but the abdomen is covered by a hot flannel cloth, which can be removed without disturbing the patient when it is desired to examine the surface of the abdomen or to auscultate it. Warmth is

furthered also by hot bottles placed in the bed about the body and extremities.

The effect of the alcohol and warmth is speedy and gratifying. The pulse improves, color comes into the patient's cheeks and lips, excitability and nervousness are diminished, pain is probably lessened, and soon the surface is covered with warm perspiration. No single therapeutic measure, Mr. Greig Smith says, with which he is acquainted, does so much good in the early stages of grave abdominal disease as rectal injection of alcohol, and it is a fortunate thing that, while the rest of the intestinal tract is paralyzed, the rectum still retains its power of absorbing liquids.

Now, as the shock passes off, the individual symptoms of special diagnostic significance stand out more clearly, and by carefully observing these and studying their import the surgeon gradually arrives at a knowledge of the case, and can then formulate intelligently his plans for treatment.

The prediagnostic treatment of abdominal disease, which the writer advises, may be summed up under four points: Two negative—give no morphine and give no ice nor anything else by the mouth; and two positive—give alcohol by enema and apply heat to the body. The question of operation is one to be settled after the diagnosis is made.

THE THERAPEUTICS OF METHYLENE BLUE.

Until comparatively recent times blue pyoktanin was known as a local and general remedy in the treatment of inoperable malignant growths. The Record readers are familiar with the varying success in carcinoma and sarcoma which has followed the use of this remedy as well as methyl violet in the hands of different observers since Mosetig in 1890 first advocated its employment.

Among the many diseases in which pure methylene blue has been more or less largely employed as an internal remedy may be mentioned acute and chronic Bright's disease, gastric hyperacidity, malaria, headache, diphtheria, cystitis, and gonorrhœa. In the first Netchaieff, among others, has reported favorable results, even to the disappearance of albumin and hyaline casts from the urine, along with general improvement in various directions. Berthier has stated that it may be given with advantage in indigestion attended with pain, vomiting, and hyperacidity; the dose recommended is from one to three grains daily for several days, followed by a few days of rest, when it is to be resumed. Conflicting reports have been made upon the value of the drug in malarial affections by Guttmann, Ehrlich, Muehll, Lava, May, and others. In many instances it has seemed to act very beneficially, while in others it has failed. Lewy recently claimed in the *Berliner klinische Wochenschrift* that marked relief follows its administration in various forms of headache, especially angiospastic migraine, nervous cephalalgias, and especially the head pains of neurasthenia. The relief is not alone temporary, but in many instances lasting. Ten doses of one and one-half grains each usually sufficed for a cure.

In diphtheria the use of the remedy either as a local application or internally has seemed to be overshadowed by antitoxin and other methods of treatment. Recently several observers have advocated the remedy in acute gonorrhœa, and Moore (*British Medical Journal*, January 16th) has seen it cut short the acute stage and decrease the suffering. Allen has reported great improvement in some instances of chronic cystitis, and this in spite of the fact that several observers have noted strangury when the drug has been pushed, and Mya as well as Lewy advise powdered nutmeg to be given at the same time to prevent bladder irritation. The usual dose is one decigram or one and one-half grains in capsule once, twice, or thrice daily. The urine becomes blue or greenish within five hours of the initial dose, and remains so for several days after the last dose has been given. It must be remembered that toxic symptoms may be produced, and in all instances it is well to give in tentative dose until the patient's susceptibilities are tried. Methyl violet and impure pyoktanin are most apt to cause vomiting or other disagreeable symptoms.

News of the Week.

New York University-Bellevue Hospital Medical College.—Dr. William H. Welch and Dr. William Osler, of the Johns Hopkins Medical School of Baltimore, have declined the call extended to them by the University of New York, which has lately been consolidated with Bellevue Hospital.

Dr. Emma Wakefield, a colored woman, has received a license to practise medicine from the Louisiana State board of medical examiners. She is the first woman of her race to receive a medical license in the South, and, it is claimed, in the Union.

Hospital Staffs and Close Corporations.—A committee of physicians recently called upon Mayor Strong to protest against the method by which appointments are made to the public hospitals, and to ask that the selection be made from the body of the profession instead of from the comparatively small number of those connected with the medical schools. They said with truth that there were very many physicians in the city, not connected with the schools, who would gladly give their services as members of the visiting staff of any of the city hospitals. They also suggested that it would be a wise thing to appoint a physician on the board of charity commissioners.

Quarantine of the House of Refuge.—The health board recently quarantined the House of Refuge on Randall's Island because of its alleged unsanitary condition. The count against the institution is that "the plumbing, drainage, water closets, and privies in said premises are filthy, emitting foul and offensive odors; that children now on said premises are suffering from contagious diseases of the eye, and are not properly isolated, and that proper and sufficient nurses have not been provided, so as to secure to the inmates due and proper care as to the personal health and

cleanliness of said children." In consequence of these defects the board of health has decided that no persons shall be received as inmates of the house until the defects are remedied. Several children suffering from measles have been removed to North Brother Island. The result of the publicity given to the condition of affairs in the institution will probably be to put the House of Refuge fully under the control of the State authorities, taking it out of the hands of the board of trustees, concerning whose management there has been much complaint.

Obituary Notes.—Dr. de Saint Germain, of Paris, died a short while ago. He was surgeon to the Hospital for Sick Children, and was well known for his works upon orthopædic surgery, and as the advocate of a method of rapid tracheotomy in which the operation was done in one stage.—Dr. Andrew Otterson, of Brooklyn, died at his home in that city on April 14th, of heart disease. He was born in 1822, was graduated from the University Medical School in 1844, and began practice soon after in Brooklyn. He was present at the first operation performed in the Brooklyn Hospital, and himself performed the first operation in the Long Island College Hospital. He was four times at the head of the health department of Brooklyn. In 1895 he celebrated his fiftieth anniversary as a practising physician, and was tendered a complimentary dinner at the Montauk Club by the leading physicians of Brooklyn and New York.—Dr. Enis L. Brooke died at West Pikeland, Chester County, Pa., on April 9th, at the age of nearly eighty years, in consequence of burns received a week before from falling with a lighted stable lantern.—Edward Drinker Cope, Ph.D., professor of zoölogy and comparative anatomy in the University of Pennsylvania, died on April 12th, in the fifty-seventh year of his age. As paleontologist to the government geological surveys in 1867 and the years following, he discovered more than a thousand new species of extinct and as many recent vertebrata. It has been said that the titles of his papers, which number in the neighborhood of four hundred, "form a systematic record of the development of paleontology in the United States."

The Dispensary Bill.—A telegram to the daily papers from Albany says that a bill introduced by Mr. J. J. Sullivan regulating the operation of dispensaries and bringing them under the supervision of the State board of charities was approved by the board, and has passed both houses of the legislature. A report presented by Dr. Stephen Smith, of New York City, with relation to the dispensary system of New York City and Brooklyn, stated that there are one hundred and five dispensaries in New York City, and in a large percentage of these no examination or investigation is made to decide as to the need of applicants for charitable assistance. In Brooklyn there are twenty-two dispensaries, and in at least eighteen of these no examination or investigation is made to determine the needs of applicants.

A Health Officer Accused of Blackmail.—A telegram from Cincinnati announces the arrest of the health officer of that city and another physician on a charge of attempted blackmail of a manufacturing drug company. According to the company's charges, the health officer at first demanded $10,000, claiming that certain tablets were impure or short in strength, and that the pure-food commission would consequently prohibit their use by the health department. This fact on being noised abroad would work the company injury. The sum demanded, according to the complainant, was finally reduced to $2,000. The company denied that the tablets were not as represented, and caused the arrest of the two physicians. The charge is now being investigated by the grand jury. We trust the result of this investigation will be to free the accused from this disgraceful charge.

Small-Pox on Randall's Island.—Three cases of small-pox were discovered on Sunday last in the institution and schools for weak-minded children, on Randall's Island. This is an institution under the charge of the city and is distinct from the House of Refuge, which was recently quarantined by the board of health. There are one hundred and forty-five inmates of the institution. All the inmates of this institution and those of the House of Refuge and of the Infant Asylum have been vaccinated.

The Plague in Bombay.—The latest dispatches from Bombay, dated April 15th, state that there has been a great decrease in the virulence of the plague. Only 390 cases of that disease and 194 deaths from the same cause occurred last week in that city, compared with 360 plague cases and 323 deaths during the preceding week. According to a telegram to *The Lancet* from Bombay, the Yersin serum treatment of plague has practically failed. So far the mortality has been fifty per cent. in the selected cases within forty-eight hours of the attack. The hospital mortality is stated to be sixty per cent. in all cases. On the other hand good results have been claimed for Haffkine's serum, which is credited with curing, among others, Hankin, who was attacked with the plague while studying it at Agra.

The Yellow-Fever Bacillus.—The Rome correspondent of *The Lancet* writes that Dr. Giuseppe Sanarelli, who believes that he has discovered the bacillus of yellow fever as well as a remedy for the disease, has embodied his researches in a monograph which has for some time been in the possession of the Accademia Medica di Roma, that body being thus empowered to protect his claim to priority should that claim in the interval have been challenged. The supplementary studies by which he has sought to check the laboratory and clinical work leading up to his discovery are now completed, and the whole series—including the substance of the provisional monograph aforesaid—will be published in three successive numbers of the *Annali dell' Istituto Pasteur*. Coincidently with the appearance of the first of these fasciculi (that is, within a few weeks' time) he will deliver before the Montevidean Society of Medicine a lecture, accompanied by illustrative preparations, in which the nature of his discovery and the successive stages by which it was arrived at will be fully set forth.

The Tariff on Mineral Waters.—The Dingley bill raises the duty on "mineral waters, all not artificial," which were formerly on the free list, from eighteen cents a dozen, as under the McKinley law (and now thirteen and one-half cents a dozen), to forty cents a dozen. In some cases, it is said, this duty would be prohibitive, and a petition has been presented to Congress praying that these waters and the bottles containing them be placed on the free list.

A New Hospital at Mineola.—The board of directors of the Nassau Hospital Association of Mineola, L. I., has engaged an architect to prepare plans and specifications for a suitable building to be erected for the use of the association. The new building will be erected on a prominent site which covers more than an acre of ground, and is owned by the association. It is the intention of the hospital association to erect a structure to be provided with all the latest appointments. It is hoped to have the building completed this summer.

The College of Physicians and Surgeons of Chicago has recently legally become the medical department of the University of Illinois.

An Aged Medical Student.—An item has been going the round of our exchanges, concerning a medical student in Maine who is said to be a sexagenarian. That seems to be rather late to start in to work up a practice, but the record has been broken by another wild young medical student named Borysik, who has just obtained his degree in Warsaw at the age of seventy-five years. Fifty-four years ago he matriculated, but through lack of funds was compelled to work as tutor for twenty years in order to save enough money to enable him to continue his studies. At the end of that time he passed the entrance examination with distinction, but before he could begin his studies the Polish rebellion of 1863 broke out, and he threw himself into the movement with enthusiasm. The revolt was suppressed, and Borysik was exiled to Siberia, where for thirty-two years he underwent hard labor in the silver mines. In 1895 he received free pardon, and returning to Warsaw took up his studies where he had left them off in 1863. After a two years' course Dr. Borysik has now, at the age of seventy-five, passed the final medical examination with honors, and will begin to practise in Warsaw. We wish him many years of usefulness and a large clientèle.

A Private Hospital Room for Sick Doctors.—"*Resolved*, That the trustees of the Philadelphia Polyclinic and College for Graduates in Medicine, wishing to show their appreciation of the public services of physicians upon whose skill and faithfulness all successful hospital work depends, order that one of the private rooms in the Polyclinic Hospital be called the Room of the Mutual Aid Association of the Philadelphia County Medical Society, and direct the superintendent to admit to said room, without charge, any member of the Mutual Aid Association of the Philadelphia County Medical Society who may be sick and require medical treatment, provided that the officers of said association first certify that the applicant's circumstances require such concession in regard to hospital charges; and that the rules of the hospital in other respects in regard to the admission and duration of stay of patients be observed, and that nothing in this resolution shall be construed to prevent the use of the said room for other patients, at regular rates, when it is not occupied by a member of the association named."

The Commission appointed by the legislature of Richmond, Va., to determine the best methods of caring for the State's epileptics, will meet in Baltimore, May 13th, and will visit epileptic institutions there and in other States.

The Medical and Chirurgical Faculty of Maryland will hold its annual meeting in Baltimore at the end of April.

Some Ladies of Baltimore are anxious to establish a hospital for infectious diseases, and promise, if the city council will appropriate half of the $50,000 necessary for the plan, that they will raise the other half.

A Homœopathic Journal states that the late Enoch Pratt, of Baltimore, had intended building a new homœopathic hospital in that city, to rival the Johns Hopkins Hospital: so much wrangling and ill will, however, existed among the homœopathic physicians that Mr. Platt abandoned the idea, and gave a large sum to the Sheppard Asylum.

The University of Maryland will probably lose Dr. William T. Howard from its faculty, as he has announced his intention of resigning from that institution. It is interesting to note that the University of Maryland was the first medical school in this country to establish a chair of diseases of women and children: this chair has been occupied by Dr. Howard since its foundation.

An Epidemic of Hiccoughs.—Berdach, of Vienna, has recorded an endemic attack of hysterical singultus that occurred in a school and confined itself to one class. One of the girls, aged five, became ill one day with inspiratory singultus of a hysterical nature. A second girl suddenly took ill with similar symptoms associated with hystero-epileptic cramps. In the course of eight days sixteen other girls out of the class of thirty-five were attacked. All the children were anæmic. The characteristics of the disease closely agreed with Charcot's description of hysterical inspiration cramps; the contractions ceased during sleep, the cramps could not be suppressed voluntarily, they generally attacked anæmic children, and the attacks had a tendency to recur. The disease in Berdach's case had a favorable course, as seven days' absence from school sufficed to bring about convalescence.—*The Medical Press.*

Deaths of Centenarians.—There seems to have been an unusual number of deaths within the past few weeks of persons reported to have lived over a century. Dr. de Bossy, the oldest physician in France, died during the latter part of March, in Havre, at the age of one hundred and four years. Alexander Freeman, a negro, died at Sailors' Snug Harbor, Staten

Island, on January 22d, at the reputed age of one hundred and eight. He was a native of New York City, and there is reason to believe that the extreme age given is not an exaggeration. Ignacio Francisco de La Cruse Garcia died at Los Angeles, Cal., on March 17th, at the age of one hundred and seventeen years. He was a native of Sinaloa, Mexico, but went to California when he was twenty-five years of age. His age had been questioned, but he claimed to have documents which sustained his claim. Jesus Campeche died early in March in Guadalajara, Mexico, and, according to his affirmation and other more or less reliable testimony, he was one hundred and fifty-four years old. He was born in Spain, and came to Mexico when he was twenty-four years old. He had copies of the church register at Valladolid, Spain, showing the date of his birth and baptism. According to these papers, he was born on December 12, 1742. A priest in the church which he attended, who is now eighty-four years old, says he remembers Campeche as being an old man when he, the priest, was a boy. John Bradbury, an Englishman, died near Eureka, Cal., early in April, at an extreme old age. He had lost count of his years, but it was estimated that they numbered between one hundred and twenty and one hundred and thirty. Joseph Field, familiarly known as "Uncle Josie," said to be the oldest inhabitant of Monmouth County, N. J., died at his home in Middletown, a short distance from Red Bank, a few weeks ago. According to records he was born on September 26, 1792, and had he lived until next September would have been one hundred and five years of age. He was born in Middletown, and resided there all his life, with the exception of a short time while he was in the produce business in New York.

A New Form of Artificial Respiration.—In *Science News*, Dr. Berthold Reed recently recommended that the mucous membrane of the lips of the mouth should be rubbed slowly with a piece of ice, the rhythm of the motion corresponding as nearly as possible to that of normal respiration. He claims that the inevitable result of this is the return of respiration, at first, in a very pronounced form, but becoming, on the continued application of the ice, very regular, quiet, and deep. Ice thus used has also a sedative effect, and its quieting action has been successfully turned to account in the treatment of cerebral troubles. Dr. Joyes has obtained equally favorable results with this treatment in cases of suffocation. This method may be employed for several hours at a time, and is said to be harmless for the patient, and easy for the physician.—*London Medical Times.*

The Closing of a Diploma Mill.—The arrest of the president of the "Wisconsin Eclectic Medical College," a diploma mill chartered in Wisconsin and doing business in Chicago, which we noted some weeks ago, was brought about through the exertions of a reporter of a German paper, the *Herold*, of Milwaukee. At the request of a United States postal inspector, the reporter, Mr. M. H. Ahner, wrote to the college and obtained a diploma for $10, and on his evidence the arrest was made by the United States authorities. The man admitted using the mails for fraudulent purposes, and will probably be unable to follow his nefarious trade for some time. Dr. Seaman, of Milwaukee, to whom we are indebted for an account of this capture, writes us that the "college" has surrendered its charter, and it is said that there is now a suit pending in the courts to annul the diplomas. This, however, is only a temporary relief from the abuse. The corporation laws of Wisconsin and some other States are so lax that one of these "colleges" may spring up any night. There is at present in Chicago another "mill," doing a thriving business, called the "Independent Medical College," where diplomas can be had at rock-bottom prices.

Schuylkill County (Pa.) Medical Society.—At a meeting of the Schuylkill County Medical Society, held at Pottsville, Pa., on April 6th, Dr. Hermany read a paper on "Diphtheria." Delegates were elected to the Medical Society of the State of Pennsylvania and to the American Medical Association.

Moscow Congress papers should be announced by title and with *résumé* of conclusions addressed to the executive committee before June 1st.

Increase in Boston's Death Rate.—Cerebro-spinal meningitis and meningitis appear to be unusually prevalent in Boston at the present time. The death rate during the past week was larger than usual, and the principal increase seems to be in cerebro-spinal meningitis and meningitis. The board of health has been looking up cases in these diseases, but has as yet been unable to learn the cause of the increase which has been noticeable for several weeks. There is an increase in the number of deaths from several causes. The number of deaths reported to the board of health for the week is 260, as against 202 the corresponding week last year, showing an increase of 58 deaths, and making the death rate for the week 26.2. The number of cases and deaths from infectious diseases is as follows: Diphtheria, 83 cases, 9 deaths; scarlatina, 76 cases, 6 deaths; typhoid fever, 9 cases, 4 deaths; measles, 129 cases, 2 deaths. The deaths from consumption were 30; pneumonia, 34; whooping-cough, 1; heart disease, 23; bronchitis, 11; marasmus, 6. The number of children who died under one year was 59; under five years, 99; persons more than sixty years, 38; deaths in public institutions, 74.

College of Physicians of Philadelphia.—A stated meeting of the College of Physicians of Philadelphia was held on April 7th, the president, Dr. J. M. Da Costa, in the chair. Drs. F. A. Packard and J. Dutton Steele reported "A Case of Tumor of the Lung, with the Signs of Addison's Disease and Involvement of the Suprarenal Capsules." The right femur was found also to be the seat of the malignant disease—it was believed to be the primary focus—and deposits were present also in the pancreas. The various growths proved all to be giant-cell sarcomata. Dr. Arthur Van Harlingen read a paper on "The Hysterical Neuroses of the Skin." Dr. John B. Deaver read a paper enti-

tled "Some Mooted Points in the Pathology of Appendicitis, with Especial Reference to that Form known as Appendicitis Obliterans," illustrated by photographs, photomicrographs, and skiagraphs. Paramount importance was attached in an etiologic relation to foreign bodies, fæcal concretions, and the bacillus coli communis. Reference was made to some observations upon the action of the blood serum from suspected cases on cultures of the colon bacillus in inhibiting the motility and causing agglutination of the bacilli. Dr. H. A. Hare read a paper on "The Rapidity of the Elimination of Drugs in Relation to their Administration," in which he pointed out a number of facts that should govern the frequency of administration and the dosage of certain medicinal agents. Dr. John B. Roberts made a brief verbal communication upon "Fracture of the Lower End of the Radius with Forward Displacement," which he supplemented with numerous wet and dry specimens, casts, photographs, and skiagraphs.

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on April 8th. Dr. Joseph P. Tunis exhibited the enlarged prostate and the bladder from a man upon whom castration had been performed. The operation was followed by relief of the symptoms and was unattended with complication, but death resulted from uræmia. Microscopic sections of the gland showed an immense deposit of interstitial connective tissue. Dr. Tunis exhibited also the brain from a girl, nineteen years old, recently delivered of an infant, without a history of syphilis, showing profuse ventricular and also cortical hemorrhage. During life there had been convulsions, and albumin and tube casts had been found in the urine, but the kidneys upon post-mortem examination showed little macroscopic alteration. Drs. Thompson S. Westcott and D. L. Edsall exhibited a specimen of tuberculous pericarditis. Dr. M. H. Fussell exhibited a specimen of gangrene of the lung, and read the report of a fatal case of hemorrhagic purpura. Dr. D. L. Edsall exhibited a specimen of mitral stenosis and slight tricuspid changes, with multiple pulmonary emboli. Dr. Joseph Sailer read a report of a case presenting hyperplasia of the mucous membrane of the duodenum, and exhibited a microscopic section. He exhibited also a section of recent hemorrhage into the pituitary body discovered accidentally.

The Medical Society of the State of North Carolina.—The date of the annual meeting of this society, which was set for June 1st, has been changed to June 8th, in order not to conflict with the meeting of the American Medical Association.

The Late Professor Gross.—The unveiling of the statue of the late Prof. Samuel D. Gross, near the Army Medical Museum in Washington, will take place on Wednesday, May 5th, at five o'clock in the evening. It will be under the auspices of the American Surgical Association and the Alumni Association of the Jefferson Medical College of Philadelphia.

Resignation of Professor Thomson.—Prof. William H. Thomson has resigned from the chair of practice of medicine at the New York University-Bellevue Hospital Medical College.

An American Memorial of the Queen's Diamond Jubilee.—The American residents of Great Britain have formed a committee to promote a memorial of the sixtieth anniversary of the Queen's reign. The present idea is to raise a fund for the endowment of special beds in the hospitals.

The Jubilee of Prof. E. De Rossi.—The editorial staff of the *Archivio Italiano d'Otologia, Rinologia e Laringologia*, with the assistance of many Italian practitioners of those specialties, have issued Volume V. as a jubilee number, in honor of the twenty-five years of service of Dr. De Rossi as a professor in the University of Rome. The volume contains many papers of great interest to students of laryngology and otology.

A Falling Death Rate.—A report giving the comparative death rate of the city for the first three months of every year since 1891, which was submitted to Mayor Strong recently by President Wilson of the health board, shows that the death rate for January, February, and March of this year is the lowest in six years. The death rate so far this year is only 20.31 in a thousand.

Dr. Lauder Brunton, of London, has accepted an invitation from the executive committee of the International Medical Congress to give one of the general addresses at the forthcoming congress in Moscow.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending April 10, 1897. April 3d.—Surgeon C. U. Gravatt, when finished with examination for promotion April 5th, detached from the Museum of Hygiene, ordered home, and then to hold himself in readiness for sea. April 4th.—Passed Assistant Surgeon J. A. Guthrie, detached from the *Katahdin* and ordered to the *Alliance;* Assistant Surgeon J. F. Leys detached from the *Alliance* on relief and ordered to the *Vermont.* April 8th.—Medical Director R. N. Penrose detached from the New York hospital, June 5th, and placed on waiting orders; Medical Director G. W. Woods detached from the Mare Island Hospital, May 10th, and ordered to the New York Hospital, June 5th; Medical Inspector G. P. Bradley, ordered to the Mare Island Hospital, May 10th. April 9th.—Passed Assistant Surgeon E. P. Stone detached from the *Indiana* April 12th, and ordered to the *Bennington.* Changes in the Medical Corps of the United States Navy for the week ending April 17, 1897. April 10th.—Surgeon J. W. Baker, detached from the *Bennington* on relief and placed on waiting orders. April 14th.—Surgeon M. H. Simons, orders to the *Columbia* revoked, and placed on waiting orders. April 15th.—Surgeon E. Z. Derr, orders detaching him from the *Columbia* revoked. April 16th. Passed Assistant Surgeon E. S. Bogert, detached from New York navy yard and ordered to the marine rendezvous, New York.

Reviews and Notices.

Abdominal Surgery. By J. Greig Smith, M.A., F.R.S.E., Surgeon to the Bristol Royal Infirmary, Professor of Surgery, University College, Bristol. Fifth edition. Two volumes, 1,171 pages. London: J. and A. Churchill. 1896.

The author states that this edition is practically a new work, which is borne out by an examination of the text. The wide scope of abdominal surgery is apparent when we note the first chapters on symphyseotomy, subphrenic abscess, the surgery of the ureters, etc.; in fact, it would seem to the general reader as if a few additions would make this a tolerably complete work on general operative surgery. As stated in the preface, "the space given to appendicitis compares with that given to ovariotomy," and "to the surgery of the intestines more space is devoted than to the whole surgery of the ovaries." The book is a fair type of all-absorbing modern gynæcology, which claims the whole abdominal cavity as its legitimate field. In the introductory section we are interested in the observation that equally good results may be obtained in general and in special hospitals, the skill and experience of the individual surgeon being the most important factor. The question of the limitation of the number of onlookers is immaterial.

The paragraphs on aseptic technique, instruments, etc. (pp. 77–96), are excellent. We note the introduction of the word "septicism," which does not seem to possess any claims to permanence. "Cœliotomy" is formally adopted "as meaning any incision made through the abdominal parietes, for whatever purpose performed and in whatever position situated." In a new section on Trendelenburg's posture (wrongly spelt Trendelenberg), the author states that he has "tried it now in a few cases, and cannot speak of it with enthusiasm," the explanation of his lack of enthusiasm being self-evident.

One notes with surprise that the descriptions of antique methods of draining the peritoneal cavity after pelvic operations are still retained. Most American gynæcologists have long since ceased to drain up hill with glass tubes, and are practising nature's method—drainage per vaginam.

Section III., on the surgery of the ovaries and tubes, has been carefully revised, and concludes with a new section on conservative operations, as to the value of which the author expresses himself rather cautiously. "Absolute safety," he thinks, "follows complete removal only; it is not worth while running the risk of recurrence when there is the slightest doubt. Conservatism has most claims when disease exists on both sides. Moderate risk of imperfect cure or recurrence might be run in the effort to leave behind some working portion of the uterine appendages." Total extirpation of the cancerous uterus is recommended in preference to all other operations, though the latter are described. The method of drainage with a T-tube will not commend itself to the present generation of operators. One can hardly regard the chapters on hystero-myomectomy as up to date, considering the scant attention devoted to complete extirpation and intraperitoneal treatment of the stump. The same criticism applies to the section on Porro's operation and the barbarous and obsolete procedure, laparo-elytrotomy, on the revival of which Americans have no reason to pride themselves. Symphyseotomy scarcely belongs in this volume, and we have read better descriptions of the operation.

The section on hysteropexy, including "inguino-hysteropexy" (a new substitute for Alexander's operation), is rather brief and unsatisfactory, considering the importance of the subject and its voluminous literature.

The writer is apparently unfamiliar with our more recent statistics on vaginal section for ectopic gestation.

Sections VI. and VII., on the surgery of the stomach and intestines, include nearly three hundred pages and are most exhaustive, the various methods of suture being carefully described and illustrated.

Appendicitis receives due attention. It must be confessed that the author's conclusions with regard to the proper indications for operation are not very helpful, granting that he is right in stating that "it is impossible to be definite and would be wrong to be dogmatic." His conservative position is in marked contrast to that of some of our ultra-enthusiasts.

The valuable sections on operations on the urinary organs have been rewritten and are fully up to date, containing a new chapter on ureteric surgery. This applies also to the chapter on gall-bladder surgery. The concluding section, operations for peritonitis, is most interesting and instructive.

It is impossible, in a hasty review, to do justice to a work of such acknowledged excellence. That the new edition is a great improvement over former ones it is hardly necessary to state. We have indicated a few directions in which there is still an opportunity for judicious pruning. Abdominal surgery is a sufficiently broad subject without still further enlarging it by the introduction of operations which belong to vaginal and obstetric surgery.

The author's style is, as it has always been, clear and pleasing. The personal (or statistical) element is singularly absent—a rare virtue with surgical writers. In spite of the excellent additions to special literature, his work still maintains its original place.

Transactions of the American Surgical Association. Edited by De Forest Willard, A.M., M.D., Ph.D., Recorder of the Association. For sale by William J. Dornan, Philadelphia. 1896.

This is the fourteenth volume of the society's transactions, and one of which it may well be proud. It contains in its seven hundred and forty-two pages, printed on good paper and in good type, a great variety of valuable papers which were read at the last meeting. Among others may be especially mentioned the address of the president, Dr. Tiffany, on intracranial operations for the cure of facial neuralgia; tuberculosis of the male genital organs, by Dr. Senn; and tuberculosis of the female genital organs, by Dr. Vander Veer. Dr. Matas also contributes an interesting paper on the surgical peculiarities of the negro.

Braithwaite's Retrospect of Medicine. A half-yearly journal, edited by James Braithwaite, M.D. Lond., assisted by G. F. Trevelyan, M.D. Lond., etc. Volume CXIV. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1897.

This volume (July to December) includes synopses and abstracts of most of the original work of the semester, alphabetically arranged, as usual. It is always an instructive and interesting work. G. P. Putnam's Sons are the American publishers from advance sheets of this production, which has now existed for half a century.

The Year-Book of Treatment for 1897. Philadelphia and New York: Lea Brothers & Co. 1897.

This is a critical review for practitioners of medicine and surgery, prepared by some thirty contributors, mostly English, and is classed among the "handy annuals" of medical literature. A great variety of subjects is discussed, and original work and contributions in many fields are reviewed. Being now in its thirteenth year, the work speaks for itself.

Les Sanatoria Traitement et Prophylaxie de la Phthisie Pulmonaire. Par Dr. S. A. Knopf. Paris: Georges Carré. 1895.

After visiting all the sanitary stations where consumption is treated, the author makes this the subject of an extensive thesis, illustrated with photographs. In his conclusions, he believes phthisis curable, and that hygienic and dietetic measures in closed establishments are the true treatment. The founding of sanatoria for the poor in all stages and degrees of their disease becomes more and more a necessity. In this way those not curable may not become foci of contagion.

Transactions of the American Ophthalmological Society. Thirty-second Annual Meeting. New London, Conn. 1896.

The secretary has presented us this year with a very neatly prepared and freely illustrated volume, containing rather more than the average number of instructive papers.

Transactions of the British Orthopædic Society. Volume I. Sessions 1894–95. Birmingham: Hall and English, Printers.

This is a short illustrated report of the first meetings. It includes the constitution, by-laws, and list of members.

HANDATLAS DER ANATOMIE DES MENSCHEN. Mit Unterstützung von WILHELM HIS, Professor der Anatomie an der Universitat Leipzig. Bearbeitet von WERNER SPALTCHOLZ, ao. Professor an der Universitat Leipzig, etc. Zweiter Band, I. Abtheilung. Leipzig: S. Hirzel. 1896.

THIS part, beginning with page 237, includes regional anatomy and the muscles of the body; fasciæ, heart, and vessels being contained in the second fasciculus. The colored pictures are beautifully drawn from dissections, and when the work is completed it will undoubtedly be one of great value.

ŒUVRES DE LÉON LE FORT, Professeur de Clinique Chirurgical à la Faculté de Paris. Publiées par le DR. FÉLIX LEJARS. Tome Troisième, Chirurgie. Paris: Félix Alcan. 1897.

THE editor has here reproduced the works of Le Fort, which present originality of research and are marked by his personality as a surgeon. Like the other volumes, it is large and covers a great variety of topics, observations, and operative procedures, some of them classic. There are also extensive descriptions of apparatus and instruments which are the result of this surgeon's inventive genius.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. In Photo-Lithochromes from Models in the Museum of the Saint Louis Hospital, Paris, with Explanatory Woodcuts and Text. Parts VI. and VII. By ERNEST BESNIER, A. FOURNIER, TENNESON, HALLOPEAU, DU CASTEL, HENRI FEULARD, and L. JACQUET. Edited and Annotated by J. J. PRINGLE, M.B., F.R.C.P. London: The Rebman Publishing Company, Limited. Philadelphia: W. B. Saunders. 1896.

PART VI. contains photo-lithochrome plates of ulcers and scars in an habitual cocaine consumer, trichophytosis of the skin, syphilitic hyperkeratosis, psoriasis figurata. The text accompanying these beautiful pictures is particularly clear and concise.

In Part VII. there is a certain sameness about Plate XXV., showing bromide eruption, and Plate XXVI., hypertrophic papular syphilide, which emphasizes the necessity of care in differentiation. Rupoid syphilide accompanied by gangrenous ulceration makes an excellent picture, and more characteristic than the next plate, showing later gangrenous lesions. The proportion of unusual lesions in this part outweighs that of the ordinary types.

A COMPLETE CASE RECORDER IN GENERAL MEDICINE AND GYNECOLOGY. By S. B. LYON, M.D. Chicago: A. L. Konish and Company, Printers.

THIS is a general medicine and gynæcologic medical sheet, for the use of physicians, students, dispensaries, and hospitals; for the latter, it would appear, rather more than for the former, because of the numerous subdivisions. There is too much in the "Recorder" to make it practical for the uses of the busy general practitioner.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY.

THIS is the Twenty-sixth Annual Report, and contains not only a large number of excellent papers with their discussions, but a frontispiece plate of the president, Dr. F. B. Perkins. The corresponding secretary is Dr. H. B. Whitney. The report is published with care, and contains, besides a list of members, a good index.

HYPNOTISM, AND ITS APPLICATION TO PRACTICAL MEDICINE. By OTTO GEORG WETTERSTRAND, M.D., Member of the Society of Swedish Physicians at Stockholm, etc. Authorized translation (from the German Edition) by HENRIK G. PETERSEN, M.D., Member of the Société d'Hypnologie et de Psychologie, Paris, etc. Together with MEDICAL LETTERS ON HYPNO-SUGGESTION, ETC., by HENRIK G. PETERSEN, M.D. New York: G. P. Putnam's Sons. 1897.

AFTER appearing in Swedish, German, and Russian, Dr. Petersen now presents the author's views to the English-speaking public, along with some of his own.

Among the latter are some rather good points brought out in his translator's preface. Hypno-suggestion should undoubtedly be studied by physicians, and what there is of worth in it be made the most of for the patient's benefit.

One may find here discussed in a true scientific way the various therapeutic uses to which suggestion can be put. The sceptic will find sufficient points for his criticism. There is a bibliography of questionable utility, and no index, which might be useful.

HANDBOOK OF MASSAGE. By GUSTAF NORSTRÖM, M.D., of the Faculty of Stockholm. New York. 1896.

THIS work is written in such a way as to be of value to the clinician as well as to the professional masseur. It contains much that is of scientific interest and a chapter that bears upon the present controversy as to the utility of massage in fractures. The correction of the author's English leaves something to be desired.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Tenth Session. Held at Buffalo, N. Y., May 19–21, 1896. Volume IX. Philadelphia. 1896.

FOLLOWING an address by the president, Dr. Royal Whitman, there are the usual number of papers upon the topics of interest. The paper and print are far above the average of such reports. The illustrations are good and include a number of instructive *x*-ray pictures. The secretary deserves credit, and we regret that his name does not appear, so that we might mention it.

RECHERCHES SUR L'ÉPILEPSIE, L'HYSTÉRIE ET L'IDIOTIE. Par Bourneville, Médecin de Bicêtre. Paris: Félix Alcan. 1896.

THIS is Volume XVI. of the publications of the *Progrès Médicale*. It is a clinical and therapeutic work prepared with the collaboration of a number of well-known men, and contains thirty-one figures in the text and eight plates. It contains many data gathered during the year 1895 bearing on these important questions.

PATHOGENESE DER MERCURIELLEN STOMATITIS UND SALIVATION. Von DR. ALFRED LANZ, Privatdocent für Derm. u. Syph. an der Kaiserlichen Universitat Moskau. Berlin: Oscar Coblentz. 1897.

A CLINICAL and experimental study, with one plate. Brochure of one hundred and sixty-seven pages, of especial interest to those occupied with syphilis and extensive use of the mercurials.

A MANUAL OF THE PRACTICE OF MEDICINE, PREPARED ESPECIALLY FOR STUDENTS. By A. A. STEVENS, A.M., M.D. Fourth Edition, revised and enlarged. Illustrated. Philadelphia: W. B. Saunders. 1896.

THIS is another manual added to the long list of such works already given to the profession by these publishers. In the preface to the first edition the writer says: "At the request of many students the author has written this book with the hope that it may serve as an outline of practice of medicine, which shall be enlarged upon by diligent attendance upon lectures and critical observation at the bedside." Aside from its use in cramming for examinations, the work has little to recommend it.

A TREATISE ON OBSTETRICS FOR STUDENTS AND PRACTITIONERS. By EDWARD P. DAVIS, A.M., M.D., Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic; Clinical Professor of Obstetrics in the Jefferson Medical College of Philadelphia; Medical Director of the Jefferson Maternity; Clinical Professor of Pædriatrics in the Woman's Medical College of Philadelphia; Visiting Obstetrician to the Philadelphia Hospital; Physician to the Children's Department, Howard Hospital. Illustrated with 217 Engravings, and 30 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co. 1896.

THIS work is divided into seven sections, dealing with pregnancy and labor; pathology of labor; obstetrical operations; abortion, extra-uterine pregnancy, the puerperal state; infancy in health and disease; diseases of infancy; and the jurisprudence of obstetrics.

Although the work, as the title page indicates, is intended "for students and practitioners," still we fail to find any detailed descriptive anatomy of the female generative organs

or of the bony pelvis as a parturient canal. The physiology of the female genital organs, especially regarding ovulation and menstruation, is practically ignored. In the chapter on normal labor and its management, the mechanism of labor, which is the foundation of the subject of midwifery, is not discussed. The phenomena of labor, however, we find here thoroughly and attractively set forth. The chapter upon forceps is one of the best written in the book. The author is an ardent advocate of axis traction, and particularly of the variety in which the fenestræ of the forceps are adjusted with tapes, a traction bar being fitted to the tapes about opposite the butt of the handle of the instrument. The subject of version and extraction is completed in four pages, and we find here but one illustration. Surely two such subjects demand more attention. The descriptions of symphyseotomy and cœlio-hysterectomy are all that could be desired, and many of the illustrations are original and new. Two valuable features we note in the concluding chapters: one is a section upon infancy in health and disease—which is extremely well written and goes more deeply into the subject than any text-book of obstetrics with which we are familiar—and another is a section devoted to the jurisprudence of obstetrics.

Elementary Bandaging and Surgical Dressing. With directions concerning the immediate treatment of cases of emergency. For the use of dressers and nurses. By Walter Pye, F.R.C.S. Revised and in part rewritten by G. Bellingham Smith, F.R.C.S. Seventh Edition. Philadelphia: W. B. Saunders. 1897.

This little book treats of apparatus for restraint and support (bandages and knots, etc.); of the simpler ways of dressing wounds, burns, and scalds; of the treatment in the first instance of accidents and other emergencies.

It is a very compact book of over two hundred pages, and the fact that it has reached its seventh edition is proof of its kind reception by those to whom it was intended to be of service.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, April 2, 1897.

Andrew H. Smith, M.D., President, in the Chair.

Total Amputation of the Tongue for Epithelioma by Whitehead's Method (glands of neck removed on each side.)—Dr. R. F. Weir presented the patient, George W——, age fifty-four years, a great pipe smoker. For fourteen years a scaly spot had been observed upon the dorsal surface of the tongue, about in the middle. For three months the lump had been larger, painful, and fissured. When he entered the hospital, May 2, 1896, the tongue was moved only with difficulty. In its centre was a hard, rough, ulcerated oval tumor, three-fourths of an inch by one inch, raised about one-half of an inch. Microscopical examination showed the growth to be an epithelioma. A leathery white slough covered the ulcer and surrounding surface of the tongue. No indurated glands were to be felt on either side of the neck. The base of the tongue was infiltrated. May 6th, without tracheotomy, incisions were made in front of the sterno-mastoid down to the clavicle and along the hyoid bone on the right. The whole right side of the neck was thoroughly exposed without opening into the mouth and explored, and then the left side was similarly treated. Three or four small glands were removed on both sides of and under the sterno-mastoid, particularly at its upper part. The glands removed did not show by subsequent microscopic examination the presence of any tumor growth, save along the edges of the sublingual and submaxillary ducts (a not uncommon though not always a recognized invasion, though the salivary glands themselves are rarely involved). Through the incisions both lingual arteries were tied in their first portions, that is to say, above the outer end of the hyoid bone. The tongue was then pulled forward and was cut off at the level of the hyoid bone, together with the mucous membrane from the inner surface of the jaw and deeply from the muscular tissues of the floor of the mouth. The wounds were closed with silk sutures over posterior drains of iodoform gauze. The floor of the mouth and the stump of the tongue were painted with Whitehead's solution and stuffed with iodoform gauze, which was removed in four hours. An hourly douche of Thiersch's solution, half-strength, was then employed, and the wound packed with gauze wet with the same solution.

After describing the operation, Dr. Weir said: "The patient is shown at the present time as evidence of the extent of the operation and its aims, in cleaning out the neck as one does the axilla, in order, if possible, to get beyond the gland infection. The total absence, so far, of recurrence is encouraging, but the time limit of two years should be insisted on in all cases claimed to be cured. A further point of importance in cancer of the tongue affecting one side is that the cervical glands on the opposite side of the neck on account of cross infection should always be explored as well as those on the affected side, and, further, that in every case the region beneath the upper part of the sterno-mastoid muscle should be looked after particularly."

The patient said in reply to questions that he could taste as well as or even better than before the tongue was removed, but it was necessary to have sufficient food in the mouth to bring it in contact with its roof. Taste had returned gradually after the operation. He was able to speak plainly enough to be understood by all present. There was no difficulty in swallowing. The absence of the tongue interfered with bringing small quantities of food between the teeth to be chewed.

Case of Achillodynia or Achillobursitis Treated by Operation.—Dr. Weir presented the patient, Jacob M——, aged fourteen years. He gave no history of tuberculosis in the family. He entered the New York Hospital in October, 1896. Three months previously he sprained his heel by getting his foot caught in a railing. After a week, as he continued limping, he was kept in the house and liniments were applied. He remained a good deal of the time in bed, with pain in the heel and ankle. On examination the foot was found strongly extended, with fulness and much tenderness on either side of the tendo Achillis. Active motion was prevented by pain. Passive motion was also painful. No pain was produced by crowding together the joint surfaces. October 10th, under ether, a curved incision was made from below the outer malleolus and running upward along the tendo Achillis. The bursa underlying this tendon was opened. It contained about two drachms of sanguino-purulent material, and its walls were found thickened and much congested. The bursa was dissected out, and the posterior portion of the os calcis, thought to be softened but unchanged in color, was scooped out to a moderate extent with a Volkmann's spoon. Iodoform powder was rubbed into the tissues and the wound was sutured with fine silk over a drain. The cavity closed by granulations, and at the time the patient left the hospital, four weeks after the operation, there was still a sinus discharging sero-purulent fluid. No tubercle bacilli were found in the fluids at operation, nor did the secretions show the characteristic lesions of tuberculosis. April 2, 1897, about five months after the operation, he was again seen. The functions of the foot were fully restored.

Dr. Weir said in his remarks that achillodynia, in its obstinate form, has but recently been treated by operation. The observations of Rössler, of Vienna, of two

hundred and twenty-five bursæ underlying the tendo Achillis have shown frequent lesions, not only those belonging to acute inflammations, but changes, such as bone hypertrophies, calcific plates, tuberculosis, and even sarcoma, all of which can be attacked only surgically. Wiesenger, of Hamburg, has published four cases of tuberculous achillobursitis treated by extirpation of the bursa and adjacent bone, and also one case of sarcoma of the same bursa. He suggests, if necessary, to cut across the tendon to expose the bursa, and subsequently to suture it together again.

Dr. Joseph D. Bryant, in discussing Dr. Weir's first case, expressed the opinion that a good prognosis as to ultimate result could be given a patient with epithelioma of the tongue and glands of the neck when the operation for removal was carried out extensively, as described in this case. A sufficient number of cases had been operated upon in this manner by German and also by American surgeons to justify that opinion. He agreed with Dr. Weir, that hemorrhage was best controlled by ligating the lingual artery in the first portion. He selected a point between the greater cornu of the hyoid and the hyoglossus—not more than one-fourth of an inch above the greater cornu and beneath the hyoglossus. Several facts had always actuated him in selecting that situation. 1. The head could be better turned, and by pressing from the opposite side the hyoid bone was made to stand out more prominently, constituting a first-class guide. 2. Having exposed the cornu of the hyoid, if one should hook under it with a tenaculum it would be found that the artery was under as perfect control as if it were in the hand. In one case, however, he had found transposition of the vessels, the artery lying above, the vein beneath the hyoglossus. 3. Ligation in this portion of the lingual gave better control of the circulation of the tongue than when ligation was practised in any other place. The branches of the dorsalis linguæ in particular were much more apt to be controlled than if one ligated farther forward.

Dr. Bryant emphasized the importance of removal of the lymphatic glands. Too much stress could not be laid on the fact that the glands might be diseased, even though their increase in size was not perceptible on ordinary examination. It had occurred to him on several occasions to remove lymphatic glands during the course of an operation for malignant disease, not so much because they were thought to be diseased as that they might become diseased, yet microscopic examination proved them to be already infected.

Dr. Abbe was inclined to think that tracheotomy was a desirable aid in this operation. He thought it added very little to the risk, while it certainly gave better control of etherization and was of great service in handling the tongue without obstruction. It would shorten the operation somewhat, and add none to the risk. He regarded removal of the complete lymphatic system in the neighborhood of the disease as an essential procedure. Without it, the operation was a hopeless one. The patient's life would not be much prolonged, nor his comfort much increased.

Dr. Bryant asked Dr. Weir whether he experienced any difficulty because of not having performed preliminary tracheotomy.

Dr. Weir replied by saying that the first step in the operation was the outside work, removal of the glands and tying the linguals. After this the ether sponge could be removed and the operation quickly completed. Removal of the tongue itself did not require more than three minutes. In answer to the further question whether he had any unexpected bleeding from the posterior portion of the stump, Dr. Weir replied in the negative. There was a little hemorrhage from the pillar of the fauces, which was cut upon, but none from the stump itself. He was much impressed with the fact, and Kocher had also called attention to it, that one had a much freer operation by ligating the lingual in its first portion instead of anteriorly.

The Ocular Complications of Typhoid Fever.—Dr. C. S. Bull read the paper (see page 577).

Dr. C. L. Dana said he had not heard the first part of the paper, referring to optic neuritis, but, to judge by his experience in Bellevue Hospital, the optic complications of typhoid fever must be very rare. He did not recall a case in his service in which there had been anything to call attention to the eye. The author had stated that there was sometimes paralysis of the muscles of the eye, but his interpretation of it, that it was due to nephritis, was not the one usually given of paralyses following typhoid fever. Typhoid fever, like diphtheria, had some tendency to cause paralysis of the legs and arms, and occasionally of the face and eye muscles, but this was supposed to be due to a neuritis, and not to be of nuclear or central origin. So far as he knew, it was not considered that nephritis caused neuritis. The ocular paralysis was due to the specific poison of the fever, just as diphtheritic paralysis was due to the poison of that disease. Dr. Dana had always thought that some of the post-typhoid paralyses, especially those of the feet, might be due to alcohol, which was given rather freely in some cases of typhoid. The typhoid poison had more affinity for the peripheral nerves than for the blood-vessels. One very rarely saw post-typhoidal hemiplegia from embolism or cerebral hemorrhage, while paralysis due to neuritis of various nerves was not infrequent.

Dr. Bull said his authorities for the statement connecting nephritis with paralysis of the muscles of the eye were Leber and Deutschmann, both of whom had spent a good deal of time in investigating the subject for a number of years. Deutschmann referred to a number of cases with post-mortems, in which no evidence was found of neuritis in the nerves involved. With regard to the frequency of ocular symptoms in typhoid fever, he believed that those referable to the extrinsic muscles of the eyes—paralyses of various kinds—were not common, but he was convinced from the examination of a large number of cases that hemorrhages were not uncommon. Not involving the macula, they did not cause enough trouble to lead the patient to complain. During the past four years he had examined the eyes in about two hundred and fifty cases of typhoid, and had found retinal hemorrhages quite frequently. In a member of his own family, with prolonged typhoid but temperature not very high, there were small hemorrhages in both eyes. They were afterward entirely absorbed, as they were likely to be in young patients.

Globus Hystericus and Enlargement of the Laryngeal Tonsil.—Dr. Beverley Robinson called attention to a condition not commonly recognized in general practice. Within the past two weeks two women patients had visited him on account of an irritative cough and so-called globus hystericus or a feeling of choking band about the neck. Dr. Robinson stated that before making a laryngoscopic examination he expected to find the laryngeal tonsil engorged, inflamed in appearance, and pressing upon the larynx. So it was. He referred to these recent cases in order to impress the fact that acute swelling of the laryngeal tonsil was a frequent cause of irritative cough, of a tickling sensation about the larynx, and of what was called hysteria in these patients. It was not, however, hysteria, but pressure around the larynx giving rise to symptoms commonly spoken of as hysterical. The condition could be relieved by internal remedies and local applications. It was because laryngologists had done little to direct attention to the trouble in acute form that he now mentioned it.

Hemorrhage from the Laryngeal Tonsil.—Dr. Kinnicutt inquired whether Dr. Robinson had seen

such varicose condition of the veins of the laryngeal tonsil as to give rise to hemorrhage. He had himself seen such cases, and twice had been able to detect it at the time of its occurrence. In one instance a man whom he knew was walking past his office, when he was attacked apparently with hæmoptysis. When he entered his office he was spitting blood freely and was much frightened. On examining the throat at once, Dr. Kinnicutt observed a markedly varicose condition of the veins of the tonsil. One of them was bleeding. He had observed the same thing in situ in another case. He mentioned it as a possible source of hemorrhage from the mouth which in his reading he had not seen fully recognized.

Dr. Robinson was glad attention had been directed to this condition by Dr. Kinnicutt, for it was one which gave rise to hemorrhage and had not been mentioned with any emphasis in the majority of the textbooks. At the next meeting he hoped to read two letters on the subject recently received.

Dr. Kinnicutt added that the lungs in his case were carefully examined and no signs of disease were found, and the patients were still in good health, it being some years since the occurrence of the hemorrhage.

The President said he had recently been called in great haste to see a young woman who was supposed to be bleeding from the lungs. On examination he found blood stain on the posterior wall of the pharynx, and by use of a sponge obtained ocular evidence that the hemorrhage was from the nasopharynx. There had not been the slightest discharge of blood from the nostrils.

Elephantiasis Arabum.—Dr. Kinnicutt passed photographs of a case of elephantiasis arabum, limited chiefly to the left leg, although the right leg was affected in some degree. The left leg had a circumference of over twenty-nine inches. The largest on record known to him measured thirty and one-half inches. His patient was an obese woman, five feet three inches high, and weighing four hundred and fifty pounds. She was bedridden, entirely helpless, and had entered the hospital to have the leg amputated. It had been proposed, instead, to ligate the femoral artery, which had been done in similar cases with some amelioration of the condition. The veins and lymphatics could be felt, thickened and cord-like, in the subcutaneous tissue. The skin had the color and general appearance of an elephant's hide. No filaria were found.

Traumatic Bend of the Radius.—Dr. Bryant presented an *x*-ray photograph showing a marked bend in the shaft of the radius, the convexity directed toward the ulna and the lower end of the ulna projecting markedly. His attention was called to the case on passing through his ward in Bellevue Hospital and seeing the house surgeon wiping the perspiration from his brow from efforts at reduction of supposed dislocation of the lower end of the ulna. The patient was a young man of eighteen, who had sustained a blow upon the side of the radius by a bowling pin, while his weight was resting against the hand, the fingers above and the thumb beneath the edge of a table. The case seemed of some interest from the manner in which the injury occurred, the nature of the deformity, the distinctness with which it was shown by the radiograph, and the fact of the great effort to reduce the deformity.

Case of Appendicitis.—Dr. Bryant showed an appendix which contained a large concretion, but presented on the exterior no evidence of inflammatory disease. The symptoms leading to an operation were three attacks in as many days, characterized by chills, elevation of the pulse (120), some tenderness over the appendix on pressure, but no evident tumor, later tympanites, high temperature (103.5° F.). The symptoms were relieved promptly by the operation, and the patient recovered without any untoward event. The gridiron method was practised.

Four Cases of Tic Douloureux Relieved by Medical Treatment.—Dr. C. L. Dana wished to put on record four more cases of tic douloureux, which he had treated the past year with the result of relieving all of the patients of their pain. Some present might remember that a year ago at the meeting of the Association of American Physicians he had reported six cases relieved in a similar manner. Besides these ten cases treated successfully the past three years, he had treated three others, one with total failure, the other two with failure because the treatment was not carried out. All of the four cases which he had to report to-night were in women, about the age of fifty, who had suffered from tic douloureux in its most typical form. The pains were terrific, agonizing, and had been present from one year and a half to four years. One patient had been operated upon twice, and portions of the nerve removed.

All of the patients were treated in the manner described a year ago; they were put to bed, given a milk diet, and a daily injection of strychnine, beginning with one-thirtieth of a grain and increasing gradually to one-fifth of a grain. In some cases one-third of a grain was given. The treatment was continued about six weeks, during the latter part of the period the dose of the strychnine being gradually reduced. In two cases the first course of treatment had to be supplemented by a second one of three weeks' duration. In one instance the patient was under treatment three months. He did not undertake to treat cases unless it was understood that the treatment could be continued three months if necessary.

One of the four patients had not only a most severe form of tic, but also the morphine habit, which increased the pains. There had lately been some exploitation of the opium cure of tic douloureux, but in spite of the fact that it had been recommended by such men as Charcot and Ferrier, the speaker thought it was unfortunate for the general practitioner to get the idea that opium was good in this disease. He had seen some very disastrous results from its use. His reason for again mentioning the treatment which he had practised for three years, was that there seemed to be great misapprehension of its nature by many. Some had said they had given strychnine a few days, or a week or two, but it had done no good, and they had pronounced the method a failure. There was no use of commencing the treatment unless it was carried to the full extent, for very often the symptoms were even aggravated the first two three weeks.

In reply to interrogatories, Dr. Dana said the injections of strychnine were not made over the seat of pain, but anywhere convenient. He had not tried administering it by the mouth, but thought there might be some danger of an accumulated dose from temporary retention in the tract. One of the ten patients had been a sufferer for thirty years and had been operated upon by Dr. Carnochan and nearly every surgeon in New York; the face was badly scarred in consequence, but the pain had not been permanently relieved until this medicinal treatment was given. It was important to keep the patient abed during the treatment. The pulse tracing was taken in one case, and showed increased amplitude after injections of a quarter of a grain of strychnine. The drug was a heart stimulant.

Dr. Beverley Robinson raised the question of the advantage of administering certain remedies by hypodermic injection over administration by the mouth, and mentioned a preparation from which some patients had claimed to derive much benefit by injection,

whereas the same ingredients given by the mouth had been without result.

This statement of Dr. Robinson's was confirmed by Drs. Peabody and Polk, and Dr. Peabody thought the explanation suggested by Dr. Dana was the probable one in this instance also. The drug might not be absorbed at all when taken into the stomach.

Accident to a Distended Bladder.—Dr. Weir related the case of a boy, twelve years of age, who was a great water drinker, taking a quart to two quarts a night, without diabetes or other known cause for his thirst. One day when out skating, and not having urinated for an hour or two, he began to have pain in the stomach. The pain increased as he went home, and troubled him for ten days. It was supposed to be due to distention of the bladder, for there was swelling extending from the symphysis up to the umbilicus. A catheter was passed; the urethra was free; water was withdrawn which was bloody. Finally the conclusion was arrived at by the practitioners in the country who saw him that there was rupture in the anterior portion of the bladder with extraperitoneal effusion. Dr. Weir then saw the patient, opened the abdomen, found a large collection of urine and pus, and at first thought it was in the free peritoneal cavity, but it proved to be limited by the peritoneum of the anterior and lateral parietes of the bladder which it had dissected up. The escape of urine seemed to be from the left side of the bladder, somewhat low, but not low enough to permit of making perineal drainage. The opening was not seen. Suprapubic drainage was established and the patient did well for about twelve days, and then some symptoms of peritonitis developed. Dr. Elliott went up to see the patient, opened the abdomen, and found that perforation into the peritoneal cavity had taken place at the upper angle of the wound. Perhaps it had occurred at one of the dressings. The patient lived a few days longer.

An interesting point in the case was the fact that autopsy revealed no laceration of the bladder at the point where they expected to find it, down on the left side. It was only after considerable searching that they found an opening the size of a pinhead with some surrounding inflammatory tissue. Near by were a number of small spots where the bladder wall was extremely thin, almost perforated.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 15, 1897.

Edward G. Janeway, M.D., President, in the Chair.

Report from the Trustees.—Dr. A. Jacobi made the following motion for the trustees: "*Resolved*, that the trustees of the New York Academy of Medicine be authorized to negotiate a loan of $7,000, said loan to be used to retire the academy bonds and bear not more than four per cent. interest."

The object was to retire bonds which bore five per cent. interest and thus save at least one per cent. to the academy. The motion was carried.

The scientific proceedings consisted of a discussion on gall stones, five papers being read on various phases of the question.

Gall Stones, Their Effects and Diagnosis.—Dr. George L. Peabody limited his remarks on the effects of gall stones to their bearing on the diagnosis. That gall stones might remain for many years without producing symptoms was evident from their frequency at autopsy when no symptoms had existed. The diagnosis of typical biliary colic from the passage of a stone was easy enough. But gall stones did not always produce typical attacks of biliary colic. They might be complicated by other diseases or symptoms due to functional derangement of other organs. He had seen one case in a woman who at intervals could not take ordinary food without pain and low fever, but who obtained relief after a large calculus had been removed from the gall bladder. Some modern authors had noted gall-stone symptoms complicating typhoid fever, and one explanation which had been suggested was that of peristalsis of the duct and gall bladder excited from the intestine. There might also be infection by the typhoid or other germs. It was possible to confuse such attacks with gastralgia, but in the latter there were apt to be distention by gas and relief by belching. Pressure gave relief rather than pain. Fever was more likely to accompany biliary calculi than gastralgia. The diagnosis would be rendered certain if after a day or so jaundice should develop, and positively so if a stone should pass with the fæces. Attention had already been called to the frequency of biliary colic without icterus. The gall bladder might be enlarged and palpable. The diagnosis from gastric or duodenal ulcer with pain was more difficult. Taking food might increase the pain in both, but was more likely in ulcer. If the vomited matter contained an abnormal amount of acid it favored ulcer. Swelling of the gall bladder and icterus spoke loudly for gall stone. Lead colic and peritonitis sometimes simulated gall stones, and hepatic neuralgia was said sometimes to occur in nervous people, sembling gall stone. Dr. Peabody had seen gall stone mistaken for appendicitis, and referred to the case operated upon by Dr. Weir. When the appendix lay near the gall bladder, the differential diagnosis might not be possible until after laparotomy.

When the gall bladder became distended and presented a fluctuating tumor, it must be distinguished from floating kidney, from ovarian tumor, from urinary bladder, etc. Facts which pointed to distention of the gall bladder were the shape and position of the tumor, and the fact that it moved up and down with the liver on respiration. It admitted of some lateral displacement. An element of confusion was the fact that the gall bladder sometimes partly emptied itself, the stone acting like a ball valve. The absence of jaundice would favor location of the stone in the cystic duct. The gall bladder had also been mistaken for a liver lobe of abnormal shape, and for empyema and some other conditions. The gall bladder might be atrophied; it might contain pouches with stones in them. In gall stone lodged in the common duct there might be complete or only partial obstruction, jaundice more or less marked, and recurring at irregular intervals. The jaundice might be followed by serious results, or persist for years without other developments. Of common occurrence was catarrhal choledochitis, which was sometimes mistaken for malaria, especially when there was enlargement of the spleen and the attacks were of an intermittent nature. The nature of the intermittent fever was still under discussion. Osler had suggested infection of the gall passages by germs, several kinds of which had been found. Obstruction of the bile passages by tumors outside of their lumen was less common. The effect upon the liver of obstruction of the common duct was variable. It was seldom enlarged, but the connective tissue was likely to be increased, although this had recently been questioned. Dilatation of the branches of the hepatic duct had been observed, and in one instance the sac formed was mistaken by a surgeon for the gall bladder. Varying degrees of violence had caused rupture of unwalled sacs. Perforation of the gall bladder and ducts occurred frequently. The symptoms depended upon the organs involved. The penetration might be into the abdominal cavity, lead-

ing to peritonitis or a localized abscess. In one of his cases the perforation had been into the duodenum, with passage of the gall stone into the intestine and obstruction leading to death. Communication with the stomach, jejunum, and ileum was rare. Perforation into the colon was frequent, into the kidney rare, into the urinary bladder possible. Perforation into the lung had sometimes been followed by recovery. But of all the fistulous communications, the one leading to the exterior was most common. Continued irritation of calculi in a duct or in the gall bladder had been the starting-point of carcinoma. From the point of view of surgical therapeutics, it was important to distinguish between obstruction of the common duct by calculus and by external pressure, as by carcinoma. In favor of calculus were persistent jaundice or jaundice recurring for years, former attacks of biliary colic, passage of calculi, fever more or less intermittent, absence of tumors other than of the gall bladder. The symptoms pointing to calculi in the hepatic ducts were so vague as rarely to lead to exact diagnosis until autopsy.

The Chemistry of Gall Stones.—Prof. R. H. Chittenden, of Yale, read the second paper. Biliary calculi could be divided on the basis of their chemical composition into three great groups: 1, Those which were composed in great part of cholesterin; 2, those of bile pigment combined with calcium; 3, those mainly of calcium carbonate and calcium phosphate. We met chiefly with calculi containing a large predominance of cholesterin, with some admixture of bile pigments and calcium. The largest amount of cholesterin found in any one stone was, he believed, ninety-eight per cent. The amount of cholesterin contained in human bile varied according to the length of time the bile had remained in the gall bladder. So-called liver bile contained from 0.048 to 0.16 per cent. of cholesterin, while bladder bile might contain as much as one per cent. When the bile was retained from any cause, absorption resulted in great concentration of the fluid, so that while human liver bile rarely contained more than 0.035 per cent. of solid matters, gall-bladder bile might contain 0.17 per cent. The difference could be attributed to withdrawal of the watery constituents. This was generally considered the primary condition in the formation of gall stone. The mere concentration of the bile, however, with increase of cholesterin, did not necessarily imply the crystallization or separation of the solid elements and the formation of stone.

The author next considered the theories of the primary origin of cholesterin found in the bile. There were two distinct views, one being that the liver simply separated the cholesterin from the blood flowing through it and passed it over to the bile; the other that the cholesterin was of local origin, formed chiefly by changes taking place in the epithelial cells of the mucous membrane of the gall bladder and ducts. It was a well-known fact that cholesterin was widely distributed throughout the body in all of the cells and in the blood. Unquestionably some cholesterin was formed in the liver, but its presence in the bile was to be accounted for mainly on the ground, the author said, of this being the only channel through which it could be excreted from the body. It was apparently a waste product, and its excretion took place through the liver mainly, probably because the bile was the fluid best adapted for its solution.

At this point the author took up the question of the nucleus of gall stones, their solubility, the solubility of cholesterin, and other ingredients. The nucleus, composed of bilirubin, calcium, etc., had its origin in pathological states which were little understood. A negative answer was given to the question whether the calculus could be removed by reaction on the salts. A far more plausible assumption was that solution could be brought about, in part at least, by agents which tended to increased flow and alkalinity of the bile, aided by increase in peristaltic action. Cholagogue effects, however, were not readily obtained, and obviously such treatment, if practical, would be safe only in case there was free outlet for the bile through the ducts.

The Medical Treatment of Cholelithiasis.—Dr. W. Gilman Thompson read the paper on this subject. The medical treatment of cholelithiasis fell naturally under two heads: That of the attack of colic, and the use of prophylactic measures. The pain of hepatic colic excited by the passage or impaction of one or more gall stones was often among the greatest physical agonies, and demanded prompt and vigorous measures for relief. From one-fourth to one-half grain of morphine with one-one-hundredth grain of atropine was to be injected at once, and fifteen to thirty minims of spirits of chloroform to be administered in cherry-laurel water, either alone or with one drachm of Hoffman's anodyne. The chloroform was promptly absorbed by the stomach and passed into the portal system, reaching the liver and lessening spasm of the walls of the biliary ducts. Belladonna and sulphuric ether might be used, but were less effective. Meanwhile a large very hot flaxseed poultice should be applied over the gall bladder and maintained for several hours. Complete immersion of the body in water at 104° or 106° F. was often soothing. Should these measures fail, resort should be had to first stage of chloroform narcosis.

A much more complex question was the possibility of accelerating the passage of the stone. Theoretically this might be accomplished: 1, by increasing the driving force behind the stone—the hepatic pressure and the peristaltic action of the gall ducts; 2, by lessening the resistance in advance by facilitating the relaxation of the muscular walls of the ducts; 3, by reducing the size of the stone by some solvent. The solution of these problems had been discouraging.

1. To increase the expulsive force, ordinary cholagogues, such as podophyllum and calomel, had been of little avail, and were too slow in action to relieve the immediate attack. Massage was dangerous as well as impracticable. Irrigation of the colon by cold water was believed to excite reflex peristalsis of the biliary passages, but it had been more successful in catarrhal duodenitis than in cholelithiasis. The best remedies to relieve spasm had already been mentioned.

2. Much had been written of the value of olive oil in large doses, but after giving it a fair trial the reader had not been convinced of its benefit.

3. Attempts to dissolve the stones *in situ* must prove as futile as attempts to dissolve renal or vesical calculi once formed. Chloroform and ether were both good solvents of cholesterin but it was highly improbable that they could reach an impacted calculus in sufficient strength to act upon it when given in justifiable dose. Permanent impaction was the exception, and the chief indication for the treatment of an attack was to mitigate the patient's suffering.

Prophylaxis.—Prophylaxis would be more promising if the bile were a less complex fluid, and gall stones were not found frequently at autopsy when they had caused no symptoms. Theoretically the prophylaxis might be divided under three heads: 1. Prevention of hepatic engorgement and of accumulation of bile in the liver or gall bladder. 2. A dietetic regimen, withholding such foods as were likely eventually to furnish the elements of cholesterin in excess. 3. Giving sufficient fluid to dilute in some degree the bile and prevent too great viscidity of the vesical mucus.

The prevention of hepatic engorgement was to be accomplished by familiar hygienic measures, by chola-

gogues and cathartics. Alcohol, over-eating, lacing, sedentary habits with cramped position should be avoided. Horseback riding should be practised. As a hepatic stimulant the author found a drachm of sodium phosphate, taken in bitter infusion or hot water on rising, of value. Some praised citric acid, bicarbonate of sodium, Carlsbad salts, calomel. Abdominal massage would benefit the obese.

Differences of opinion existed with regard to the dietetic treatment. Dr. Thompson thought it well to forbid sugars and fats in every variety, calves' brains, and the viscera of animals, particularly the liver. Fresh green vegetables and acid fruits, which, by virtue of their alkaline salts and organic acids, easily combined in the blood with alkaline bases, should form the basis of the diet in cholelithiasis. Fluids should be used freely for diluting the blood and through it the bile. Aerated and mineral waters containing salts of lime were best avoided, but other alkaline waters were beneficial. The patient was better without alcohol in any form. While the therapeutist often groped in the dark in vain efforts to reach the hidden calculi, the surgeon now threw full light on them by operations which promised not only relief but permanent cure, and with a measure of safety which was constantly increasing.

Surgery of the Gall Bladder for Biliary Calculi.—Dr. Arpad G. Gerster said he would confine his paper to an endeavor to sketch the variations in the anatomical situation of the gall bladder and the manner in which these variations would influence the surgical treatment. Whenever the enlarged gall bladder occupied the normal position an easy operation could be expected, so far as the anatomical conditions were concerned. A longitudinal incision over the mass exposed it; then one should bring the mass out and conduct the rest of the operation extraperitoneally. He should pack around it to prevent soiling and slipping back, evacuate the liquid contents, and remove the stones by suitable manipulations. A small calculus forceps or blunt spoon-shaped scoop would be found useful. If the stone were impacted in the cystic duct, he should try to displace it with the finger passed down under it; failing, he should pass two fingers down to the stone through the opening in the gall bladder, and finally if necessary enlarge the external incision or meet it with a transverse incision, so as better to reach the stone, and crush it, or pack around the cystic duct and incise it to permit of extraction of the stone. If the opening in the duct were sutured, the sutures should not be passed through the mucous membrane. There was tendency to spontaneous closure. The packing should be left in for a few days. The tendency to hernia in this region was only slight, and Dr. Gerster did not hesitate to make a free opening by an L-shaped incision. Some additional precautions were mentioned in connection with incision into the gall bladder. When there was empyema or gangrene of the gall bladder, the procedure should be directed with special attention to safe evacuation. The septic element having been got out of the way, there would be time enough to search for the stones. Stitches in these cases were not likely to hold, and chief reliance must be placed on packing. If the peritoneum of the gall bladder alone were stitched to the parietal peritoneum, fine silk was preferable to catgut. In fat people and those who had bronchial catarrh, a double line of sutures might be necessary to prevent rupture or escape of gut during coughing.

Dr. Gerster then considered unusual cases, those in which the gall bladder was found embedded in a mass of omentum and gut, deep situations of the gall bladder, gall bladder shrunken to a tight sac around the stones.

The reader had had no experience with so-called ideal cholecystotomy, or immediate suture both of the gall bladder and abdominal openings. It seemed to him that the advantage of immediate restitution to the normal was more than offset by the dangers. Whenever the cystic duct was found so changed as to lead to the suspicion of neoplasm, it was justifiable to excise it. Unusual peritoneal coverings and attachments and blood supply were mentioned. Cholecystenterostomy or anastomosis with the intestine was indicated in hopeless obstruction of the common duct by neoplasm or intractable stricture. It could be done quickly and safely with Murphy's button.

Surgery of the Common Bile Duct for Stones.—Dr. F. Lange read the paper on this question. Every practitioner had seen cases of protracted jaundice due to obstruction of the common duct finally end in spontaneous recovery. As long as such a possibility existed, even as an exception, it would be impossible to give general indications for surgical interference. The clinical conditions of each case must decide the question of surgical interference. Two groups of cases might be recognized: 1. Cases in which pure obstruction was the governing feature. 2. Cases in which obstruction was complicated with inflammatory or infectious processes. The physician should be made aware of the fact that long-persisting icterus diminished the safety from surgical interference, especially from the point of view of hemorrhage. He had had the misfortune to lose three patients after operation from uncontrollable hemorrhage due to cholæmia, all of whom presumably could have been saved had operation not been put off from month to month for trial of various measures for expulsion of stones. The attacks in the second class of cases were accompanied by chills, fever, and other signs of inflammation or infection, which added to the gravity of the situation. The saving of life depended often upon the time selected for the operation, not putting it off too long. Dr. Lange also read on the operative procedure.

Dr. Graham, of Toronto, said in the general discussion that the paper of Dr. Peabody would lead him to suppose the diagnosis of gall stones was easier than he had found it in practice. He thought further study of the chemistry of the urine and of the fæcal passages might yet give us more definite indications of threatened attacks of gall stones or of conditions of the system in which they were likely to form. On one fact we were agreed, namely, that a sedentary life predisposed to the formation of gall stones. Taking too much food had a similar tendency.

Dr. W. H. Draper gave two clinical cases of stones of very considerable size ulcerating through the gall bladder into the duodenum and causing intestinal obstruction. The first occurred about twelve years ago in a man, sixty years of age, who had never had any attacks simulating gall stones. He was seized suddenly with violent and persistent vomiting; he did not complain of much pain, but there was some abdominal tenderness. A purgative failed to act, and Dr. Draper suspected acute obstruction of the intestine. Dr. Sands was called in, and several other surgeons saw the patient, and while intestinal obstruction was the diagnosis, gall stone was not suspected as the cause. The patient died of exhaustion the ninth day and a large gall stone was found in the duodenum. Early in the attack but little urine was passed, which might lead one to suspect obstruction high up in the intestine, on the explanation that but little of the intestine was afforded opportunity to absorb fluids which might be taken. The second patient was a lady of about sixty, who had had attacks of pain followed by jaundice. He saw her in the attack in question about the third day. Vomiting was a striking symptom. There was a flat condition of the belly, indicating obstruction high up; also partial suppression of urine. He ventured the diagnosis of intestinal obstruction caused by

gall stone in the small intestine. The family was reluctant to allow an operation, but finally consented. Dr. Bull operated, and removed a stone engaged in the ileum without doing much injury. There was some indication of local peritonitis. The patient died.

Dr. Draper thought treatment other than surgical would have to consist in preventive measures, for there was little hope of causing absorption of stones once formed. The sedentary life of women probably was a reason for their having gall stones oftener than men.

Dr. Charles McBurney observed that all of the speakers had acknowledged the hopelessness of treatment other than surgical after gall stones had formed. Regarding prevention of gall stone, he thought none would suffer who formed proper habits as to exercise, and maintained healthy elimination before and during the usual period of gall-stone formation. This period was comparatively short. He had never had a case of recurrence after removal by operation. The cases could be divided into two classes: those which should be operated upon and those which should not be operated upon. Among the latter were persons who had had attacks and obtained relief by passing small stones, thus demonstrating the likelihood of obtaining relief in a similar way again, for as a rule when a person passed small stones he did not have large ones. But when the doctor was called to a case which did not clear up in this manner, the patient having marked jaundice, pain, etc., he should call the surgeon early, and an operation should be performed before the development of cholæmia, referred to by the readers. The operative dangers related to cholæmia and tendency to hemorrhage consequent thereon, to sepsis, which was also more liable to occur in cases of delay, and to adhesions. It was to the prevention of these conditions that attention should be directed, for all depended in large measure upon tardy operation. Cases which required an operation certainly must have a period when it was best to operate, and it was likely that, as in most surgical conditions, it did not last very long.

The President said with regard to recurrence of gall stones after operation that a man had recently consulted him for the prevention of attacks, he having had one some years after a surgeon had removed a stone from the common duct by opening the duodenum.

Dr. G. G. Hopkins presented one hundred and ten gall stones, which he had removed in February from the gall bladder of a woman of forty-eight years. She made a good recovery. The largest stone was about the size of a filbert and was lodged in the cystic duct, and accounted for the immense distention of the gall bladder, which contained ten ounces of clear fluid.

The President was empowered to appoint a delegate to the centennial celebration of the Westchester County Medical Society.

Removal of Tumors from the Breast.—In the removal of benign tumors from the female mammary gland, one should not forget the method devised by Dr. T. Gaillard Thomas. He makes the line of incision correspond with the natural crease in the skin, seen when the patient is in the erect position. After incising the skin as freely as may be necessary (four or five inches being usually enough), the capsule of the gland is dissected from the muscles of the chest, and the gland turned up so as to expose the growth, which is then excised from beneath and the gland returned to its place. No milk ducts need be cut, nor will there be any hemorrhage to speak of. If there is much hemorrhage, drainage can be left in for a few hours. With care there will remain only a hairline cicatrix. This method of operating possesses great cosmetic value, especially in unmarried women.—*Columbus Medical Journal*, January 19, 1897.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SYPHILIS AMONG TROOPS IN INDIA—GOVERNMENT PLAN—NATIONAL MEMORIAL TO JENNER—INFANTILE PARALYSIS—STRICTURE OF ŒSOPHAGUS—BRAIN TUMOR—EXTRAVASATION OF URINE—LORD LISTER'S PORTRAIT—INFLUENZA.

London, April 2, 1897.

The sad results of the increase of syphilis among our European troops in India have to some extent opened the eyes of the public and induced the government to use its strength in an attempt to undo some of the evils of previous legislation. As the facts reported by the army sanitary commission and the departmental committee became known, it was felt something must be done. Even those who induced a former government to prohibit compulsory measures were many of them shaken in their views. On Monday the Royal College of Physicians discussed and unanimously adopted a report of a committee on the subject. This report contained some very serious statements, and was duly forwarded to the government. Whether it had much influence may be doubted, as the decision of the ministry has already been taken. Yesterday this decision was stated to Parliament in the form of a dispatch to the government of India.

This dispatch sets forth that in any measures which may be adopted there must be nothing that can be represented as an encouragement to vice; there must be no registration, licensing, or compulsory examination, nor must women be allowed to reside in regimental bazaars or to accompany regiments on the march. Subject to these restrictions, the government considers that the cantonment rules in force in cholera, small-pox, etc., should be made applicable to all contagious and infectious diseases. It may be argued that examinations which may, but need not necessarily, be held under these rules is in effect compulsory, but the government does not admit this, and says if any degree of compulsion exist it is only such as has been accepted as necessary and enforced without objection in diphtheria, typhoid fever, etc. There is to be no obligation on diseased women to attend hospitals, but as an alternative they will be required to leave the cantonment, as an almost certain cause of disease to others. The dispatch expresses the opinion of the government that valuable aid in checking disease will be found in extended efforts to improve the moral and physical condition of the troops in India: to enlarge the means of their instruction, occupation, and recreation; and to warn newly arrived soldiers of their temptations.

On Wednesday there was an influential meeting of scientific men at the London University, to promote a national memorial to Jenner. It is hoped to raise a considerable sum and to place the British Institute of Preventive Medicine on a satisfactory basis, such as the Pasteur institutes. The most remarkable speech was that of Lord Herschell, who was president of the vaccination commission. He said he went into that inquiry without any prejudice, and came out of it "surprised at the force of the evidence in favor of vaccination." This from an ex-lord chancellor, who ought to know what evidence is, should suffice, especially as his lordship has heard more of the evidence tendered against it than any living man, as another speaker remarked.

Infantile paralysis has so much about it to stimulate to fresh investigations that no one can wonder at the suggestions made from time to time as to its being an

infective disease. It is not uncommon to find that a case of this disease is followed by another in the same family, and this fact naturally arrests attention and suggests infection. Dr. Pasteur brought the subject before the Clinical Society, and gave an account of a family of seven children, every one of whom was attacked in rapid succession within a space of three weeks. Though each began with feverishness and headache, the following paralytic symptoms were most variable; but as Dr. Pasteur thought he could certainly exclude diphtheria, influenza, and the exanthemata, he felt the diagnosis of infantile paralysis justified, and the cases confirm the growing impression that this disease is really an acute infective one. Dr. Ormerod observed that two of the cases almost suggested cerebro-spinal meningitis. Dr. Beevor said that one case resembled anterior poliomyelitis, another was of a cerebral type, and he seemed to think others were not free from doubt. Dr. Cayley remarked on the inappropriateness of the names applied to the disease. Dr. Buzzard quoted a Stockholm observer, who found twenty-seven cases of typical poliomyelitis out of forty-four cases he had met with. He suggested bacteriological investigations.

Mr. Lockwood brought before the Clinical Society a case of malignant stricture of the œsophagus treated by Symonds' tubes, and in which the safety string was swallowed, leading to gastrostomy being performed. Mr. Makins said that in one such case he had passed another tube to get rid of the first, and did not think there was much risk in doing so. Mr. Lockwood replied that in his case he did not think it practicable to push the tube down, and he was glad he had not tried to do so. It seemed the general impression that this accident was best met by gastrostomy.

At the same meeting Dr. Washbourn and Mr. A. Lane described a case of tumor of the brain, which had been successfully removed. It grew from the pia mater and deeply indented the brain without involving it, though on removal a minute portion of gray matter adhered to the under surface. The growth had shelled out easily, and measured two by one and one-half inches.

The president, Dr. Buzzard, would not have had the courage to recommend an operation until iodide of potassium, which had been given only for a fortnight, had had a longer trial. On this point Dr. Washbourn said that the iodide had not given the slightest benefit, and there was not the least suspicion of syphilis.

A case of extravasation of urine, which appeared one morning to the great surprise of the patient, a healthy man of thirty six, was then related by Mr. Barwell, who attributed the accident to coitus the night before, though nothing was noticed at the time. It was, however, remarked that there was no reason for such a supposition, as it is not uncommon to meet cases of extravasation without any obvious cause.

On Monday a portrait of Lord Lister was presented to the Royal College of Surgeons by some of his admirers. This portrait had been undertaken before the peerage was thought of, which afforded Lister an opportunity of saying how much he valued above all decorations the good-will of his fellow-surgeons.

The recrudescence of influenza is spreading, and we are threatened with a widespread prevalence of the disease. The deaths have increased again, but the mortality from all respiratory disease is much below the average.

Abortion of Bubo.—Pressure bandage, when suppuration is not too far advanced, by folds of cotton carefully adjusted and a cocoanut-sized wad of tightly compressed cotton placed over the whole and retained by a very tight spica, produced abortion of the process in nine out of twelve suitable cases.—GÆTHER.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE BALNEOLOGICAL CONGRESS—A NEW REMEDY FOR TUBERCULOSIS—FERMENTATION AND YEAST-CELLS.

BERLIN, March 31, 1897.

THE German Balneological Congress took place, as it does each year, in the middle of March. As the winter begins to break, our balneologists come out like the feathered harbingers of spring, and this, their eighteenth annual convention, brought them in flocks to Berlin, to exchange experiences and to stimulate each other to new investigations.

The proceedings were opened by Neisser with a paper on the hydropathic treatment of syphilis. He believes that the beneficial effect of baths is due to aiding the general organism in its absorption of mercury besides increasing the metabolic processes. Under certain circumstances the elimination of mercury is accelerated, and it is possible that a remedy which is thus taken up and worked over rapidly and then eliminated from the system will act more effectively than one which stagnates in the tissues.

The set oration of the congress was delivered by Winternitz, of Vienna. He spoke with reverential words of the late Dr. Ernst Brand, a plain general practitioner of Stettin, to whom the world owes the cold-water treatment of typhoid fever. It was voted by the congress to send a telegram of condolence to the family of this benefactor of the race. The speaker then announced as the subject of his discourse, "Hydrotherapy in Graves' Disease." While organotherapy is powerless for the relief of this affection, there is not one of its symptoms, Winternitz claimed, which was not amenable to water treatment. Especially useful is this in the relief of the nervous symptoms, such as palpitations, tremor, sweating paroxysms, but the nutritional disturbances also, which find their expression in the progressive emaciation, are favorably influenced by a properly ordered hydropathic treatment. The speaker looked upon this as a means of true disintoxication, favoring the elimination of the poisonous products of metabolism formed in this disease.

Dr. Lindemann, of Heligoland, then read a paper on the curative action of sea baths in gastric disorders. The conditions of depression encountered in the course of these affections were bettered by sea baths, and further the appetite and the general strength were benefited by the sea air.

"Cure and Curability" was the title of an interesting communication by Dr. Hausemann. A true cure, he said, occurs only when there is a renewing of the cells of the diseased organs, and is met with therefore only in diseases which expend their injurious action on the superficial parts of organs, as the mucous layer of the hollow viscera, for example. The former belief, that all cells are in a condition of constant renewal, had been shown to be erroneous. In the case of many wounds a true cure is not possible, as, for example, in wounds of muscles or nerves, in which the parts destroyed are replaced by connective tissue. Where a lesion has existed there may take place a compensatory hypertrophy, as we see often in cases of cardiac disease. In this way a patient with heart disease may attain to old age with comfort.

Dr. Lahnsen read a paper on "Sleep and Sleeplessness." The important part which sleep occupies in our earthly existence is shown, if by nothing else, by the enormous commercial importance to which the trade in hypnotics has reached. In sleep there is a continuance of the functions of vegetative life, an interruption of the voluntary functions, and an exclusion of the conception of time. Dreaming is a phenome-

non of the waking state. Insomnia is one of the symptoms of neurasthenia. For acute insomnia the speaker advised the employment of neurotics, but urgently warned his hearers against their use in chronic cases. Such patients should be sent to some small quiet spa, where all causes of excitement are excluded. Hydrotherapy is also directly sleep producing, especially warm baths and cold sponging shortly before bed time.

Some skiagraphs were exhibited which showed the size and position of the stomach, a rubber sound with a copper stylet having been previously introduced into the viscus. In one cases some silver sutures, which had been left after an operation upon the stomach wall, were distinctly visible. Dr. Lindemann, who exhibited these pictures, predicted a constantly widening field of usefulness for the Roentgen rays in the diagnosis of doubtful cases.

Baginsky then reported the results of his bacteriological examination of the water in the public baths of Berlin. Mendelsohn read a paper on the treatment of renal and vesical calculi by mineral waters, and Schubert one on the treatment of skin diseases by venesection. The latter held that the composition of the blood varied greatly according to the locality, and said that an examination of the blood abstracted from one part gave us no certain information as to the composition and condition of this fluid in general.

Finally, of the great number of papers we can mention only one more, that of Ziegelroth upon the "Significance of the Doctrine of Autotoxins in its Relation to Hydrotherapy." By means of hydrotherapy the autotoxins are either more quickly eliminated or else more promptly oxidized and so rendered harmless. The speaker prophesied a speedy end to orrhotherapy. Some of those who took part in the discussion said that we know nothing further of hydrotherapy than that it is effective, but an explanation of how it was effective had not yet been made. It was suggested also that we had better not talk learnedly about autotoxins until their existence had been proven.

Dr. Robert Koch comes to the front again with a new remedy for tuberculosis, in the shape of a new preparation of tuberculin. He has been pursuing his investigations in this field quietly and persistently since 1890, but has taken care not to keep the public informed of the progress of his investigations. He has now succeeded in elaborating two preparations, which he distinguishes as tuberculin-O and tuberculin-R, and regards the latter as capable of conferring immunity against the action of tubercle bacilli. An examination of tuberculous guinea-pigs treated with tuberculin-R showed the presence of regressive changes in the affected organs, and patients with incipient phthisis and lupus were without exception benefited by injections of this remedy. Many of these cases would, by the ordinary rules of judgment, be regarded as cured, but Koch hesitates to pronounce the word "cure" until after a longer period than has yet elapsed in the case of the patients upon whom his experiments were made. No untoward symptoms of any kind were provoked by the use of the remedy. The preparation is given subcutaneously, beginning with very minute doses (one-five-hundredth of a milligram) and gradually increasing. Professor Koch speaks with reserve of his new remedy and he evidently is restrained by a fear of arousing exaggerated hopes of an infallible remedy in all stages of the disease. Let us hope that a second tuberculin debauch will not be followed by a second expiatory headache.

We can here merely hint at another probably epoch-making discovery, concerning which Professor Buchner has made a report to the Biologico-Physiological Society of Munich. He has succeeded in demonstrating that fermentation is not caused directly by the action of cells, but that it is brought about by certain substances which are produced by the yeast cells. A fluid, free from cells but containing the active substance, will quickly split up sugar into alcohol and carbonic-acid gas. This discovery, if correct, will compel a fundamental change in our views concerning fermentation, sepsis, and infection.

DISINFECTION OF THE HANDS.

To the Editor of the Medical Record.

Sir: In a previous number of your journal is an article on the "Disinfection of the Hands," which is both entertaining and instructive, written by Dr. Robert F. Weir. There is much attention paid at present by the profession to antiseptics, germicides, etc., which to an old physician bears the earmarks of "red tape" and when boiled down to the real and true prophylactics amounts to nothing more than cleanliness. If we go back forty years and compare the treatment then in vogue with our present treatment, we will find there is not such an advance as seems apparent in the treatment of surgical cases. We know, or think we know, the why and wherefore of the benefits derived from the antiseptics now, while forty years since we used them from purely clinical experience. Take, for example, bichloride of mercury, which we all use as the most powerful germicide; from the experiments of Dr. W. it is as unreliable in disinfecting the hands as some others. Mercury was used forty years since as a germicide, but it was not understood in what manner it acted. I remember an old surgeon in Petersburg who was sent for from great distances to operate, and I do not know any surgeon now who can show better statistics of success under the many disadvantages. He was often called upon to operate for stone in the bladder, and he told me that he never lost a case. I assisted him in amputating an arm just below the elbow, which had been caught in a threshing machine and very much lacerated. Before leaving the patient he directed broken doses of calomel to be given every two or three hours, until the gums were sore. He said he did this in all his important operations, and had never had cause to regret it. In those days doctors thought calomel and Dover's powders would cure almost every ailment. Soon after graduating I met an old physician who had quite a reputation and was sent for in consultation far and wide; in fact, if any died after Dr. Field saw them, the friends were satisfied nothing more could have been done. He said to me: "You are now about starting out in your profession and you have enough medicine in your saddle pockets to open a drug store; you will soon have a sore-back horse, and have got medicine you will have no use for as long as you live. You examine my saddle bags and you will find nothing but calomel and Dover's powders. I give these, and if patients die I conclude they would die any way." I know another physician who got quite a reputation in the successful treatment of diphtheria, and he attributed all his success to the use of calomel until the gums were sore. I mention these cases to show the confidence the profession had from clinical experience in the use of mercury forty years since. I do not pretend to say it is taken up into the system and acts as a germicide, but we do now know that mercury locally applied is a germicide.

When I was a boy there was in the neighborhood always some one who would be sent for to spay all sow pigs and castrate the boars, colts, and yearling calves. He would have the pigs penned up for twelve hours before the operation, so that they would become gaunt and that one could better find the ovaries.

He would open the abdomen between the hind legs about four inches, so that the fingers could readily be introduced to find the ovaries and bring them out to be cut. After this was done he sewed up the opening with some strong twine which had previously been waxed with shoemakers' wax; then he would put on the wound tar and hog lard mixed in equal proportion, and turn the pig out into the field. The same process was pursued on the boars, calves, and colts as regards local treatment. The hogs would go to the first mud hole and lie in it, perhaps all day, and it was rarely the case that any of the animals died which were operated upon. The question arises whether this tar and grease acted as a germicide. We know the tar has in it creosote, which is a germicide, and I have seen grease put on chickens to kill the vermin on them, and must conclude this is also a germicide. I would suggest to Dr. Weir to try to make some mild and pleasant wash for the hands with creosote, which would be better understood by the laity than other preparations mentioned. There is one more germicide I would mention, used forty years since, which, perhaps, could be utilized at this time. In slavery times I well remember that if any animal had a running sore (ulcer), in which maggots had gotten, the old negroes would get the tender sprouts from the common elder, bruise them, and apply the juice to the sore. This would kill the maggots and prevent a further deposit of eggs from the flies. Possibly a hand wash could be made in this way which, with a little perfume added, would be pleasant and satisfactory.

So much for forty years back; now allow me to say something of our present system in operating. I do not pretend to be a surgeon, nor to have performed any important operations, but I have done some minor surgery and often assisted others in grave cases. Hospital facilities are now so convenient and expenses so very light in these "charitable institutions" that outside doctors have a poor show for their skill. It looks very nice to an old mountain doctor to visit these city institutions with all their paraphernalia, and see how clean everything appears and what precaution is used for antiseptic purposes, and then to read the statistics of the many successful operations performed by Dr. ——, with charges only for board. These things are enough to deter the country doctor from attempting to operate in an important case, without the trained nurse, the tiled floor, the operating table, the antiseptics, the uniform, etc. But if these things are requisite for success, why is it that so many do well and go on without them to a speedy and successful termination? A short time ago I assisted in removing a testicle weighing twenty-seven ounces from a mechanic (tinner), and our assistants were a carpenter and a tinner. Neither, so far as I saw, washed their hands or used any precautions whatever. The patient recovered speedily and is at his daily post at work. I might cite many cases of similar character, but have, perhaps, said already too much.

B. P. Reese, M.D.

Staunton, Va.

ASEPSIS OF THE HANDS.

To the Editor of the Medical Record:

Sir: A late issue of the Medical Record contains the report of a discussion before the Practitioners' Society of New York on the best method of rendering the hands aseptic, in which Dr. Beverley Robinson alluded to the fact that in his student days he had seen Nélaton wash all his amputation wounds with alcohol. During the past twenty-five years I have in nearly all cases washed all my amputation and other wounds with dilute alcohol, and kept them constantly wet with the same during the process of healing, and have in no case had cause to regret such a course. I also bathe my hands and immerse my instruments in pure alcohol before operating. All wounds heal readily without suppuration, inflammation, or soreness if so treated, and I do not believe that blood poisoning need be feared under such circumstances. It is important that the wound be thoroughly cleansed and kept constantly wet with the alcohol to insure the best results.

Some twenty years ago I wrote an article for the *American Practitioner* on this subject, and experience since then has only confirmed the favorable view I then entertained as to the good effects of alcohol as a surgical dressing.

L. J. Woollen, M.D.

Vevay, Ind., April, 1897.

MIDWIVES AND THE HEALTH BOARD.

To the Editor of the Medical Record:

Sir: My attention has been called to an editorial which appeared in the Medical Record in your issue of the 10th inst., entitled "Medical Practice on the East Side."

The alleged facts are apparently based upon a report made by Mr. Reynolds, superintendent of the University Settlement Society of this city. I desire to call your particular attention to that part of the article which reads as follows:

"Midwives are another class of medical attendants of inferior grade. The board of health seems not to be posted regarding their number, or else to be unwilling to give the list. As there is no system of licensing them, these women are unreliable and unworthy. Their chief hold upon the people is the smallness of their charge. The legal requirement that a certificate of recommendation from some physician be secured amounts to nothing, as such recommendations are easily obtained, and need not be preceded by an examination."

You will perceive that the author of the foregoing report unjustly criticises the board of health in assuming that the board is not informed regarding the number of midwives of the inferior grade or else is unwilling to make public the registered list. The duties of the health department seem to be clerical, so far as the same apply to midwives, as section 5 of the sanitary code provides that midwives shall be registered in the bureau of records of the health department "in a manner according to the regulations prescribed by the board of health." It is also provided by section 603 of the New York City consolidation act that a professional midwife shall keep a register of births.

Pursuant to section 5 of the sanitary code, a register is kept in the office of the register of records of the board of health, for the registration of midwives. This book is open for public inspection.

I am informed by Mr. Steinert, the attorney for the board of health, that there is no legal requirement for the practice of midwifery in this city, nor is there any law requiring a midwife to procure a "certificate of recommendation" from some physician, as stated by Mr. Reynolds. The law requires only that a midwife shall be properly registered. It seems to me very unfortunate that the board of health has no power or authority to inquire into the qualification or competency of a person who practises midwifery in the city of New York.

Repeated efforts have been made to secure the enactment of a law similar to the one now in operation in the city of Rochester in this State, and known as chapter 842 of the laws of 1895, entitled "An Act Regulating and Restraining the Practice of Midwifery in the City of Rochester, by others than legally Au-

thorized Physicians." If this or a similar law could be enacted to apply to the city of New York, the practice of midwifery, as characterized by Mr. Reynolds' report, and the abuses arising from the same would cease to exist.

GEORGE B. FOWLER, M.D.,
Health Commissioner.

THE "WATER-BORNE" THEORY OF MALARIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the editorial in the MEDICAL RECORD for April 3d, discussing the question as to whether malaria is a water-borne disease, you say: "The burden of proof distinctly lies on those who endeavor to show that the commonly accepted theory is incorrect." As it looks to me, the burden of proof is exactly the other way. Is there anything in the form, size, vital properties, or anything else of the plasmodium of malaria that shows that it is capable of living in the air or of being conveyed in the air? Has it ever been detected in any shape or form in the atmosphere? I find one author (Manson) who has discovered that it can be carried by mosquitoes. To this extent, at least, there is proof that it is borne through the air in the bodies of its winged hosts. It is capable of being inoculated from one person to another by direct transference of blood containing the parasite. Further than this, all that is known is that it lives in the soil and water under conditions comprehensively summed up under the term undrained. If water from such sources known to be infected cannot convey it, there is no use in discussing the purely hypothetical question as to its being taken into the body through the medium of air. In other words, if it will not live when taken into the mouth with water, it will not live when taken into the mouth with air. But, further, I think that I have very good clinical proof that those who would escape malaria may do so by using only water that has been boiled. In fact, I have had this experience in my own person, when all my family were suffering from the disease and I was more exposed to night air and the like than any of them.

M. A. VEEDER, M.D.

LYONS, N. Y., April 5, 1897.

X-RAY DERMATITIS.

TO THE EDITOR OF THE MEDICAL RECORD

SIR: I would like to add another to the twenty-two or more recorded cases of superficial burning due to the *x*-ray, showing that it is not alone through prolonged but through short exposures as well, frequently repeated, that these effects are produced. While working in Roentgen photography I have often looked through my own hand as a matter of curiosity, and as usual observed no ill effect. Recently, however, my hand was exposed more frequently—half a dozen times a day perhaps, but only for a few moments on each occasion. The result was that the skin became quite red and tender, with itching and burning pain, simulating almost exactly the effects of a sunburn: and later the pain became deeper seated and aching in character. The redness of the integument soon turned to a darker color, followed by considerable exfoliation.

I am sure that the few cases of burns that have been reported, some certainly of considerable severity, ought not unduly to prejudice against this valuable diagnostic method, but should simply put us on our guard and suggest a greater caution. Close proximity to the tube should be avoided as far as possible. In looking through the fluoroscope, the tendency is to approach the hand to be examined as close as possible to the source of the ray, and in my own case I think the part would have escaped injury had it not been held so many times almost touching the tube. In a recent issue of the *Bulletin of the Johns Hopkins Hospital*, Mr. T. C. Gilchrist, in an article on the *x*-ray and its effects upon osseous structure, reports the first case in which the radiograph has demonstrated a distinct osteoplastic periostitis, due to frequent and long-continued exposure to its influence. In this case, following the first superficial symptoms of burning, came deep-seated aching and throbbing pains, showing the deleterious effects of the ray upon the harder tissues. In my own case, too, the very positive though not very severe aching in the wrist and arm that followed and persisted for several days would seem to indicate that not only was the skin affected, but to a slight degree the deeper-seated structures also.

A. D. ROCKWELL, M.D.

NEW YORK, April 7, 1897.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 17, 1897:

	Cases.	Deaths.
Tuberculosis	149	110
Typhoid fever	6	0
Scarlet fever	228	14
Cerebro-spinal meningitis	2	2
Measles	211	7
Diphtheria	238	20
Laryngeal diphtheria (croup)	10	9
Small-pox	3	0
Chicken-pox	36	0

The Humorous in Medicine.—The practice of medicine is not of its nature humorous, but even in the more or less tragic record of cases, usually completed by post-mortem examination and the handing around of specimens, the comic often finds utterance. The reports of discussions never do justice to this aspect of the meetings. Surgeon X——, for example, relates a particularly brilliant surgical escapade of his own, and insists upon the fact that the success of the operation was all that could be desired, adding, after a pause, that the patient died a few hours later. An instance is related of a man who had been fitted with a glass *à la Mule*, the movements and appearance of which were so perfect that he eked out a precarious existence after his discharge by making six-penny bets that his interlocutor could not guess which was his artificial eye. Medical students are familiar with phenomenal cardiac murmurs which are audible at some distance from the patient, and Charles Dickens has vulgarized the rattling of sonorous foreign bodies within the alimentary canal: but we have just heard of a policeman with paroxysmal tachycardia, who, during the attacks, developed a musical murmur so loud that the patient in the next bed complained of his rest being disturbed. It is hard to beat the following: A girl came to the hospital, complaining of worms, adding, in support of her diagnosis, that one had wriggled out of her nose that very morning. The physician naturally asked what had become of it, when she explained that her terror elicited a scream, and the ascaris availed itself of the opportunity to regain its domicile in the stomach via the open mouth.—*Medical Press*, January.

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Original Articles.

CATHETERISM OF THE URETERS IN THE MALE WITH THE HELP OF THE URETER CYSTOSCOPE—A REPORT OF SEVEN CASES.[1]

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In my paper read before the section on general surgery of the New York Academy of Medicine, on November 11, 1895, entitled: "Catheterism of the Ureters in the Male and in the Female with the Help of Casper's Ureter Cystoscope,"[2] I purposely abstained from adding illustrative cases. The reason was that none of the diagnoses of renal disease in the male established by me with the help of separate collection of the secretion of each kidney, without a cutting operation, had, up to the time of reading and publishing the paper, been verified by operation or further manifestations in the course of the disease.

To speak at this date of the immense value, nay, of the necessity of performing cystoscopy and catheterism of the ureters in trying to clear up an obscure urinary disease, is rather a superfluous undertaking. The importance of the work is generally recognized. Since Kelly's method of viewing the bladder and draining the kidneys in the female has come into more general use; since special cystoscopic instruments, imported from the other side, are not needed to carry out this work, this method of cystoscopy has been more widely employed, and now seems to be resorted to by operators everywhere when treating female patients. If the same method of ballooning the bladder with air, and inspecting its interior through straight tubes introduced through the dilated urethra, could be utilized in the male, the whole matter would be very simple. But this can and will never be the case. The anatomical features of the male urethra, its limits to dilatation, the fact of its being surrounded by the prostate gland in its posterior part, will forever exclude Kelly's method from being used in the male. In very exceptional cases it may be successful. But it can never become a method that deserves recognition and recommendation. In the male it will never compete with Nitze's method. We are therefore justified in the assumption and can state the dictum: Cystoscopy and catheterism of the ureters in the male will forever be best carried out with instruments the principles of which have been laid down by Nitze.

That the problem of draining the kidneys of the male through catheters that are handled in front of the external meatus of the urethra, and introduced into the ureteral opening under the guidance of our eyes—that this problem, I say, has been actually solved is an established fact. Yet it seems there is still a doubt, yes, even a mistrust in the mind of many with reference to the feasibility of the procedure. Only a short time ago a colleague of high standing in the genito-urinary specialty wrote me, stating that he wanted to send a male patient to me in order "to test the efficiency of ureteral catheterization for diagnostic purposes."

Mr. Chairman and gentlemen, there is no longer such a thing as testing the efficiency of this procedure. Let it be generally understood that to-day the ureters of the male can be catheterized and the kidneys drained without a previous cutting operation. But the method has its limitations, as cystoscopy has when carried out with Nitze's instrument. The method will and must be a failure whenever the three cardinal conditions which permit cystoscopy cannot be fulfilled, viz.:

1. If the calibre of the urethra is not sufficiently large to allow the passing of the instrument.
2. If the bladder has not a capacity of at least four or five ounces.
3. If the fluid within the bladder cannot be made and kept transparent.[1]

Now and then these cardinal conditions are fulfilled, and yet the method proves unsuccessful owing to the fact that the mouths of the ureters cannot be found, or that they cannot be approached, or that they are too small to allow the entrance of even the finest of catheters.[2] Sometimes the catheter has well entered the ureter, but it soon becomes plugged by descending blood or pus.

To prove by illustrative cases that catheterism of the ureters is a feasible procedure in the male, and can be carried out even in patients with hypertrophy of the prostate, and that therewith our capabilities of distinctly diagnosing an obscure renal disease in the male are at last also very greatly enhanced, is the object of this paper.

Case I.—F. M——, twenty-eight years of age, married, experienced a sudden, sharp pain, a little above and to the left of the symphysis, about eight months ago. At the same time micturition became very frequent (sometimes every ten minutes), but was not painful; the urine never contained blood. In spite of proper medical treatment the pain remained persistent, so that the patient had to quit work. After a few weeks he was again able to attend to business in comparative comfort. He had almost considered himself cured when, five weeks ago, the former pain returned in the same place as before, and with equal severity. Soon after it also appeared on the opposite side. One month before there had been another obstinate attack of frequent micturition. History with reference to tuberculosis negative. Specific infection eleven years ago; as far as known no secondary symptoms. Urine macroscopically clear; left epididymis slightly painful to the touch and infiltrated; prostate normal.

Examination of bladder urine:[3] Acid; specific gravity, 1.026. Amount of urea, 0.023 in 1 c.c. Chlorides (approximate), 0.01 in 1 c.c. Faintest trace of albumin.

[1] Read before the section on genito-urinary surgery of the New York Academy of Medicine, April 13, 1897.

[2] New York Medical Journal, March 21, 1896.

[1] See for particulars the author "On Cystoscopy," in "A System of Genito-Urinary Diseases, Syphilology, and Dermatology," edited by Prince A. Morrow, vol. i., pp. 455 and 456.

[2] I lately had such a case in the female; see later on.

[3] All examinations of urine in the cases here reported have been made at the laboratory of Dr. Fred. E. Sondern, of New York City.

Microscopic examination:[1] A few cells of blood and pus: fair amount of mucus; few hyaline casts: many cells of the superficial layer of the bladder: few cells of the renal pelvis; marked deposit of phosphate-of-calcium crystals.

Diagnosis, based on the result of the urinary analysis: Slight renal hyperæmia, with slight irritation of the pelvis. Fairly marked vesical irritation with congestion; suspicion of stone.

Question: Does the amount of crystalline deposit descend from one kidney only, or from both? With other words: Is the clinical probable diagnosis of gravel or stone in the left kidney corroborated by actual facts?

October 25, 1895, cystoscopy and catheterism of the ureters with Casper's ureter cystoscope at my office. (This is the first case in which I ever used the instrument.) Cocaine anæsthesia. Bladder normal; a few disseminated spots injected, especially so the trigonum. Mouth of left ureter is first approached; catheter enters at first attempt without difficulty and without pain. It is pushed forward for about one and one-half inches. Then the tiny mandrel is withdrawn. After a few seconds urine begins to flow, drop by drop, first at intervals, then almost continuously; it is slightly turbid. To comfort the patient, the catheter is lifted out of the groove of the instrument with the help of the straight metal mandrel and the cystoscope is withdrawn from the bladder.[2] The kidney drained rather fast: 10 c.c. were collected in a small tube, marked "Left," in twelve minutes (I had ordered the patient to take two cups of coffee for his breakfast, and a few tumblers of water before coming to my office). After this amount had been gathered the catheter was pulled out of the left ureter, the cystoscope introduced for a second time into the bladder, and the manœuvre repeated at the mouth of the right ureter with the same ease and rapidity. The discharge from the right kidney was still more copious. Almost without cessation 11 c.c. flowed off in eight minutes. During this time the cystoscope was left *in situ;* then it was removed with the catheter. Both specimens thus obtained were submitted to Dr. Sondern for analysis. I cite from his report specially interesting points:

Reaction, L. and R., acid. Specific gravity, L., 1.011; R., 1.013 (at 15° C.). Amount of urea in 1 c.c., L., 0.015; R., 0.017. Chlorides (approximate), L., 0.005; R., 0.0075 in 1 c.c. Albumin, L., present: amount according to Esbach's test (approximate), 0.25 per cent. by weight; R., negative.

Microscopic examination: Blood, L., fair amount: R., few cells only.[4] Pus, L., few cells; R., none. Casts, L., few hyaline and epithelial-studded casts: R., none. Bacteria, no tubercle bacilli, no gonococci, on either side. Epithelium, L., many cells of ureter and renal pelvis; R., few cells of ureter and renal pelvis. Crystalline and amorphous deposit, L., considerable uric-acid crystals; R., some uric-acid crystals.

Diagnosis, based upon this examination: R. kidney, parenchyma normal; moderate excess of uric-acid crystals, with possible slight irritation of the renal pelvis. L. kidney, hyperæmia of the parenchyma with catarrh of the renal pelvis, both probably due to the presence of a stone. Bladder, marked vesical irritation and congestion.

As the patient could not leave his work at that time and did not suffer materially, an operation on the left kidney was deemed inadvisable, but proper medical treatment was begun. The man did well for the following three weeks, when he went back to his former home in Germany. I have not heard from him since.

Case II.—M. L. Y——, thirty-four years old, seen by me in consultation with Dr. A. H. Fridenberg, of this city, December 6, 1895. Patient had scarlet fever in his early youth with following kidney trouble, which lasted several years but was ultimately cured. In 1884, gonorrhœa; discharge for several months; no complications. In 1888, urine contained pus and a corresponding amount of albumin; no casts; amount, two quarts per diem; specific gravity, 1.016. In the fall of the same year the patient was suddenly taken sick with a chill and fever, and general malaise. During this time the urine appeared much clearer. With decreasing temperature the turbidity returned. Afterward pus was permanently present, about one-tenth volume. In April, 1890, the patient, then being in the South, again had a severe attack; three consecutive chills with following high temperature; he had to stay in bed for a week; quinine did not relieve his condition. Once he had also moderate transient pain in the left lumbar region. Patient lost in weight. November, 1891, third attack with a temperature of 106° F.; one year later a fourth and last one, much milder in character. After that the patient was much better, but the urine remained turbid. He has seen many physicians in this city and in the South; so far a definite diagnosis could not be made.

Status præsens: Micturates three or four times a day, nights not at all; slight tenesmus. Prostate somewhat enlarged, soft: on massage per rectum, no discharge from urethra. Kidneys not palpable; no pain on pressure in either lumbar region. Urine turbid, acid, odor slightly offensive; amount, 1,520 c.c. in twenty-four hours.

Urinary analysis, December 7, 1895: Specific gravity, 1.017; amount of urea, 30.6 in twenty-four hours; chlorides (approximate), 15.3; trace of albumin.

Microscopic examination: Moderate amount of pus, forming the bulk of the deposit; also a few tubular plugs of the same; some hyaline casts; no tubercle bacilli; no gonococci: numerous cells of the superficial and middle layers of the bladder; few cells from the renal pelvis; rather large amount of oxalate of lime and uric acid

Diagnosis based on urinary examination: Catarrh of the renal pelvis, probably a very moderate pyelitis and the cause of a very moderate renal hyperæmia: moderate chronic cystitis: excessive crystalline deposit, allowing suspicion of renal stone.

December 11, 1897: Cystoscopy and catheterism of the ureters with Casper's instrument, under cocaine, in the presence of Dr. Fridenberg: bladder contains six ounces of sterilized two-per-cent. boric-acid solution. It shows the symptoms of some chronic cystitis. The manœuvre of engaging the catheter in the ureteral mouth is again easy and successful at first attempt; the catheter is introduced about one and one-half inches. Kidneys work rapidly: patient had taken more fluid than usual before coming to my office, according to my orders.

Amount of urine passed: L., 6 c.c. in 19 minutes; R., 10 c.c. in 8 minutes. Color, L., pale; R., light yellow. Odor, L., offensive; R., characteristic. Reaction, L. and R., acid. Specific gravity, L., 1.008 at 15° C.; R., 1.015 at 15° C. Amount of urea: L., 0.009 in 1 c.c.: R., 0.016 in 1 c.c. Chlorides (approximate), L., 0.005 in 1 c.c.: R., 0.01 in 1 c.c. Albumin, L., good trace: R., trace.

Microscopic examination: Blood, L. and R., small amount: pus, L., very small amount: R., none. Mu-

[1] The sediment of the specimens was in each case obtained by centrifuging the urine for eight minutes at twenty-five hundred revolutions.

[2] For particulars see author, *Am. Medical Journal.*

[3] L., left; R., right.

[4] The few cells of blood, or the small or fair amount of the same (nearly all the specimens of renal urine collected through the ureter catheter, are due to the slight mechanical lesion of the tender ureteral mucous membrane by the instrument. For this reason I lately have not saved the first ten or twelve drops which escape through the catheter. They often appeared brown, or even red. We may assume that blood which appears later on, especially in a larger quantity descends from the kidney

cus, L., small amount; R., none. Casts, L., some hyaline and epithelial-studded casts; R., none. Bacteria, L., no tubercle bacilli, no gonococci; many pyogenic cocci; R., none. Epithelium, L., some cells from ureter, numerous from renal pelvis; R., some cells from ureter only. Crystalline and amorphous deposits, L., some uric acid and oxalate of lime; R., none.

Extract from remarks made by Dr. Sondern: "Left kidney: The lower specific gravity and diminished amount of urea and chlorides excreted, with a little more albumin than the blood present would account for; the presence of hyaline and epithelial-studded casts, a little pus and mucus, and epithelial cells from the renal pelvis, with an offensive odor, would indicate a very slight pyelitis with fermentation in the pelvis, and some nephritis, chronic in character. The affection of the parenchyma seems out of proportion to the slight inflammatory lesion of the pelvis.

"Right kidney: The relatively normal excretion of urea and chlorides, no more albumin than the blood present would account for, and the absence of renal elements on microscopic examination, would exclude any renal lesion. The presence of the small amount of blood and epithelial cells of the ureter is due to the introduction of the catheter."

Diagnosis, based on the urinary examination: Left kidney, some chronic nephritis with very slight pyelitis. Etiology, probably stone. Right kidney, normal.

The result of this examination speaks for itself. After seven years of existence, an obscure urinary trouble, with an almost entire absence of clinical symptoms for the last three years, is clearly diagnosed beyond doubt and dispute.

So far the patient has not submitted to an operation, as his subjective condition is rather good. I shall not fail to report at a future time whether this strictly laboratory diagnosis has been corroborated by direct inspection.

Case III.—B. B——, fifty years old, seen by me in consultation with Dr. Fred. E. Sondern. Previous history negative. In October, 1894, he had a very acute attack of pain in the region of the right kidney, radiating into the right testicle and the penis; tenesmus and frequent desire to urinate; nausea and vomiting. Duration three hours.

Analysis of urine (first passed after attack): Acid: 1.025; some albumin, but not more than the blood present accounts for.

Microscopic examination: Small amount of blood, some groups of epithelial cells, from the renal pelvis presumably; large quantity of uric acid in crystals. Also amorphous urates, some bladder cells. No stone was passed.

During the following two months the patient had several attacks of right renal colic; pain was usually greatest at a point midway between the umbilicus and the anterior superior spine, radiating from there into the penis and scrotum. Duration varied from one-half an hour to four hours. In the early part of 1895 there were frequent, at times daily attacks of pain more or less severe, radiating downward from the point above stated.

March 15th, a very severe colic, lasting three hours. Urine: 1.015, albumin, considerable blood, some hyaline casts, no crystalline deposit. From the end of April to October no symptoms referred to the genito-urinary tract. Then again there was constant pain in the region previously mentioned. Urine, 1.020; chemically and microscopically negative. For the following month the patient was under the care of a neurologist, at the suggestion of a surgeon whom the patient had consulted. Both gentlemen looking upon the condition as a neurosis, the previously ordered and strictly followed medication and diet were discarded.

December 14, 1895: Severe renal colic on right side; duration four hours. Urine, 1.029, albumin and considerable blood, some hyaline casts, epithelial cells of the renal pelvis and bladder, large quantity of uric-acid crystals and amorphous urates. Subsequently much pain and burning referred to the glans penis for some days. Several days after the last attack a small particle which consisted of mucus was found in the urine, in which there were also some blood and pus, numerous epithelial shreds, presumably from the renal pelvis, numerous hyaline casts, and crystals of uric acid.

First few days of 1896, colics almost daily. January 4, 1896, patient came with Dr. Sondern to my office for ureter catheterism. Cocaine anæsthesia; six ounces of a sterile two-per-cent. boric-acid solution were injected into the bladder. Cystoscopy showed marked uniform hypertrophy of the prostate; mouths of ureters easily approached. The right side, being the one presumably diseased, was catheterized first. Eight cubic centimetres were collected within twenty minutes, during which time the cystoscope had been left *in situ*. Then the ureter catheter, which had been pushed up for about two inches, was removed from the right side, and a new one introduced through the channel of the instrument, which had been left in place, into the bladder. After having entered the left ureter, I wanted to save the patient the little annoyance of the further presence of the cystocope, and, contrary to my rule, which is to leave the tip of the catheter within the lower three inches of the ureter, I pushed the catheter quickly up toward the kidney for about twenty centimetres, in order to be sure that it would not slip out of the ureter back into the bladder when pulling out the cystoscope. I then liberated the catheter and removed the cystoscope. Now I pulled out the mandrel. No urine escaped. I pulled and pushed the catheter, and aspirated with a powerful syringe; no urine. I pulled the eye of the catheter down into the lower third of the ureter, aspirated, and waited; no urine. I then injected a few drops of a sterilized saline solution in order to clean the tiny lumen of the catheter, thinking it might have become clogged; as I had expected, a vehement renal colic was the result; but not one drop of urine appeared. I had to remove the catheter entirely, and then learned to my disgust that the tip of the latter had bent a little at the eye, and that within it a small shred of coagulated blood had been caught. In spite of a perfectly successful catheterism of both ureters, the whole procedure was thus, in part at least, a failure. I had the urine of the right kidney only (the probably diseased one), and none from the left for comparison. The patient's condition did not admit of my again introducing the cystoscope to catheterize the left ureter for the second time. I regret to-day that I did not at once withdraw the tip of the catheter from the ureter back into the bladder, wash it through with the syringe attached to the outer funnel-shaped end, and then reintroduce it into the ureter. With my present experience I should certainly have done so. Of course, for this purpose I should not have removed the cystoscope from the urethra and bladder. It is certainly of great importance not to withdraw this instrument until the urine has begun to drain through the catheter. With the cystoscope still within the bladder, one generally has no difficulty in pulling the catheter back into the vesical viscus, cleaning it there, and then reintroducing it into the ureteral mouth.[1]

[1] On January 4, 1897, when catheterizing the ureters of a lady who evidently had a pyonephrosis, I pulled the catheter out of the ureter three times and then washed it through, its tip being within the bladder. When I had catheterized the ureter for the fourth time urine at last began to flow. I could collect fifteen cubic centimetres in ten minutes. Examination was in every way successful.

Analysis of urine from right kidney: Acid; 1.020; albumin, trace; amount of urea, 0.02 in 1 c.c.

Microscopic examination: Some blood, probably due to the introduction of the catheter; few pus cells, an excess of mucus, numerous groups of epithelial cells from the renal pelvis; exceedingly large amount of uric acid in small crystals and also large aggregations, apparently broken.

After the catheterism of the ureters the patient claimed to be much better. Besides being put on large quantities of water and a general régime, he was given urotropine, fifteen grains three times a day. In a subsequent consultation held with two colleagues, it was, therefore, decided to keep the patient under observation and medical treatment. So far, he has been free from further attacks of renal colic.

Case IV.—J. S——, twenty-eight years, of Rochester, came under my care through the courtesy of Dr. S. L. Elsner, of that city, January 31, 1896.

Four years ago patient noticed blood in the urine and experienced great pain in his left lumbar region; had to stay in bed for three days. Hæmaturia ceased after a few weeks; pain, however, has persisted ever since; is much worse since the last six weeks. Urinates at times three and four times a day; now and then very frequently, every hour or even half-hour. He then has pain in the glans and at the neck of the bladder. Bladder large, holds easily three pints of fluid. History of tuberculosis and gonorrhœa negative. Chancre twelve years ago, but no secondary or tertiary symptoms.

Objective examination negative. Urinary analysis, February 3d: Acid; specific gravity, 1.024; marked deposit; amount of urea, 0.026 in 1 c.c.; chlorides (approximate), 0.01 in 1 c.c.; trace of albumin.

Microscopic examination: Moderate amount of blood; very moderate amount of pus, few tubular plugs of the same; moderate amount of mucus; few hyaline casts; no tubercle bacilli, no gonococci; numerous cells of the superficial layer of the bladder; some of the renal pelvis; exceedingly large amount of uric acid and oxalate of calcium, forming the greater bulk of a considerable deposit.

Extract from remarks made by Dr. Sondern, accompanying the report: "The exceedingly heavy deposit of oxalate of calcium and uric acid are most worthy of note, allowing the strong suspicion of renal stone. I believe the amount of gravel found in the bottom of each of the two bottles sent, if continually excreted, would alone be sufficient to cause the lesions above stated, and would account for the blood present."

Diagnosis based on urinary analysis: Very moderate pyelitis with but slight secondary affection of the renal parenchyma; strong suspicion of renal stone; moderate secondary chronic cystitis.

February 7th, cystoscopy: Symptoms of moderate chronic cystitis; no calculus; no ulcer; mouths of ureters injected, projecting considerably into the bladder on either side.

February 12th, catheterism of ureters (Casper's instrument), 650 c.c. of fluid in bladder. Manipulation not so easy as in the previous cases, in which 150 to 200 c.c. of boric-acid solution had been injected. Discharge through ureter catheter as noted during the examination:[1] L. kidney drains 12–13 drops every 20–34 seconds—in all, 10 c.c. in 9 minutes; R., 16–32 drops every 3–5 seconds—in all 12 c.c. in 5 minutes.

Analysis: Odor, R., characteristic, not offensive; L., possibly slightly offensive. Reaction, R. and L., acid. Specific gravity, R. and L., 1.004 at 19° C. Amount of urea, R., 0.009 in 1 c.c.; L., 0.008 in 1 c.c. Chlorides (approximate), R. and L., 0.0025 in 1 c.c. Albumin, R., negative; L., trace.

[1] Patient had taken much fluid before coming for the examination.

Microscopic examination: Blood, R., few cells only; L., small amount. Pus, R., none; L., very small amount. Mucus, R., none. L., small amount. Casts, R., none; L., few hyaline casts only. Bacteria, R. and L., no tubercle bacilli. Epithelium, R., some cells of ureter only; L., some cells of the ureter and some of the renal pelvis. Crystalline and amorphous deposit, R., very few uric-acid crystals; L., considerable uric-acid crystals.

Extract from remarks made by Dr. Sondern: "Right kidney: As the specimen shows no albumin, an absence of renal elements microscopically, and the very few blood cells or epithelial cells of the ureter being accounted for by the introduction of the catheter, a renal lesion on that side can be excluded.

"Left kidney: There is a slight diminution in the relative excretion of urea, more so when one considers the diminution in the amount of urine voided in a given time, a trace of albumin and few hyaline casts, the whole indicating a moderate chronic nephritis; together with few pus cells, few epithelial cells of the renal pelvis, some mucus, a possibly faintly offensive odor, but no tubular plugs of pus, which would indicate a catarrh of the renal pelvis. There is beyond doubt a much larger quantity of uric acid voided by the left kidney than by the right; the whole amount does not, however, nearly approach that found in the specimen of February 3, 1896. This may be accounted for by the dilution of the urine by ingestion of water prior to examination, as the specific gravity of the above is 1.004, compared with 1.024 of the previous examination. There must, however, remain the suspicion of uric-acid stone in the left kidney. It is also possible that such a condition as above described might be caused by a long-continued passage of large amounts of uric-acid gravel."

Provided all urine was collected from each kidney in the time specified, the proportion of work done would be as follows: Right kidney, seventy per cent.; left kidney, thirty per cent.

Diagnosis, based on urinary analysis: Right kidney normal; left kidney, very moderate chronic nephritis with catarrh of the renal pelvis; suspicion of renal stone, or possibly only gravel.

In view of this result, I advised the patient not to undergo an operation right away, but, in spite of having been under medical care for a number of years, to once more try a strict régime for lithæmia. This was faithfully done at the patient's home, under Dr. Elsner's supervision. Six weeks later the patient came back to New York, ready to submit to whatever operation might be found necessary. Internal medication and dieting had not relieved his suffering. On the first of June, at the German Hospital, I cut down on the patient's left kidney by the longitudinal incision; the pelvis and upper portion of the ureter were easily exposed. There was no palpable concretion. Then the kidney was bluntly freed from its surroundings (a manœuvre which proved somewhat tedious on account of manifold adhesions, especially to the lower surface of the diaphragm) and pulled in front of the twelfth rib. The organ was large and hyperæmic, more curved around the hilus than is usually seen, as if enclosed by too tight a capsula propria. Careful palpation of the pelvis and parenchyma, also multiple needling, did not prove the presence of a concretion.

Having in mind the negative operative result of Case VI. (May 15th), I did not make the section-cut of the kidney, but opened the rather small pelvis and probed upward into all the renal calyces, and down toward the bladder. There was no stone. The wound of the pelvis was at once closed by a few catgut sutures which avoided the mucosa. Suspecting that the rather tight capsule might possibly play a rôle as an etiological factor in the clinical symptoms, I

split it at its convexity, stripped it off the kidney anteriorly and posteriorly, and resected it down to the pelvis. Then the kidney was replaced, the subdiaphragmatic space drained by a gauze strip (for forty-eight hours), and the rest of the wound closed by sutures. The patient made a good recovery. During the first few days his urine was bloody, but it soon cleared up. An irregular temperature which suddenly appeared on the twelfth day after operation was broken by quinine. A report received from Dr. Elsner in reply to my inquiry of April 10th states: "The patient has gained ten pounds; he looks well, but claims to have considerable pain in the left side of the epigastrium, and in the back in the region of the fixed kidney. This pain is more marked upon change of posture, and on deep inspiration. He admits being better for the operation. His urine still contains a little pus and débris, and becomes alkaline almost immediately after voiding."

The case strikingly demonstrates, as does also Case VI., that crystalline deposits found in the urine may be unequally produced in the kidneys. That renal concretions and gravel are often found unilaterally cannot be explained in the same way. We know that the nucleus of a calculus of the kidney, even one of smallest size, has an organic structure as its basis. With it the uric-acid salts are very strongly united. Around this centre the salts dissolved in the urine rapidly deposit, making the stone. It is different with the uric-acid crystals, which are contained free within the urine.

Of course, the conclusion drawn from this irregular discharge of crystalline deposit in the renal urine found by catheterism of the ureters is open to the objection that the suspected renal stone, although not found during the operation, may nevertheless have been present somewhere in the organ.

Case V.—M. P——, forty-four years old, sent to me through the kindness of the late Dr. Charles Milne, of New York, on November 15, 1895. Had gonorrhœa twice at the age of nineteen and twenty-three respectively. Ten years ago he sustained an injury to the perineum followed by swelling and abscess formation in the right testicle. During the last year there has been slowly increasing frequency of micturition, polyuria. March, 1895, painless hæmaturia, twice on same day in succession: blood thoroughly mixed with urine; no tenesmus. After that urine clear. The following night, sudden call for micturition; passing impossible; then a discharge of a larger amount of pure blood, once only. Two weeks later another single marked attack of hæmaturia beginning with right lumbar pain. In May a small quantity of blood passed for the third time; between that time and November, two more slight attacks.

Status præsens: Micturates four or five times a day; at night once or twice, without tenesmus. Now and then there is pain in the glans. Occasionally he finds small pieces of coagulated blood in the chamber; the last drops are never colored. Of late he has frequently had colicky pain in the region of the right kidney, radiating down to the right testicle; he has lost twenty pounds during the last six months. One brother died in Florida of phthisis (?); otherwise history negative. No specific infection. Palpation of kidneys negative; prostate slightly enlarged, painful to the touch.

Urinary analysis: Amount of urine passed in twenty-four hours, 1,920 c.c.; reaction acid; specific gravity, 1.015; marked deposit. Amount of urea in twenty-four hours, 26.88. Chlorides (approximate), 9.6 in twenty-four hours. Albumin present, 0.1 per cent. by weight.

Microscopic examination: No blood; considerable pus, also tubular plugs; considerable mucus; few hyaline and epithelial-studded casts; no tubercle bacilli, no gonococci; many cells of the superficial and middle layers of the bladder and of the renal pelvis; some indican.

Abstract of remarks made by Dr. Sondern: "The presence of the albumin, hyaline and epithelial-studded casts, with a practically normal excretion of urea, pus and tubular plugs of the same, and many epithelial cells of the renal pelvis, would indicate a pyelonephritis, the affection of the parenchyma being but moderately marked. The normal excretion of urea is surprising, and would most probably indicate that only one kidney is affected. The large number of bladder cells of the superficial and middle layers, much mucus, pus, etc., would indicate a rather severe chronic cystitis with probably small ulcerating areas. As to the etiology, repeated search failed to show any tubercle bacilli or gonococci, and there are no evidences of stone. The specimen gives no clew as to which lesion, that of the kidney or that of the bladder, is the original and which the secondary."

Diagnosis, based on urinary examination: Chronic pyelo-nephritis (the affection of the parenchyma being but moderately marked); normal excretion of urea, indicating probably that but one kidney is affected. Rather severe chronic cystitis with probably small ulcerating areas. Etiology obscure.

November 21, cystoscopy: Prostate enlarged, easily bleeding; chronic cystitis; left ureteral mouth normal, presents a narrow slit, expels apparently transparent urine; above and inward of the same, toward the fundus, is an irregularly shaped small ulceration. Right ureteral opening wide, gaping, highly injected; its immediate surroundings markedly hyperæmic; jets of urine here purulent.

On the ground of this cystoscopic result I asked Dr. Sondern to search once more for tubercle bacilli. I had found in my experience with the cystoscope that one mouth of ureter healthy, the other and its immediate neighborhood inflamed or ulcerated, generally means: "Descending (unilateral) renal tuberculosis." The search for tubercle bacilli was taken up carefully, but with negative result. The report of November 27th reads: "In a sediment obtained by centrifuge and composed of elements as previously reported, I could not find any tubercle bacilli after repeated search over specimens prepared and stained by different methods." That of December 5th states: "In many specimens, composed of elements the same as previously reported and stained by various methods, I am still unable to find any tubercle bacilli."

The patient, dissatisfied at not getting a definite answer at once, then left my observation, and I lost track of him for a time, he having declined catheterism of the ureters. On February 21, 1896, he returned to my office, ready to submit to any further examination necessary definitely to diagnose the lesion. He had had a great deal of renal pain of late and was very despondent. The question to be decided was: Provided the trouble is tuberculosis of the right kidney, is its fellow also involved, and, if so, how far?

February 21, 1896, catheterism of the ureters (Casper's instrument) under cocaine: four and one-half ounces in bladder; manipulation easy. Amount of urine passed, L., 12 c.c. in 5 minutes, 150 drops without interruption; R., 10 c.c., in 9 minutes, 36–41 drops in one stretch; interval, 3 minutes.

Analysis: Reaction, L., faintly acid; R., alkaline. Specific gravity, L., 1.007 at 16° C.; R., 1.003 at 16° C. Deposit, L., slight; R., more marked. Amount of urea, L., 0.01 in 1 c.c.; R., 0.005 in 1 c.c. Chlorides (approximate), L., 0.005 in 1 c.c.; R., 0.0025 in 1 c.c. Albumin: L., faint trace, fully accounted for by the small amount of blood present; R., present, 0.5 per cent. by weight.

Microscopic examination: Blood, L., small amount; R., very small amount. Pus, L., none; R., considerable, forming bulk of deposit; also tubular plugs of same. Mucus, L., none; R., small amount. Casts, L., none; R., some hyaline and few granular casts; also pus casts as above. Bacteria, L., no tubercle bacilli; R., few single bacilli, presumably tubercle, no gonococci. Epithelium, L., some groups of cells from the ureter only; R., some cells from the ureter; numerous groups from the renal pelvis. Crystalline and amorphous deposit, L. and R., very few crystals of uric acid.

Abstract of remarks: "Left kidney: The specimen derived from the left kidney by the ureter catheter shows absolutely nothing abnormal, either chemically or microscopically. The presence of a little blood and the epithelial cells of the ureter being accounted for by the introduction of the instrument; the little albumin is fully accounted for by the blood.

"Right kidney: The excretion of less urea and chlorides than from the left kidney, the presence of albumin and hyaline and few granular casts, together with considerable pus, tubular plugs of the same, and epithelial cells of the renal pelvis, would indicate a rather marked chronic pyelo-nephritis. The small amount of blood, a little less than on the other side, and the epithelial cells of the ureter are probably due to the introduction of the instrument.

"As to the etiology: A few single bacilli were found, generally only one or two on each specimen made, which I take to be tubercle bacilli. I am always very sceptical in pronouncing a result on any single organism, but the fact that there were several, considering all the slides gone over, I do not hesitate to state that the process is presumably tuberculous. Much time was spent without avail in the endeavor to find the characteristic groups. The proportion of work done by each kidney, as estimated by the excretion of urea in a given time, provided all urine from each kidney was collected during the time stated, is as follows: Right kidney, twenty per cent.; left kidney, eighty per cent."

Diagnosis: Left kidney normal, no tubercle bacilli; right kidney, a fairly marked chronic pyelo-nephritis, presumably tuberculous.

In view of these facts, the condition was explained to the patient and his family, and an operation on the right kidney, nephrectomy if necessary, advised, and that as soon as possible. As far as I know, the operation has not yet been performed.

Case VI.—George McL——, M.D., forty-four years old, first seen by me on February 27, 1896. In 1887, when riding horseback, the patient sustained an injury to the left testicle, which was followed by traumatic epididymitis. In 1893, when in London, he had left renal colic, lasting four days and a half; hæmaturia; left testicle again became inflamed; extirpation. In the fall of 1894, after an extensive trip on a train, again pain; two days later, passage of a uric-acid stone, about one-half inch long and one-sixth inch thick; he felt much better afterward. Six months ago, moderate pain in region of left ureter; no more marked attack since then; almost constant, heavy, dull ache in left lumbar region. For the last two years the patient is also conscious of a slight pain over the right kidney. At present, the patient does laboratory work in New York; he has found in his urine casts and a large quantity of uric acid with some pus; he has always taken a great deal of albuminoids, about two-thirds of his nourishment consisting of meat.

Status præsens: Stout, short man; nothing palpable in region of kidneys; prostate normal; patient worries a great deal over his trouble, which has lately prevented him from attending to his practice. With a view of determining which kidney most probably contained the suspected stone, I advised catheterism of the ureters. At that time the patient had to go home; he returned early in May, very despondent on account of the continuous, unabated trouble.

Urinary analysis, May 4th, revealed the following status: Amount of urine passed in twenty-four hours, 1260 c.c. Reaction, acid. Specific gravity, 1.025 at 15° C. Amount of urea in twenty-four hours, 35.28 grams; chlorides (approximate), 12.6 grams. Phosphates (approximate), some excess. Albumin, trace.

Microscopic examination: No blood. Very moderate amount of pus, also few tubular plugs of the same; small amount of mucus; some hyaline casts; no tubercle bacilli, no gonococci; some groups of cells from the renal pelvis, also numerous cells of the superficial layer of the bladder; very little uric acid.

Diagnosis based on this examination: Slight pyelitis with a moderate secondary renal hyperæmia; moderate secondary cystitis. Etiology, possibly renal stone.

Catheterism of ureters with Casper's instrument, May 6, 1896, under cocaine; procedure easy.

Amount of urine passed by right kidney 19 c.c. in 10 minutes; by left kidney, 15 c.c. in 10 minutes. (Patient had taken a great deal of fluid before examination as per my orders.) Reaction, R. and L., acid. Specific gravity, R., 1.003; L., 1.004, at 15° C., Westphal's balance. Amount of urea, R., 0.006 in 1 c.c.; L., 0.007 in 1 c.c. Chlorides (approximate), 0.0025 in 1 c.c. from either side. Albumin, R., trace; L., negative.

Microscopic examination: Blood, R., small amount; L., none. Pus, R., moderate amount, and few tubular plugs of same; L., none. Mucus, R., small amount; L., none. Casts, R., few hyaline casts only; L., none. Bacteria, no tubercle bacilli, no gonococci on either side. Epithelium, R., numerous cells from the ureter; also some groups from the renal pelvis; L., some cells from the ureter only. Crystalline and amorphous deposit, R., small amount of uric acid; L., none.

Extract from remarks: "Specimen obtained from the left kidney: The absence of albumin and all renal elements, no pus, etc., would allow the conclusion that this kidney and its pelvis are normal. There is no blood in this specimen, and the epithelial cells of the ureter are the result of the introduction of the catheter. It may be of interest to note that there is no crystalline deposit from this kidney.

"Specimen obtained from the right kidney: The small amount of albumin, some pus, and a few tubular plugs of the same, little mucus, few hyaline casts, and some groups of epithelial cells from the renal pelvis, together with a polyuria, and at the same time normal relative excretion of urea and chlorides, would indicate a moderate pyelitis, with but slight secondary hyperæmia of the parenchyma.

"As to the etiology, the fact that there is some uric acid in the deposit obtained from the right kidney and no crystalline deposit from the left kidney would allow a strong suspicion that the lesions above mentioned are the result of uric-acid stone or gravel."

Diagnosis, based on analysis of separately collected urine: Left kidney, normal; right kidney, moderate pyelitis, with but slight secondary hpyeræmia of the parenchyma. Etiology, justified suspicion of uric-acid stone or gravel.

With such a vague diagnosis in hand, I was naturally opposed to an operation. But the patient wanted relief at all hazards; he was very much depressed, even thought and spoke of committing suicide. He pressed for operation and asked me to perform the same. I yielded, because I thought an operation might, perhaps, reveal the presence of a calculus, if not in the pelvis then in the parenchyma; and under aseptic precautions the interference is, furthermore, void of danger.

Before proceeding I had to promise the doctor to

exhaust all the means at my disposal to find the suspected concretion in his kidney. For the same purpose he, personally, had made arrangements with Dr. William James Morton, professor of Electro-therapeutics at the Post-Graduate School, to take an *x*-ray picture of his kidney when exposed, and I had to bind myself to make the section cut of the kidney, if the *x*-rays, palpation, and needling should fail to reveal the presence of a stone. On May 15th, I exposed the right kidney by Simon's incision at the Post-Graduate Hospital. A palpable concretion could not be detected. To bring the kidney in front of the twelfth rib, a transverse incision, parallel to this rib, had to be added. There were some quite firm adhesions between the kidney and its fat capsule: they were bluntly divided. The organ when before us for inspection and palpation appeared normal throughout; there was no palpable resistance anywhere within its pelvis nor in the parenchyma, that pointed to the presence of a calculus.

According to his promise, Dr. Morton now proceeded to take the radiograph. For this purpose the kidney was surrounded by a compress of sterile gauze and the sensitive plate wrapped in two sterile towels. Then the assistant took the plate and pushed its border into the transverse wound, while I, gently fixating the kidney with the second and third fingers of both hands a little below its pelvis, tried to steady the organ as much as possible. By taking special care to keep the patient well narcotized, an exposure of nine minutes to the rays sufficed, and Dr. Morton, within ten further minutes, developed a very good negative of the kidney. It presented very beautifully the entire kidney except its pelvis (which had been shadowed by one border of the wound) in the shape of a uniformly white area. Comparing this negative with others, which Dr. Morton had taken with the *x*-rays from cadaver-kidneys containing larger and smaller calculi, it seemed evident that a stone of even moderate size was not present in the parenchyma. But our experience with the *x*-rays in this respect is of rather recent date and limited. Furthermore, I had faithfully promised to proceed in my search. After an intermission of twenty minutes, I therefore continued the operation, rather unwillingly. Following my directions, the house surgeon, Dr. Chas. L. Ogden, now took hold of the organ's pedicle. He compressed the renal artery and vein between the pulpæ of the second and third fingers of both hands, while I with two rapid incisions divided the organ from its convexity down into the pelvis, thus splitting it into two equal halves (section cut). The doctor did his part of the work so thoroughly and cleverly that the operation was almost bloodless, and we had a full view of the pelvis and pyramids, and could probe the calyces in all directions. There was no stone. The doctor continued his compression a few moments longer, until four deep catgut sutures and five more superficial ones, all traversing the parenchyma, had brought into apposition the two halves of the kidney. Now the assistant's fingers were removed from the renal vessels. The slight hemorrhage from the stitch channels and from the wound at the convexity was easily controlled by a short compression. The kidney was replaced, the wound partially drained by gauze, partially closed by sutures.[1]

The doctor's recovery was uninterrupted. Of course, at first the feeling that the stone had not been found created some worry and more mental depression. However, the absence of pain during his stay at the hospital, and the rapidly closing wound cheered him up and made him forget that he had in vain gone through all the phases of this complicated operation. On July 6th he left the city, with the wound almost closed. He emptied his bladder every two or three hours: the urine showed slight turbidity. The latter was due to some muco-pus, which evidently still came down from the right kidney. As the doctor advised me by letter, under date of November 3, 1896, this discharge was still present, intermittently; the former pain had very much improved. There was evidently an exacerbation of that moderate right pyelitis which I had found by ureter catheterism before the operation. During the winter months the patient was in southern California. About his present condition I cannot state anything, as I have not yet received an answer to my letter of inquiry, sent a few weeks ago. Excluding, for a moment, the possibility that a stone within the parenchyma of the right kidney had not been found during the rather thorough operation of May 15th, this case seems to teach, as also does Case IV., that a microscopically crystalline deposit in the urine can descend from one kidney alone, and thus enter the bladder urine. This finding struck me as probably something new. Being unable to find in the current literature any remarks bearing upon it, I asked Dr. Howard A. Kelly, of Baltimore, regarding his experience in this respect. On April 15th, I received his answer, from which I extract, with the doctor's kind permission:

"Baltimore, April 13, 1897.

"Dear Dr. Meyer: . . . I have never observed uric acid on one side and none on the other, or any difference in this respect between the two sides. Your finding is certainly an interesting and important one. I will try to verify it on some of my patients.

"Sincerely yours,

"Howard A. Kelly."

Hitherto we have generally believed that the increased amount of uric acid (not gravel) in the urine is excreted by both kidneys.

Case VII.—W. D——, sixty-two years of age, seen by me in consultation with Dr. L. Stieglitz, of New York City. Eight years ago, biliary colic; stone found in stool. Four years later, very sharp pain in left side, lasting four to five hours, and extending down to bladder and left testicle; slight fever: no stone passed. Then well for three years. November, 1894, persistent dull ache in right lumbar region. Examination by competent physicians proved negative. In the summer of 1895 extremely severe pain in same spot: slight fever; remained in bed for one week. November, same year, similar attack. Urine shows large amount of uric acid, but is otherwise negative. Within the last month and a half patient has had fully six attacks of colicky pain in the region of the right kidney, disappearing in from two to eight hours. Pulse never over 80; temperature 100° to 101° F. Within the last week more or less pyuria; urine is more turbid after the renal colic; no gravel. History with reference to tuberculosis and specific disease negative. Mother's parents may have died of phthisis; one child has Pott's disease.

Status præsens: Urinates every hour or two, nights once, never less than eight ounces. Prostate hypertrophied. Lumbar regions not painful on pressure; kidneys not palpable.

Urinary analysis, May 7, 1896: Amount, 1860 c.c. in twenty-four hours. Reaction acid. Specific gravity, 1.009 at 15° C. Amount of urea, 27.9 grams in twenty-four hours. Chlorides (approximate), 9.3 in twenty-four hours. Phosphates (approximate), slight excess. Albumin, good trace.

Microscopic examination: Very small amount of blood: fair amount of pus, forming bulk of deposit; also tubular plugs of same: small amount of mucus, moderate number of hyaline casts: no tubercle bacilli, no gonococci; some cells from the superficial layer

[1] In October, 1895, I had also done the section cut of the kidney in a man of twenty-nine years. The patient recovered.

of the bladder, also some groups from the renal pelvis. Considerable amount of uric acid.

Diagnosis based on urinary examination: Moderate pyelitis, with but moderate renal hyperæmia. Slight secondary cystitis. Etiology, probably uric-acid stone or gravel.

In view of the clinical history, one had to diagnose right suppurative pyelitis, most probably due to a stone. To find out the health or disease of the left kidney as a preliminary to a probable operation to be done on the right, Dr. Stieglitz brought his patient to me for catheterism of the ureters. This was done three days later, on May 10th, at my office, as usual under cocaine anæsthesia. In spite of the hypertrophied prostate, the ureteral mouths were easily entered.

Amount of urine passed: Right kidney, 4.5 c.c. in 7 minutes. The catheter became clogged after seven minutes; attempts (lasting one-half hour) with catheter *in situ* were made to remove the obstructing plugs, but without success. After removal of the catheter the plugs were found within its eye and farther down in the lumen of the same. They were pressed out with some sterile water, and added to the amount collected. To facilitate examination, the specimen obtained from the right kidney was diluted by Dr. Sondern with an equal amount of distilled water. Left kidney, 15 c.c. in 15 minutes.

Reaction acid on both sides. Specific gravity, R., 1.002; L., 1.012 at 15° C., Westphal's balance. Amount of urea, R., 0.004 in 1 c.c.; L., 0.018 in 1 c.c. Chlorides (approximate), R., 0.0025 in 1 c.c.; L., 0.0075 in 1 c.c. Albumin, R., present, one-quarter per cent. per mille by weight; L., slight trace.

Microscopic examination: Blood, R., very small amount; L., small amount. Pus, R., fairly marked, some necrotic in character, also tubular plugs; L., none. Mucus, R., fairly marked; L., none. Casts, R., numerous hyaline and few granular casts; L., none. Bacteria, R., no tubercle bacilli, no gonococci, many pyogenic organisms; L. none. Epithelium, R., many cells from the ureter and groups from the renal pelvis; L., numerous cells from the ureter. Crystalline and amorphous deposit, R., considerable uric acid and its salts; L., none.

Remarks based on this examination: "Specimen from the left kidney: The small amount of albumin present being accounted for by the blood, a relatively good excretion of urea and chlorides, and the absence of all renal elements, allow the conclusion that this kidney is normal. The blood and epithelial cells of the ureter are, as proved by former experience, probably due to the introduction of the catheter. I may note that there is no crystalline deposit from this kidney.

"Specimen from the right kidney: The very low specific gravity as compared with that of the other specimen, a marked diminution in the excretion of urea and chlorides, with the presence of albumin, numerous hyaline and few granular casts, pus, much of which is necrotic in character, tubular plugs of pus, considerable mucus, and many groups of epithelial cells from the renal pelvis, would indicate a pyelonephritis, with, I think, an abscess cavity somewhere. The plugs which occluded the ureter catheter, as before described, tend to substantiate the above. (They consisted of pus, tubular plugs of the same, few hyaline and granular casts, all of which were embedded in mucus.) The small amount of blood and epithelial cells of the ureter is probably due to the catheterization.

"As to the etiology: The presence of a considerable deposit of uric acid and its salts, and considering the fact that there was no crystalline deposit from the other kidney, would allow the strongest suspicion that uric-acid renal stone or gravel constitutes the etiological factor."

Diagnosis based on this analysis: Left kidney normal; right kidney, rather marked pyelo-nephritis, with probably an abscess cavity. Etiology, probably uric stone or gravel.

In view of the continuous presence of some rise of temperature, and also of the fact that Mr. D—— intended soon to leave for his country residence in the northern part of the State, we proposed, after having carefully weighed the pros and cons as to the safest way, to have nephrotomy done on the right side in order to find and remove the stone. Before giving his consent, the patient decided to ask a number of prominent physicians and surgeons to give their opinion, submitting to them the analysis of the separately collected renal urine. The greater number of these gentlemen favored temporizing, especially as not long after the examination made by myself the fever disappeared. In the latter part of May, Mr. D—— left for his country home in charge of a trained nurse. Our agreement was that if the carefully outlined general treatment and the internal medication should not improve his condition, especially if the temperature should again rise and remain high, he should return to the city at once, ready for surgical interference.

Early in July, after a few days with marked vesical irritation, he passed an irregular stone per urethram, which, upon analysis, proved to consist entirely of uric acid. Soon after that the urine began to clear up. In August it was absolutely transparent, and the patient was in a splendid condition. He has remained well since that time.

This case nicely illustrates that the treatment of nephrolithiasis belongs to the domain both of internal medicine and surgery. Mr. D—— was lucky that in continually flushing his kidneys with a large volume of water, according to our orders, the stone entered the uterer with its longitudinal axis parallel to that of the ureter, and also that it was not too large to travel down. Had this not happened, an operation would have had to be done sooner or later. For such an operation it certainly would have been a very welcome assurance to the surgeon to know that the opposite kidney was healthy.

In perusing the history of these seven cases, Mr. Chairman and gentlemen, it may seem rather queer that my last case of this kind should date May 8, 1896. But as I have stated in my previous paper (*loc. cit.*) and would like to emphasize here once more, I have catheterized the ureters according to strict indications only. I have never introduced the catheter into a ureteral orifice for the sake of gaining personal practical experience in this kind of work, and shall not do so in the future. As will be seen, I have done catheterism in the male only when a renal lesion had to be localized, when health or disease of its mate had to be determined, and, furthermore, when an operation on the kidney seemed urgent and would probably have had to be done sooner or later.

By a singular coincidence, all patients who needed catheterism of the ureters since that time have been female, and in every one of these I drained the kidneys at my office with the help of Casper's instrument. Of course, I have had under my care, within the last eleven months, quite a number of male patients with renal disease, but in none of them did I find the indication for nor did I carry out ureteral catheterism.

I might here mention a few of these cases for illustration: In a young man in whom the cystoscope showed a marked ulcerative unilateral vesical catarrh, the mouth of the left ureter in the centre of an irregular sore, and in whom no tubercle bacilli could be detected, the first indication was to make a suprapubic opening into the bladder in order to scrape and cauterize the ulcerations and drain the viscus. Through the su-

prapubic opening a small catheter was then introduced into the ureter of the seemingly healthy side and fixed in front of its orifice by a catgut stitch. The urine collected in twenty-four hours proved the respective kidney to be healthy.

In a man of forty-seven, I had, in 1894, removed a papilloma of an apple's size from the right side of the bladder, which had been diagnosed by the cystoscope, resecting at the same time the vesical end of the ureter for a distance of two inches. In 1895, after repeated cystoscopy and a second suprapubic incision, from fifteen to twenty tumors of larger and smaller size were removed. In 1896, I successfully crushed a stone in his bladder, which I had seen through the cystoscope, notwithstanding the presence of a number of recurrent growths. Now, spring, 1897, his bladder is again full of recurrent tumors, and he has frequent pains in the left lumbar region. Analysis of the urine proved the presence of a pyelitis and the cystoscope showed a number of papillomata crowded around the left ureteral opening. In this case catheterism of the ureters would be impossible, because the mouth of the probably diseased side cannot be approached. The indication is suprapubic cystotomy for the third time, with catheterism of the ureters, provided this is found to be feasible.

In a man of fifty-three, with hypertrophy of the prostate, vesical catarrh, and occasional pain over the left kidney, urinary analysis showed a pyelitis but no crystalline deposit whatever. The patient feels comfortable, has very little residual urine. An operation certainly is not indicated at present. I did not catheterize his ureters. More cases could be cited.

With reference to the work itself, I can to-day repeat what I said a year ago: I consider the manipulation here in question an easy one, in the male as well as in the female. I have not changed my views since then. To approach the ureteral mouth and engage the tip of the tiny catheter in the same is not a bit more difficult in the male than it is in the female.

Of course, in order to be successful, a perfect familiarity with cystoscopic work is required. He who thinks that for catheterism of the ureters in the male it is merely necessary to buy Casper's or Nitze's instrument and then to proceed, is very much mistaken, and will no doubt be disappointed in his attempts, surely in his first ones. I had practised cystoscopy with Nitze's instrument in the male and female for fully eight years, before I catheterized the ureters in the male for the first time. The reason for this was not that such a long preparation is needed, but simply because a useful instrument was not to be had sooner. Such was not for sale before 1895. But during these eight years I had learned in many hundreds of cases how to find the ureteral openings, even under adverse and difficult conditions. I had learned how to approach them, even in such cases. For half-hours at a time and longer did I, in a great number of instances, uninterruptedly watch the ureteral jets for the sake of determining the transparency or turbidity of the descending urine. I had carefully timed the outflow with a view to finding the working coefficient of the respective kidney. Often did I do this for so long a time that I was forced to stop because of the running of my eyes due to the severe strain. If the cystoscopist knows how, I might say, to "handle" the ureteral openings, he will surely enjoy this kind of work, as I have done from the very beginning.

But he who does this sort of work in the male should always have made up his mind to proceed with patience and perseverance; he must not be in a hurry. My patients come on special appointment. It has taken me at times fully two hours before I got through, and then I had, in one instance, to be satisfied with the collection of 4.5 c.c. from the one kidney (Case VII.); in another case the catheter did not give exit to any fluid whatever on the one side (Case III.). But the reason for this annoyance was not the difficulty of the procedure, but some mechanical obstruction of the catheter's eye or lumen. Plugs of descending pus, the smallest amount of coagulated blood, with some pushed-off epithelial cells of the ureter, may easily obstruct the eye of the tiny catheter.[1] If repeated aspiration with a powerful syringe attached to the outer funnel-shaped end of the ureter catheter does not soon make the urine flow through the catheter, one ought to pull back the catheter's tip into the bladder, then wash the canal out with sterilized boric-acid solution, the eye of the ureter catheter being within the vesical fluid, and then reintroduce the instrument. As mentioned above, I did this manœuvre in the case of a lady three times. At the fourth reintroduction urine at last began and continued to flow through the catheter.

I further wish to mention the necessity of good assistance when catheterizing the ureters. I believe it is impossible to do good ureteral work in the male without a trained hand at one's side. I have so far always had and needed the help of my office nurse. She thoroughly knows what I want, how to fix the cystoscope and the catheter when I pull out the mandrel, how to steady the instrument when the catheter is *in situ*, etc. All these points to be observed when carrying out the work may at first glance seem cumbersome and superfluous, yet I deem them absolutely essential for successful ureteral work in the male.

In summing up these remarks I should say that repeated disappointment in the early time of ureteral work in the male should not discourage the cystoscopist. On the contrary, it should stimulate him to further trials (efforts). The reason for his failure should be sought rather in lack of experience in intravesical cystoscopic work, and also perhaps in lack of proper assistance, than in the imaginary defect of the instruments used for this purpose. Both of the ureter cystoscopes now in our hands are useful and do not need special improvement.

In order to be successful in using Casper's instrument, one will do well, I believe, to follow the rules I have laid down in my former article, repeatedly referred to, rules which I have found practical by personal experience. They are, briefly repeated and revised, and extended after my additional experience, as follows:

1. Wash and cocainize the bladder according to well-known rules.[2]

2. Fill the bladder with from five to seven ounces of clear fluid.

3. Introduce the instrument. For this purpose the ureter catheter should be pushed down to the internal opening of the canal of the cystoscope; the lid of the latter should be pulled out about one-third inch.

4. As soon as the beak has entered the bladder the catheter should be gently pushed forward into the vesical cavity by about one-half to three-quarters of an inch, and then the lid should at once be pushed back into place, *i.e.*, it should be fully closed.

5. After the interior of the bladder has been satisfactorily inspected and the ureteral openings have come into view, approach one of them.[3]

6. Let the ureteral opening appear at the very end

[1] The conclusion that in such a case the introduction of the catheter into the ureter has produced a mechanical reflex anuria of the kidney is, I believe, an erroneous one. We know this to appear even in the opposite kindney in consequence of ureteral (partial or complete) obstruction by a calculus. But I do not believe that the catheter which only partially fills out the lumen of the ureter can bring forth this phenomenon.

[2] See author in Morrow's "A System of Genito-Urinary Diseases," etc., vol. i., p. 456.

[3] For particulars I refer those interested to my previous article.

of the cystoscopic picture, farthest away from the middle of the bladder, but keep it under your direct inspection, with the prism as near to it as possible.

7. Push the catheter gently forward: if the beak's direction is a proper one, *i.e.*, if it is parallel with that of the lower end of the ureter, I am sure the ureteral catheter will almost invariably easily enter the mouth, when conducted by a trained hand.

8. Allow the catheter to proceed not more than one or two inches into the ureter, and withdraw the wire mandrel. Then, as a rule, urine will begin to flow drop by drop at intervals or continuously.

By faithfully adhering to these rules in my work, I have invariably been successful. Of course, the number of patients thus treated is not yet very great. But, so far, I can repeat conscientiously that whenever, whether in male or female, I have been able to see and approach the ureteral opening, I have also succeeded in introducing the catheter into the same. I have specially added the words "so far," because I have no doubt that I may probably encounter cases in the future in which my attempts will not be crowned by success, although the ureteral openings can be well seen and approached. But up to date there has been only one among all my cases, male and female combined, that of a lady, a patient of Dr. E. F. Cushier and Dr. Robert F. Weir, of this city, in which I have failed in my repeated attempts, although I saw the opening very distinctly before me. However, in this patient I afterward also failed with Kelly's method in repeated sittings. There was no catheter or probe small enough, metal or flexible, to enter the mouth. The reason for this was partially, as had been primarily well ascertained with the cystoscope, that the ureter emerged, not as is usually the case, at the innermost end of the ureteral intravesical fold, *i.e.*, nearest the trigonum, but about one centimetre away from it upwardly. The consequence was that the ureter catheter, in order to pass on, would have had to turn in a sharp angle right after its entrance into the ureteral mouth. This seemed not feasible. Besides, the mouth of the ureter was constricted, evidently congenitally. Such strictures we have to put on a basis with the congenital narrowness of the external meatus, so often found in the male. By chance, I nevertheless succeeded in determining the question at issue, viz.: Is the opposite kidney healthy? I may add this here, because the case really was a perplexing one. There had been an intermittent renal pyuria for the last two years. The right kidney was large, easily palpable, slightly painful to the touch. At the third sitting it struck me at once that, when washing out the bladder, the water returned clear from the beginning. I concluded that on this day the ureter of the diseased side was most probably temporarily obstructed. Cocainization of the bladder was somewhat prolonged on account of making preparations for the following work. It may have taken in all about six or seven minutes. During this time the patient, who had taken a great deal of fluid before coming to my office, discharged five ounces (!) of urine into the bladder. Instead of drawing off 50 c.c. of the cocaine solution and perhaps 10-20 c.c. of meanwhile admixed urine, I measured 200 c.c. (50 c.c. of a two-per-cent. solution of cocaine had been injected by me). On viewing the bladder after Kelly's method, I saw that the ureter of the presumably diseased side, which emptied within the centre of an irregular ulceration, did not discharge a drop of fluid. Examination of the 200 c.c. of mixed cocaine solution and urine proved the latter to be perfectly normal. In other words, there was a well-working, healthy opposite kidney. Dr. Weir successfully removed the diseased kidney. The operation, as well as the specimen thus obtained, proved to be of unusual interest.[1]

Whether we should advise patients to take a large amount of fluid before examination is still a mooted question. In the male I believe it is a wise plan. As explained in my former article, in the male we must drain one kidney after the other; if possible, of course, always in the same sitting. That is to say, we can generally not leave the catheter first introduced into one ureter in place; liberate it; catheterize the opposite side, leaving the catheter there also *in situ;* remove the cystoscope. There will be few urethræ found in the male of sufficiently wide calibre to allow properly moving the cystoscope with the catheter at its side within the urethra. It may often be possible under general narcosis. The latter, however, it seems to me, should, for obvious reasons, be avoided as much as possible in this procedure. We drain the kidneys separately for renal disease. And ether as well as chloroform is detrimental to the renal tissue. So far, I have never used or needed general anæsthesia for my ureteral work. This, as mentioned above, has been office work throughout.

In the male we are, therefore, limited in the time. The sooner the patient gets through the better. The more fluid he has taken before the examination, the more rapidly his kidneys will work. Of course, due weight must be given this point in drawing conclusions from the urinary analysis. However, as both kidneys have been subjected to greater work at the same time, mistakes can be avoided by a competent analyst.

In the female the case is different. Both kidneys may be drained for hours, provided we do the work at the patient's home or at the hospital. The urine from each can be separately collected in proper bottles put into the bed. We certainly can state the fact: Urinary analysis will be more satisfactory without diluting the renal secretion too much by previously ingested fluids.

With reference to finding out the amount of work done by each kidney within a given time, I formerly counted the drops that were discharged through the ureter in a certain number of seconds, and also counted the intervals between the different discharges. I have discarded this method since I have distinctly seen jets of urine at the ureteral opening enter the bladder with the ureter catheter *in situ*. The urine evidently often drains alongside the catheter besides passing through its lumen. The catheters which accompany Nitze's ureter cystoscope are of more use in this respect than those of Casper's instrument. The former have an end hole behind a scoop-shaped lengthening of the material of which the catheter is made, the whole thus forming a sort of bougie. The latter carry the eye at the side. Nevertheless I believe that timing the number of drops discharged through the ureteral catheter is an unreliable observation.

My whole ureteral work with a cystoscope according to Nitze's principles has, so far, been done with Casper's instrument—this for the simple reason that the first specimen of Nitze's reached me in a damaged condition. Before it was exchanged by the factory, more than half a year elapsed. I shall certainly try it the first opportuniy that offers.

Whether in the female one should make use of a cystoscope constructed on the Nitze plan, or of Kelly's

[1] This is a very important rule. Lately I received a letter from a gentleman in Boston who is interested in this work and studied in Berlin under Nitze and Casper. He possessed the latter's instrument. He complained of not having succeeded so far, a single time, in entering the ureteral mouth with the catheter. He wanted to come to New York and see me do the work. I wrote him to proceed according to Rule 6. Five days later I received another letter. The colleague was delighted. At his first attempt he had accomplished the task.

[1] *Cf.* Report of New York Surgical Society, meeting of March 10th, "Annals of Surgery," 1897.

instruments, is really a matter of taste. The manipulation with the imported ureter cystoscope certainly is a very gentle one; it is also very comfortable for the patient. She rests on her back in the position used by us for biamanual vagino-abdominal palpation.

A trained cystoscopist should, in my opinion, be master of all methods "that have proved useful and can be made use of for this purpose." In many instances he may, even in the female, succeed with the one method or instrument when the other failed for certain reasons.

In the male we have no choice. As explained at length above, Kelly's method for catheterism of the ureters is here a technical impossibility. We need instruments which carry the electric light into the bladder, and enable us at the same time to inspect and catheterize the ureteral openings by looking through a telescope and guiding the catheters through a separate channel.

With regard to the indication for catheterism of the ureters, it is, in my opinion, our duty to try and separately collect and analyze the secretion of each kidney "*in the male as well as in the female*" in all so-called obscure urinary diseases, provided the analysis of the bladder urine points to a renal lesion. It becomes our solemn duty to establish the presence, the health or disease, if possible also the working power, of the opposite kidney if nephrectomy has to be done.

If physicians will come to appreciate the importance of this now feasible examination, and make it a point to have cystoscopy and catheterism of the ureters in the male as well as in the female added to the other means at their disposal for arriving at a definite diagnosis, then the so-called obscure urinary diseases will at last become a thing of the past also in the male, and our diagnosis in the majority of such cases will from mere guesswork be put on a strictly scientific basis.

EXTROVERSION OF THE BLADDER TREATED BY LEFT NEPHRECTOMY AND TRANSPLANTATION OF THE RIGHT URETER THROUGH THE LOIN.[1]

By REGINALD HARRISON, F.R.C.S.,

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THE subject of the treatment I am about to describe is a boy, now aged fifteen years. He is the victim of a congenital exstrophy of the bladder and an epispadiac penis with the pelvic cleft. He first came into St. Peter's Hospital in July, 1895, for the deformity I have mentioned. There was a considerable protuberance of the posterior wall of the bladder, upon which the orifices of the ureters were distinctly visible. The exposed mucous membrane was very sensitive, and readily bled upon being touched either by the hand or by the clothes, and the thighs and legs were much excoriated by the constant dripping of urine from above. The patient's condition was a very miserable one, and he was much emaciated on his admission to the hospital. Shortly after his reception he showed signs of having contracted scarlet fever, and was consequently removed to an infectious hospital. For some weeks after this his urine remained slightly albuminous.

On his readmission, after satisfying myself that both kidneys were in good working order and the urine healthy, on January 17, 1896, I removed the left kidney by lumbar incision. The patient recovered rapidly and completely from this preliminary operation. With the view of allowing ample time for the purpose of enabling the remaining kidney to grow and to provide for the entire urinary excretion, the patient went home for some months, occasionally returning for observation.

He was again admitted to the hospital in November, 1896. His legs and thighs were still much excoriated by the constant dripping from the single ureter, and the protruding mucous membrane of the posterior wall of the bladder remained scarlet and sensitive. Having satisfied myself by repeated examinations that the excretion of urine had been effectually carried on by the solitary kidney during the period of nearly eleven months which had now elapsed since the preliminary nephrectomy, the right ureter was transplanted on December 5, 1896, in the following manner:

I first passed a flexible bougie up the solitary ureter so as to serve as a guide for finding the canal as it crossed the brim of the pelvis. I then made a small incision in the right loin on the same lines as if for a lumbar colotomy. By a little deep dissection and with Mr. Fenwick's assistance, the ureter was readily found and exposed. A arbolized silk ligature was placed upon it just below where it crosses the common iliac artery, and the tube was then cut across on the kidney side of the ligature and brought out into the loin wound. To the latter it was attached by one fine silk suture. There was very little bleeding and the whole proceeding occupied only a few minutes. The loin wound was partly closed by a suture at either end, but not so as to occlude the ureter. Before the patient left the operating-room, urine was seen issuing from the transplanted ureter, so that it was at once evident our object had been attained. A pad of absorbent material over the wound completed the dressing. It was noticed that, as the ureter was being transplanted, retching and attempts to vomit became continuous. Mr. Braine, who administered ether, called my attention to this.

The patient also vomited at frequent intervals for twenty-four hours after the operation. This immediately ceased at the expiration of this period, when in the course of my usual visit to the hospital I removed the little suture which attached the divided end of the ureter to the loin wound, and which had evidently been keeping up some tension on the former. The now disused and protruding posterior wall of the bladder was covered with lint and vaseline, and the patient was placed on a light but nutritious diet.

For ten days after the operation the patient's condition was in all respects most satisfactory, the discharge of urine from the loin wound being, as far as I could judge, free and normal. Then followed a series of high temperatures, which continued from December 16th to January 29th. On December 23d the temperature was 105.3° F., while on December 24th it fell as low as 97.4° F. These variations continued up to January 29th, when the normal level was again maintained. No rigors were noticed, though there were sweating and occasional vomiting. At times the patient was evidently drowsy, but he seldom complained of feeling ill and was generally in good spirits and took his food with appetite. On January 7th he was allowed to get up on a couch, and since this date he has steadily improved in every respect.

Different causes were assigned for these variations in temperature. At first it was thought that they were due to influenza. Then it was suggested that some suppuration was going on. But the evidence was insufficient. The urine as collected from the ureter was clear and contained only a slight trace of pus, which was probably derived from the external wound. It seemed more likely that either the eliminating function of the kidney had been disturbed, or that these variable temperatures were due to changes directly connected with the absorption of the unused mucous

[1] Read before the Medical Society of London, April 12, 1897.

membrane of the bladder, which was now rapidly going on. I regretted that at this stage no qualitative examination of the urine was made, which might have thrown some light upon the point.

That the boy has greatly benefited by the change in the mode of urination, there can, I think, be no doubt. He is now able to maintain the erect position, and moves about comfortably, being quite free from excoriations about his thighs and legs. His general condition has also much improved. I am indebted to our house surgeon, Mr. Pardoe, for the notes of this case, as well as for the following analysis of the urine, which was made on February 27, 1897, when the patient was convalescent: Specific gravity, 1.014; reaction neutral; no albumin; urea, 1.3 per cent. No casts or crystals present. As he is growing, he is provided only with an absorbent wool pad for the loin, which he changes every four hours and by means of which he keeps himself comfortably dry. Later on he will be fitted by Mr. Hawksley with an apparatus for collecting the urine as it escapes from the loin fistula. Nothing has yet been done to close in the posterior wall of the bladder, as it appears to be undergoing slowly a process of cicatrization. It would, however, be quite easy to effect this by a plastic operation, now that the surface of the bladder wall is no longer in contact with the urine.

I would ask your attention to the difference in the condition of the urine trickling from the ureters in these deformities, mixed with the abundant glairy excretion of mucus from the surface of the exposed membrane of the fissured bladder, as compared with the excretion that escapes from the artificial fistula in the loin, as in this case. In the former instance the excretion is irritating and offensive, with a strong tendency to form phosphatic calculi upon nuclei provided by the pubic hairs; while in the latter these characteristics are absent, and the presence of the patient ceases to be in these respects a cause of offence to others.

Though in this instance the treatment I have described was undertaken solely with the object of ameliorating the patient's condition, it is possible that a similar proceeding, or some modification of it, might be utilized in connection with the treatment of other forms of urinary disease. I refer more particularly to the extirpation of the entire bladder for malignant as well as for some advanced forms of suppurative diseases. Cases are occasionally met with in which, if it were possible to dispense with the bladder as a receptacle for the urine, its total removal might be safely and advantageously undertaken.

As over four months have now elapsed since the completion of the operation, I have thought this a favorable opportunity for submitting to the fellows of this society a proceeding which, in its application to this most distressing deformity, is, so far as I can gather, the first recorded example of its kind.

Carcinoma of the Rectum.—From an extensive statistical and analytical study of the subject, Tuttle (*Journal of the American Medical Association*, March 27, April 3, 1897) concludes that carcinoma of the rectum can be cured in over ten per cent. of the cases. The mortality from the radical operation, though still considerable, is not alarming and is decreasing with every year's experience. The radical operation prolongs life on the average over one hundred per cent. As a palliative measure, excision is far more successful and beneficial than any other measure. The sequences, though numerous, are not at all intolerable, and should weigh little in the consideration of a question so serious as carcinoma of the rectum.

ON THE CURATIVE TREATMENT OF TIC DOULOUREUX.

By CHARLES L. DANA, M.D.,

NEW YORK.

At the meeting of the Association of American Physicians, held in Washington, in May, 1896, I reported eight cases of tic douloureux, which had been treated by me according to a method described at the time. Of these eight cases, six were relieved and two were not relieved, although in one of them the method was not fully carried out. Since that time five other cases have been treated by me personally or under my direction, four with successful results. The claims which I made at the time that this plan of treatment was the best one with which I was acquainted—seem to me to be established by later experience. It is now three years since Dr. Elliott and I began to use this method, but I still find that many persons do not know anything about it, and that others have tried it in a perfunctory way and have failed. I therefore feel that I am justified in referring again to the matter and publishing further results.

It must be understood that this plan of treatment applies only to that form of trigeminal neuralgia which is known as tic douloureux or epileptiform tic. This disease is a typically degenerative neurosis, occurring almost always in persons who have reached or passed middle life, and is associated usually with considerable arterio-sclerosis. The malady is very typical and distinctive in its origin and course. The pains from which the patients suffer are sharp and agonizing, and are accompanied often with secretory and vasomotor disturbances, such as sweating, lachrymation, nasal discharge, or puffing and flushing of the face. There are few diseases which cause more suffering or make life more intolerable.

In recent years surgeons have turned their attention especially toward it, and new and ingenious operations have been devised for its cure. In many cases these operations do afford relief, usually for a period of time varying from six months to a year and a half, and this relief is often quite sufficient to justify operative interference. I have, however, seen many relapses following surgical operations, with failures attending the second operation, and I have in some cases seen the pains aggravated, apparently, by surgical interference. On the other hand, in cases that have been seen early by me, the relief by the strychnine and rest treatment has been very prompt, as compared with that in the old cases or in those in which operations have been performed. So that I am led to think that surgical interference is unwise until other measures have been exhausted, for it has happened that in some instances surgery has finally made the patient worse.

In estimating the value of any method of cure for a disease like this, I have taken into account the fact that this disease has periods of intermission, naturally, though these are not ever very long—never more than a few months, and usually less. I also have borne in mind the fact that the disease sometimes ceases of its own accord, though this rarely occurs before at least four or five years have passed.

With these introductory remarks, I will proceed to relate the histories of my later cases.

Case I.—Mrs. C——, aged fifty-six. This patient had been a healthy woman until the onset of the present disease. This began in March, 1895, with intense darting pains in the lower jaw on the left side, the pain extending up into the upper jaw. In September, 1895, she was operated upon and a small portion of the inframaxillary nerve was removed. This gave her relief for several months. The pain then returned, involving the same nerve, and, in addition, the left superior maxillary branch and the left side of the

tongue, so that speaking and swallowing became very difficult. She was obliged to live on liquid food largely, owing to the pain caused by mastication. She was operated upon a second time, in June, 1896, and one and one-half inches of the inferior dental nerve were removed. This operation gave her no relief. She was sent to me by Dr. William F. Whyte, of Watertown, Wis., and I saw her September 15, 1896.

On October 3d she was placed on the strychnine and rest treatment, this being carried out with great care and patience by Dr. Whyte. The treatment was continued for ten weeks. During this time the injections of strychnine reached, as a maximum dose, one-fourth of a grain hypodermatically, and she was kept in her room all this time. On November 8th Dr. Whyte wrote me that she was practically free from pain and was feeling very well, but had lost some flesh and was somewhat weakened by a lack of exercise and a light diet. On January 5th the patient reported that there had been a slight relapse, the pain returning in the tongue only. Upon my advice she was again put to bed and was given injections for four weeks.

On February 16th Dr. Whyte wrote me that she was free from pain and was feeling practically well. During the second course of treatment the injections were increased to only one-eighth of a grain daily. Dr. Whyte's summary of his treatment of the case presents its main features so well, that I insert it here: "We began the treatment by injections of nitrate of strychnine on October 3d, and at her own request kept it up until November 25th. The largest doses, one-third of a grain, produced some discomfort, with decided trismus and increase of the pain. We then kept it up with a smaller dose until October 23d, when there was another exacerbation, and I gave her three-twentieths of a grain for some time. When I stopped the injections she still had some pain, although she was much better. This improvement kept up until January, when an attack of bronchitis seemed to cause a return of the symptoms; she then decided to undergo four weeks' more treatment, which we completed day before yesterday. The pain gradually left her after she went to bed, and now she says that she feels only a slight disagreeable sensation occasionally in her tongue while eating. The treatment caused no increase of the pain this time, so that the aconitine was not necessary. I did not give her more than three-twentieths of a grain except once, when she took four-twentieths, with some discomfort."

I should add, in concluding this case, that since the first treatment she had never suffered anywhere near so much pain as had been the case previous to the treatment.

A letter from Dr. Whyte, dated April 10, 1897, says: "Mrs. K—— is entirely free from pain, and regards herself as cured. When she received her last injection, February 14th, she had still a slight occasional tingling in the tongue, but that is gone now."

Case II.—Mrs. S——, widow, aged fifty-six. The patient had always been a strong, active woman, but had worked very hard teaching and writing. A short time before the onset of her neuralgia she had had some severe uterine hemorrhages. The pain began in the fall of 1895, with pain in the lower jaw of the right side. This soon became intense and distressing, and extended to the tongue of the same side and to the upper jaw. The attacks were accompanied by sensations of numbness and a feeling of paralysis of the throat. She could not swallow food, and would often be for hours in the greatest agony, unable even to move. The teeth of the affected jaw were gone. She received all kinds of antineuralgic treatment—aconitine, potash, quinine—and finally resorted to morphine. Even this did not relieve her pain. At the time the injections were begun she was suffering intensely though using morphine. Treatment was given by her physician, Dr. Washburn, of Chatham, N. Y. After four days the morphine was stopped, and at about this time the pain subsided. She was treated for six weeks, the full course being given.

I saw Mrs. S—— in April, 1897, and she assured me she had had no pain since.

Case III.—Mrs. L——, aged sixty-seven. This patient had been a vigorous and healthy woman up to the time of her present trouble. The neuralgia began two years before she consulted me. It affected the left side of the face, beginning in the lower jaw, involving the tongue, and extending into the upper jaw on the left side. There were no associated spasms. The patient was referred to me by Dr. Robert Abbe. He had proposed an operation, but the patient had refused to submit to it. I saw her in June, 1896, and proposed that she undertake the treatment. She disliked the idea of going to bed, and delayed matters until the early part of July, 1896. She had, during the past two years, tried various remedial measures, without any effect. She finally consented to go to bed, and the treatment was carried out by Dr. Edwin B. Tefft, of New Rochelle, to whom I am indebted for my notes as to the progress of the case.

The treatment was carried on during the hot weather of July and August, and under the most depressing conditions possible. For the first four weeks she did not improve. After that, when the large doses of strychnine were stopped, the pain gradually left, and she was free from it until November. She then had a slight relapse, and was again treated for a short time, with relief, until February 1, 1897. Another short treatment was given her.

In April, 1897, Dr. Tefft wrote: "Mrs. L——'s condition remains about the same as when I last wrote you some weeks ago. I put her to bed for three weeks and gave her the strychnine injections as suggested, but she did not get so much relief as she had by the two previous treatments. She still has a great deal of pain, and complains more particularly of a burning sensation over the course of the nerve. She is very much better than she was last June before she had any strychnine, but still suffers at times very much."

I saw the patient later, and found her as stated above. She was much better generally, but still suffered from the neuralgia. She had, as sometimes happens, a great deal of the hypochondriasis of old people.

Case IV.—This patient I have never seen. The circumstances of her case were laid before me by her physician, Dr. Charles A. Church, of Millbury, Mass., who applied the treatment. She was a woman, sixty-five years of age, with no history of rheumatism, gout, or malaria. She had always led an active life, and had never been sufficiently ill to require the services of a physician, except at childbirth, until five years ago, when she began to have neuralgic pains in the fifth nerve, attended with flushings of the face. These pains and spasmodic twitchings came on about three times a year, lasting, at first, a few days. The attacks increased in severity and duration, until they finally became practically continuous. They were associated with pharyngeal and masseteric spasms, so that feeding became difficult. She had been given quinine, salicylate of sodium, colchicum, phenacetin, antifebrin, caffeine, cannabis indica, and finally morphine. Locally, all kind of anodyne liniments had also been employed.

Dr. Church consulted me regarding the case, December 24, 1896. At that time she was suffering daily from intense and agonizing pains, and was taking morphine hypodermatically to relieve them. I advised putting her upon the special treatment, to which plan

Dr. Church immediately assented, and began injections on January 1st. On the tenth day of treatment he had reached a daily dose of one-tenth of a grain of strychnine. He wrote me that she had shown no effects from it, except that it "braced her up a little for about half an hour after the injection, and quieted the pain a little." At that time her bowels were obstinately constipated, and she was passing only six or eight ounces of urine in twenty-four hours, the specific gravity being 1.040; no albumin or sugar. The tongue and jaws were so sensitive that she could take but little food. She was still taking, in addition to the strychnine, from three-fourths to one grain of morphine a day, hypodermatically. On the twenty-first day of treatment the maximum dose of one-fifth of a grain had been reached, and this was repeated for three days. The morphine had been gradually discontinued, but on the twenty-eighth day she was still taking from one-eighth to one-sixth of a grain daily. She was then passing urine in normal amount, but the mouth was still so sensitive that she could take only liquid food, and not very much of that. She still had considerable pain. She had lost twenty-five pounds since the commencement of the treatment, owing to the difficulty experienced in swallowing food without intense pain. Her present weight was one hundred and forty pounds. She did not sleep well, and complained of nausea. Aconitine had given her no relief, although as much as a forty-fifth of a grain had been given in one day. I had previously advised that the morphine be entirely stopped, and had assured Dr. Church that the patient would not get well unless this was done.

On February 19th (fiftieth day) Dr. Church wrote me that the patient had shown marked improvement. The strychnine had been stopped for three weeks, and the patient was taking small doses of iodide and tincture of iron. She had slept well, was taking nourishment, had a good appetite, and had had no pain for two weeks. The morphine had been entirely stopped. Dr. Church wrote me at this time that he was greatly pleased with the results of the treatment, but "especially so after reading the report of a case of the same kind in the adjoining town, who was a physical and mental wreck from the use of opiates." On April 11th he wrote that she was free from pain.

These four cases are perhaps not such brilliant illustrations of therapeutics as one would wish, but, in connection with the others, they do illustrate a certain efficacy in the method beyond doubt. Two of these patients have had slight relapses, but they have been speedily brought out of them, and are practically safe from severe attacks of their disease as long as they are willing to fight against it. When one considers that this malady is a degenerative one, that it affects people whose vital powers have been lowered by advancing years, and when one considers, further, the inefficacy of other medicinal measures, it seems to me that we can regard the results with considerable satisfaction.

Of my previous patients, I know that four of them are still well; one of them has had two slight relapses, but has been kept practically free from severe pain. Two of them have had no relapses at all.

In my previous article I have discussed the other methods of treating tic douloureux. It is certainly a fact that we occasionally find a patient who is relieved or made comparatively comfortable by the use of aconitine. At other times they are relieved by the iodide of potassium or gelsemium, or by simple tonics and rest; but these are exceptional cases, and the relief is often not permanent.

A form of medicinal treatment, which has been recommended by so high an authority as Trousseau and by other French physicians, is the use of opium. This drug I have seen produce such disastrous results in a number of cases that it seems to me most unwise to recommend its use. Opium will, of course, stop the pain for a time, but in a great many instances it results in producing the opium habit, and that often without curing the neuralgia.

I went into the technical details of this treatment in the article referred to in the beginning of this paper, and which was published in the *Post-Graduate* for July, 1896 ("Neurological Reports"), and also in the Transactions of the Association of American Physicians for 1896. I shall refer readers, therefore, to this article for these details.

I must, however, in conclusion, insist upon the absolute necessity of undertaking the treatment in all its details, if good results are to be expected. I would not consent to treat a case unless the patient were willing to submit to at least three months, and perhaps four, of treatment. Patients who prefer a surgical operation or their neuralgia to the unpleasantness of a tedious therapeutical procedure, can, of course, exercise their choice.

REMOVAL OF FOREIGN BODY FROM THE ŒSOPHAGUS BY ŒSOPHAGEAL FORCEPS, GUIDED BY THE AID OF THE FLUOROSCOPE.

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WHILE the use of the Roentgen rays to locate and picture the presence of metallic substances in the human body has become so common as hardly to attract notice, yet the use of these rays in conjunction with the fluoroscope to remove them has not been practised, to my knowledge, until employed by myself, on February 15th, in the following case:

F. B——, aged four years, applied at the Norwegian Hospital, on February 13th, for treatment. The mother gave the following history: On the 9th of February, while playing with some iron washers (nine-sixteenths of an inch in diameter), he swallowed one. Since that time he had been unable to swallow any solid and only very little fluid food. The boy was made to swallow some water, and by auscultation the disc was located as about opposite the fourth dorsal vertebra. It was then decided to locate the washer by means of the *x*-rays. Accordingly, on the 14th, at my request and in my presence, Mr. Frank Perret examined the boy with the fluoroscope, and plainly saw the foreign body. He then made a two-minute exposure and obtained the skiagraph here presented (Fig. 1). While looking through the fluoroscope the distinctness of the picture impressed me, and I at once thought of the possibility of passing a pair of œsophageal forceps, guided by the fluoroscope, and grasping the washer from above. Accordingly I made arrangements to operate with the aid of the light on the following day.

On February 15th the patient was chloroformed, and after being turned on his side was moved into a position before the tube. The fluoroscope applied to the back showed the disc to be at the same point as at the previous examination. A pair of flexible bullet forceps was then passed into the œsophagus, and was visible in the fluoroscope. The forceps grasped the washer and had withdrawn it about one inch, when efforts at swallowing by the child dislodged it from the grasp of the forceps and it slipped back to its former position. After a further administration of chloroform, a second attempt was made with a pair of slender alligator forceps, and with the same results. In the third attempt a pair of œsophageal forceps (Fig. 2) was

passed until they were seen to be half an inch below the washer; they were then opened and closed, and seen to grasp the foreign body, the tips of the forceps remaining separated by about one-eighth of an inch when the handles were closed. The forceps were then withdrawn, without any obstruction whatever, holding the washer in their grasp.

The total time consumed was about twenty minutes. In order to pass the forceps the head was thrown well backward, so as to bring the mouth on as near a line with the œsophagus as possible.

With the recovery from the anæsthetic the boy was well. He has had no difficulty in swallowing, and no soreness of the throat since.

In several cases foreign bodies lodged in the œsophagus have been located by means of the x-rays, notably those of J. William White (jackstone) and of M. Péan (a coin).

In all the cases the foreign body has entered the œsophagus and caught about opposite the first dorsal vertebra. This is the narrowest part of the tube, and represents its point of entrance into the chest.

The operation of choice for removal of foreign bodies located in the œsophagus is external œsophagotomy, but in children with short and particularly fat necks this is very difficult.

M. Péan, in his case, cut down, and it was only with much difficulty that he could find the œsophagus. After locating the coin he did not open the tube, but by gentle manipulation forced the coin into the pharynx, from which it was easily removed by forceps. M. Péan considered it a great step in advance not to be compelled to open the œsophagus.

Dr. White abandoned any attempt at external œsophagotomy because of the short fat neck of the child. He made several attempts with œsophageal forceps and failed. He then resorted to gastrotomy, and by means of threads passed through the œsophagus finally succeeded in drawing the "jackstone" into the stomach and then removing it. The child made a good recovery.

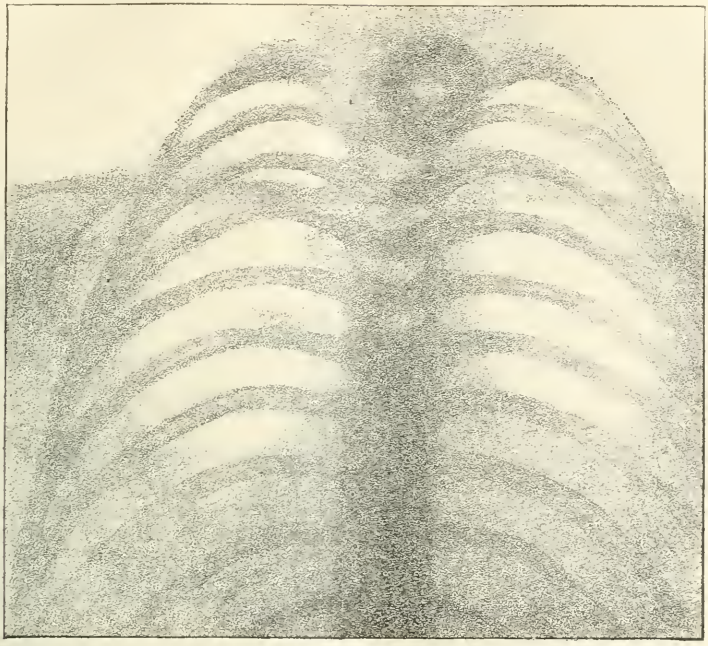

Fig. 1.

Attempts at removal of foreign bodies from the œsophagus by forceps, unguided, are quite likely to be failures, as it is impossible to know when the body is reached and grasped. Any successful cases are the results of chance.

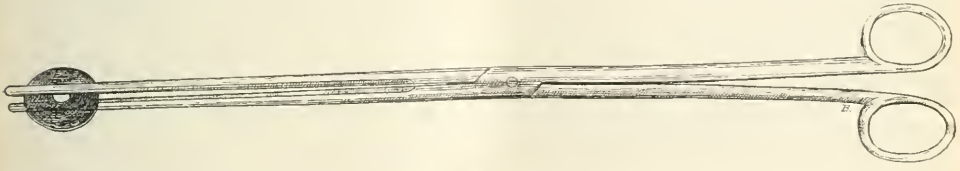

Fig. 2.

My first idea was to attach the œsophageal forceps to the telephone in place of the probe, so that by hearing one would know when the body was grasped; but after viewing the washer in the fluoroscope, I was convinced that "seeing was better than hearing," and so made the successful attempt above described.

Eighth Avenue.

Antipyrin and Calomel are found to produce a reaction when given simultaneously, forming corrosive sublimate in dangerous amount, even in ordinary medicinal doses.—Werner, *Pharmac. Zeitung.*

Progress of Medical Science.

Consciousness in Epilepsy.—Prof. E. Siemerling (*Berliner klin. Wochenschrift*, Nos. 42 and 43, 1895), in a paper on "The Transitory Disturbances of Consciousness in Epileptics in their Forensic Relations," draws the following conclusions: 1. In the epileptic psychoses a dream-like altered condition of consciousness is probable, and not by any means total or partial amnesia. 2. The most various transition forms occur between the different forms of so-called acute and chronic epileptic psychoses. Epileptic and epileptoid conditions and psychoses must alike be reckoned as symptoms of cerebral disease. 3. The transitory, dreamy states are characterized by the rapidly recurring, apparently orderly, indifferent, and inconspicuous manifestations, and by unusual, unexpected, often violent acts. 4. There is no epileptic or epileptoid psychosis without epileptic or epileptoid antecedents. Epileptoid conditions are more frequent than is commonly supposed, especially vertiginous attacks. 5. With the lack of epileptic or epileptoid manifestations, all other symptoms, such as amnesia, similarity of attacks, peculiarity of action, sensory hallucinations, will serve to make the diagnosis of epilepsy most probable.

How Long is Syphilis Contagious?—Dr. Drennen (*Cleveland Medical Journal*, January, 1897) says that there are no well-authenticated cases on record of syphilis occurring in the second generation as a result of heredity; there are no cases on record in which vaccino-syphilis has been transmitted from children over eight months of age; hence, no matter what condition may confront us in acquired syphilis, it is almost certain that in hereditary syphilis its power of transmission is lost by the end of the first year of infection.

Sloughing Myoma of the Uterus.—Findley (*Journal of the American Medical Association*, April 3, 1897, p. 637) reports a case of sloughing myoma of the uterus, and expresses the conclusion that in the majority of cases uterine myoma is the cause and not the result of sterility. Uterine myomata complicating pregnancy are especially liable to infection. The gangrenous process begins in the periphery of the tumor, invades the interior of the growth, and may penetrate the uterine wall. Myomata usually grow rapidly during pregnancy. Submucous, less frequently interstitial, myomata may so distort the uterine canal as to render impossible the delivery of the placenta: such growths should be enucleated when possible, the retained placenta extracted, and the uterine cavity thoroughly sterilized and packed with sterilized gauze. If the growths cannot be enucleated and the symptoms of sepsis do not yield to antiseptic douches, no time should be lost in performing hysterectomy. In every case of abortion or labor complicated by myoma, the first indication of sepsis should be carefully looked for, and in the event of septic infection operative interference is imperative.

The Influence of Anæsthetics upon Circulation and Respiration.—As the result of an experimental investigation conducted in the pharmacological laboratory of the University of Pennsylvania, Wood and Carter (*Journal of Experimental Medicine*, March, 1897, p. 131) arrive at the conclusion that lowered arterial pressure has a comparatively feeble effect upon the respiration: but, when the pressure falls sufficiently, respiratory depression does occur. Even excessive lowering of blood pressure primarily stimulates the vasomotor centre, the sensibility of which is evidently necessary to the automatic regulation of the circulation. The circulation recovers itself more slowly after profound etherization than after a like chloroform narcosis. It is possible for ether, as well as chloroform, to produce death some hours after the cessation of its administration, at a time when the cerebrum has long freed itself from distinct evidences of the narcotic, so that consciousness and intellectual action have been restored. In applying these conclusions to the subject of practical anæsthesia, it is evident that the depression of the circulation produced by chloroform has effect upon the respiratory centres only when the pressure has fallen very low: and, while it may be a factor in the production of respiratory failure during chloroformization, the failure must be chiefly due to the direct influence exercised by the drug upon the respiratory centres. Clinical experience shows that nausea and general depression are more pronounced after the use of ether than after the use of chloroform. This research confirms this observation and experimentally shows that the depression of the circulation caused by ether is more permanent than that caused by chloroform, the reason probably being the large amount of ether necessary to induce profound narcosis, with lowering of the arterial pressure—an amount so large that it can be neither burned up in the system nor yet eliminated in the time that would be necessary for the much smaller amount of chloroform to be gotten rid of after chloroformization.

Pathogenetic Cutaneous Eruptions.—In a study of the differential diagnosis of medicinal eruptions, F. Guirand (*Arch. Clin. de Bordeaux*, January) concludes: (1) It is possible to observe medicinal eruptions exclusively limited to the face, of almost symmetrical distribution, whose objective characters simulate in their onset an attack of erysipelas. (2) Unless we have to deal with true intoxications, due to the ingestion of large doses, the eruptions are not accompanied by general symptoms. This absence of general symptoms is usually sufficient for the differential diagnosis from microbian or infectious toxicodermas. (3) The change in the aspect of the eruption is, so to speak, pathognomonic of their medicinal nature. This feature is of great diagnostic value when the ingested drug belongs to the group of balsamics. (4) Eruptions occasioned by balsamics taken in small dose have a rapid course. Most frequently their symptomatology is confined to the objective signs furnished by the skin surface, and their evolution is at times so discrete that they often pass unnoticed.

Hypertrophic Pigmentary Alcoholic Cirrhosis.—Dr. Letulle (*Le Bulletin Méd.*, February 7th) believes that we should place the above along with the pigmentary cirrhoses of diabetes, malaria, tuberculosis, cancer, and those of still undetermined cause. He has recently seen three examples of the alcoholic variety. All cirrhotic pigmentary cachexias are characterized by a certain number of material disorders, almost constant, which may be stated as follows: (1) We recognize at least three kinds of pigment: (*a*) the ochre pigment (ferruginous), which is the most frequent; (*b*) a yellowish-brown pigment, whose ferruginous nature cannot be determined by the chemical reagents at our command; (*c*) the melanic pigment of the skin normally elaborated in the deep cells of the mucous layer of Malpighi. (2) All the visceral lesions of diabetic pigmentary cirrhosis are found in the alcoholic form. (3) The distribution of the ochre pigment is almost generalized, but with predominance very marked in the glands (absence in the kidney). (4) Almost absolute integrity (from a pigmentary point of view, of the covering epitheliums, external (epidermis) as well as internal, and of the canals. (5) Great fixation of the ochre pigment, whose elimination is extremely difficult.

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HARD LINES IN MEDICAL PRACTICE.

WHEN the physician with shrunken income reverts to the palpable fact that practice is not what it used to be, there are many etiological factors which claim his consideration, and there is much melancholy comfort during his forced leisure hours in discussing their relative merits. There is some satisfaction in recognizing the causes of a malady, even if no cure may be in sight. We can usually bear the burden of our ills more philosophically when we balance them with a becoming interest in the study of their pathological conditions. This knowledge of the reasons why gives that discipline to resignation which enables the latter to conform itself to the working of natural laws, and to bow becomingly to the decree of an inevitable fate. Thus the doctor finds that he must necessarily fit himself to a new environment. His work is supplemented by many conditions for success which did not exist half a century ago. The community has grown in knowledge, and the doctor has become a mere incident to such a condition. In times gone by, legitimate medicine was a restrictive science; now every clerk prescribes for his fellow, and most of the fashionable drugs are on the bargain counters of the department stores. The ordinary druggist of commerce, although forbidden by law to prescribe, can sell the prescription of any physician he chooses without being strictly amenable to the law. The only limit to such a practice appears to be in the case of poisons, which always require a physician's order. The patients make their own diagnoses, use grippe remedies on themselves, and there is hardly a young man or young woman about town who cannot, while in need of it, buy a gonorrhœa mixture over most of the drug counters without a question. Quinine appears to be no longer a medicine, but an article of food, and the rise and fall in its price is of as much interest to the general public as that of sugar, coffee, or flour. The druggist, too, has his own little mixtures for headache, cough, malaria, or constipation, and is ever ready with a sample for his many customers. If the ordinary self-prescribing patient is in doubt as to the real character of his ailment, the free dispensary is ever ready for his desirable custom, and he can go from one department to another and have all his organs examined by experts, with possibly clinical lectures in the bargain. Then, again, there is another class of patients, who are the natural patrons of the quacks, who believe everything they read, and who float from one sharper to another, until they land in a hospital bed, with no money left, no health, and no hope.

All these conditions are the natural results of so-called medical education of the people, and which can easily be understood to act so disastrously upon the conscientious physician who aims to make an honest living.

Still, again, the very systems of dispensing public charity, of affording aid to the injured, and even of preventing the spread of diseases, always so necessary in large communities, have markedly curtailed paying practice with a large majority of emergency cases. All acute surgery, minor or greater, is rapidly transported to the hospital, and the chance accident cases for the convenient doctor are no more. The health department gives free vaccination, and, of course, has something more important to think of than the fee taken from a doctor. The latter dares not in decency complain, sacrifices himself on the altar of expediency, and complacently turns to figure his chances on his unpaid bills.

All this time, however, the medical colleges are urging men to study medicine, promising them great futures, lucrative business, and the like. There may be plenty of room at the top, but the bottom just now is very full.

CAMPHORIC ACID IN NIGHT SWEATS.

ONE of the many remedies for the night sweats of phthisis, which is not so well known as it apparently deserves to be, is camphoric acid. It has been strongly recommended by many continental writers, and the first number of the *Edinburgh Medical Journal* for the current year contains an article by Dr. Stockman, in which the drug is spoken of as one of great value in the control of this distressing symptom.

In this country Dr. H. A. Hare has for a number of years advocated the use of camphoric acid as an efficient antisudorific. His first experience with it was in the wards of St. Agnes' Hospital during 1890–91, where he found that it controlled the sweats of tuberculosis in the great majority of cases and did not produce any such disagreeable symptoms as are usually caused by atropine. He also spoke of the value of this drug in the first edition of his "Text-Book of Practical Therapeutics," published in 1891, and has since referred to it in other articles. In a paper in the *Therapeutic Gazette* for March, 1897, he writes that a continued large employment of camphoric acid during the past six years has still further confirmed his high opinion of this drug. Like every other remedy, it will fail in some cases, but nothing has been met with which in his hands so universally succeeds. As the drug is slowly absorbed, it should be given an hour or two before the time at which the sweat usually comes on. A dose of twenty grains is usually quite sufficient to control the sweat, provided it is given early enough, but as much as sixty grains may be given, if necessary, without deleterious effect.

DIAGNOSIS BY THE ROENTGEN RAY.

That the *x*-ray has passed through its infancy and is now well started in upon that second period which precedes adolescence is evident from the reports which multiply on every hand. The location of bullets and other foreign bodies in various regions of the body; the determination of union in fractures, as well as their diagnosis at the time of injury, with the relative position of the fragments, are all twice-told tales.

It is no longer a novelty to see radiograms of coins, jackstones, or false teeth stuck fast in some portion of the alimentary or respiratory tubes. Even renal calculi have been shown in the kidney's pelvis, and Seiffert disclosed a hairpin in the bladder, which the young lady claimed to have swallowed by accident. The aid in diagnosis of these conditions alone far surpasses anything that an ordinarily sanguine man could have hoped for at the time Professor Roentgen's discovery was announced.

Still in this short time much more surprising things have happened, and to-day it may be claimed that the rays have a much wider field of usefulness. Aneurisms of the arch of the aorta can be made out; shadows of the heart and diaphragm in motion can be shown, so that a diagnosis of adhesion between the costal pleura and diaphragm can be established, as well as thickening of the pleura.

At a recent meeting of the Vienna Medical Club Dr. Wassermann exhibited shadows of diffuse lung infiltration, and in a second case an impulse seen in an aneurism in the left mediastinum was accepted as a sufficient differential diagnostic point from other variety of tumor.

Dr. Willard has demonstrated before the American Orthopædic Association that by skiagraphy one can determine whether deformities of the feet can be corrected without tarsectomy, and in an instance of clubfoot subcutaneous section of the contracted tissues permitted replacement and proved the correctness of what was shown by the rays. The obstacles to be overcome in correcting varus of long standing can thus be made clear and the relations of all the bones be satisfactorily demonstrated. Experimenters are gradually coming to secure images of the soft tissues, and hypertrophy of the heart has been repeatedly made out. Jeanselme has recently demonstrated that organs surcharged with ochre or ferruginous pigment are much less permeable to the rays than similar organs weak in iron. Experiments were made with liver tissue, pancreas, and lymphatic ganglion from a subject of bronzed diabetes.

This and similar experiments may lead to valuable diagnostic data, while Grunmach, Macintyre, and others have already shown in a satisfactory way that certain growths, infiltrations, and thickenings of the softer tissues can be seen by the aid of the rays. We are thus in a position to hope for certain definite practical results in the near future, which will be of immense benefit to medicine and surgery. There is a reasonable promise also that with the perfection of methods skiagraphy will eventually become a widely extended method of diagnosis in both branches.

News of the Week.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the U. S. navy for the week ending April 24, 1897. April 19th.—Surgeon D. O. Lewis ordered to Annapolis as member of the medical examining board, May 17th.

The Association of German Naturalists and Physicians.—The sixty-ninth annual meeting of this association will be held at Brunswick, from September 20th to 25th. The work will be distributed among thirty-three sections, being an increase of three as compared with previous years. One of the new sections is apportioned to anthropology and ethnology, another to scientific photography, and the third to geodesy and cartography.

The French Society of Otology and Laryngology will hold its annual meeting in Paris on May 3d. The questions proposed for discussion are: (1) Treatment of ozæna; (2) recurrent paralyses; (3) the ear, nose, and larynx from the medico-legal point of view.

Surgeons Wanted.—The hospitals of the Greek army in Thessaly are reported to be overcrowded. A despatch to *The Sun* from Larissa says that the nurses and surgeons employed in the hospitals are completely exhausted by the vast amount of work they have been called upon to perform, and it will be impossible for them to stand the strain much longer. An urgent appeal has been sent to the Government at Athens to send more surgeons and nurses to aid those already here. There are so many wounded there that it is impossible to give them the care and attention they should have. So pressed are the surgeons for time and so urgent is the necessity for their work that operations are being performed without the use of chloroform or other anæsthetics.

Yellow Fever.—The steamer *Finance* arrived at Quarantine from Colon on April 22d with a passenger ill of yellow fever on board. He died a few hours after being removed to hospital. The vessel was disinfected and allowed to come up to her pier in the city. There is said to be considerable yellow fever on the Isthmus of Panama.

Middlesex County (N. J.) Medical Society.—At the annual meeting of this society held in New Brunswick on April 22d the following officers were elected: J. G. Wilson, of Perth Amboy, *President;* C. M. Slack, of New Brunswick, *Vice-President;* David Stevens, of New Brunswick, *Secretary;* D. C. English, of New Brunswick, *Treasurer.*

Pennsylvania Hospital.—The Walter Garrett Memorial Building of the Pennsylvania Hospital at Philadelphia was opened on April 23d with appropriate ceremonies. Addresses were made by the president of the board of managers, Mr. Benjamin H. Shoemaker, and by Drs. Thomas G. Morton, J. M. Da Costa, and J. B. Chapin. The new building includes an operating-pavilion, receiving wards, and children's wards. On the ground floor are a receiving ward for

men and one for women, together with a small operating-room, where dressings are applied and minor operations performed. There is also a "quiet" ward, containing twelve beds in which patients are undressed, bathed, and put into condition for transfer to other portions of the hospital. There are, besides, rooms for the storage of patients' clothing, a room containing a steam and a hot-air sterilizer for the disinfection of clothing, and also a diet-kitchen. Provision has been made for the treatment of cases of sunstroke in the basement or in tents on the lawn. On the second floor is an operating-amphitheatre, 45x46 feet in size, lighted by a large glass dome and many windows. The hall has a seating-capacity for two hundred students. Around the amphitheatre are communicating rooms in which patients are anæsthetized and otherwise prepared for operation. There are, besides, dressing-rooms, rooms for sterilizing instruments, a room for keeping the instruments, and a private operating-room. Ample facilities for microscopic work, for photography, and for skiagraphy have been provided. The third floor of the building is given up to the children's ward, with twenty-five beds, nurses' room, pantry and diet-kitchen, baths, isolation ward, and playroom.

The Woman's Medical College of the New York Infirmary was burned on April 22d, all the specimens in the museum, the scientific apparatus, and the library being destroyed. The college building only was burned; the adjoining infirmary, in which there were at the time about sixty patients, being saved by the firemen. The building was erected only about seven years ago, but the trustees will now put up a larger and fireproof structure in its place, and they hope to have the new building ready for the opening of the college in October next. The infirmary was the oldest hospital for women in the country, having been founded in 1854 by Drs. Elizabeth and Emily Blackwell. The latter is now dean of the college.

The Cumberland Co. (N. J.) Medical Society.—The District Medical Society of Cumberland County, N. J., held its annual meeting at Bridgeton, April 13, 1897, and elected the following officers: Dr. H. W. Elmer, *President;* Dr. A. R. Judson, *Vice-President;* Dr. Jos. Tomlinson, *Treasurer;* Dr. Hamilton Mailly, *Secretary;* Dr. J. C. Applegate, *Reporter.*

The Western Pennsylvania Hospital celebrated on April 20th the fiftieth anniversary of its foundation at Pittsburg. New hospital buildings have been proposed and attractive designs have already been prepared.

Cape May County (N. J.) Medical Society.—The twelfth annual meeting of the Cape May County Medical Society was held at Cape May, N. J., on April 20th. The following officers were elected for the ensuing year: *President*, Dr. Wilson A. Lake: *Vice-President*, Dr. A. L. Leach. *Secretary*, Dr. Julius Way; *Treasurer*, Dr. Randolph Marshall; *Censors*, Drs. V. M. D. Marcy, B. T. Abbott, and W. S. Leaming. Drs. Leach and Way were elected delegates to the American Medical Association.

The Microbe of Mumps.—The Berlin correspondent of the *British Medical Journal* writes that Professor von Leyden has discovered a new diplococcus in the parotid-gland secretion of persons suffering from mumps, which he takes to be the mumps bacterium. It is distinct in appearance, and can be cultivated on the usual media. Attempts to inoculate animals proved unsuccessful. The diplococcus has been found, not only in the parotid-gland secretion, but also in the pus of the inflamed gland.

Medical Fees in Vienna.—The following is published as the fees charged by Vienna physicians: A day visit, 3 gulden (about $1.20); an evening visit, 4 gulden ($1.60); a night visit (without carriage), 6 gulden ($2.40); a consultation, 10 gulden ($4); one hour, 5 gulden ($2); a visit at a time fixed by the patient, 5 gulden ($2); for each additional patient seen in a house, 1 gulden (40 cents).

The American Laryngological, Rhinological, and Otological Society will hold its third annual meeting in Washington on May 1st and 3d, just prior to the meeting of the Congress of American Physicians and Surgeons. The sessions will be held in the Columbian University building, corner of Fifteenth Street and H Street.

Bequests to Hospitals.—The late Andrew J. Garvey, who died in Southampton recently, left in his will bequests of $10,000 each to St. Luke's Hospital, the Presbyterian Hospital, St. Vincent's Hospital, the Woman's Hospital, Mount Sinai Hospital, and the German Hospital, for the endowment in each hospital of two beds in memory of his mother, Elizabeth Jeffries Garvey, to be known as "the Elizabeth Jeffries Beds." He made also a further bequest of $15,000 to St. Luke's Hospital, to found three beds, two of which are to be in memory of his brother, John Garvey, and are to be known as "the John Garvey Beds." The third bed is in memory of George W. McLean, and is to be named "the George W. McLean Bed."

The Medical Society of the State of Pennsylvania will hold its forty-seventh annual meeting in Pittsburg on May 18, 19, and 20, 1897. A one and one-third rate has been granted to delegates by the railroads. Dr. E. E. Montgomery, of Philadelphia, is president, and Dr. William B. Atkinson, of Philadelphia, is secretary. There will be plenty of business before the society in addition to the scientific work, as there are a score of proposed amendments to the bylaws to be voted on.

A Clinical Observation.—Dr. Cantrell stated that the ordinary bedbug was capable of causing much local distress. He had noted one case in which there had formed grave abscesses at the site of the bite.—*The Philadelphia Polyclinic.*

Deaf-Mutes.—Norway has nearly one deaf-mute per 1,000 inhabitants, and thus occupies an intermediate position between countries like Holland and Belgium with 0.43 per 1,000, and Austria with 1.31, and Switzerland with 2.45 per 1,000. England and Scotland have 0.51 and 0.53 respectively.

Suicides in the United States.—It is stated that the number of suicides in this country has risen from two thousand and forty in 1890 to six thousand four hundred and twenty in 1896. The *Medical Examiner* says that by those who have considered the subject, the incontestable life insurance policy is blamed very largely for this enormous increase in self-destruction.

The Kansas Medical Society has a rule that all papers presented and read at its annual meetings must be type-written.

The Widow of the Late Professor Charcot has resigned the annual pension of 2,000 francs which she received from the state, in favor of other widows and children of professors of the faculty of medicine of Paris who have died without leaving provision for their survivors. Madame Charcot has also refunded all the money that she has received from the pension since the death of her husband.

Columbus, Ohio, wants the next meeting of the American Medical Association. We have not learned who in Columbus has the presidential bee in his bonnet—perhaps no one.

Vital Statistics of Philadelphia.—For the week ending April 17th there were reported to the Philadelphia board of health 419 deaths, 66 less than during the previous week, and 108 less than during the corresponding week of the preceding year. One hundred and fifty-nine occurred in children under the age of five years. The more important causes of death were as follows: Pneumonia, 66; pulmonary tuberculosis, 43, bronchitis, 19; convulsions, 19; heart disease, 18; marasmus and old age, each 16; diphtheria, 15. There were further reported during the week 94 cases of scarlet fever, 84 of diphtheria, and 37 of typhoid fever.

Delaware County (Pa.) Medical Society.—A stated meeting of the Delaware County Medical Society was held on April 16th at Rosedale Inn, Essington, Pa., followed by a planked-shad dinner. Delegates were elected to the American Medical Association.

Northampton County (Pa.) Medical Society.—The forty-eighth annual meeting of the Northampton County Medical Society was held at Easton, Pa., on April 16th. The following officers were elected for the ensuing year: *President*, Dr. E. W. Evans, of Easton, Pa.; *Vice-Presidents*, Dr. W. Freeman, of Freemansburg, and Dr. Kate De Witt Miesse, of Easton; *Secretary*, Dr. Charles McIntire, of Easton; *Corresponding Secretary*, Dr. H. T. Edwards, of South Bethlehem; *Treasurer*, Dr. Amos Seip, of Easton; *Censors*, Drs. J. S. Hunt, of Easton, H. Keller, of Bangor, and E. D. Schnabel, of Bethelehem. Delegates were elected to the Medical Society of the State of Pennsylvania and to the American Medical Association.

Pathological Society of Philadelphia.—At the annual conversational meeting of the Pathological Society of Philadelphia Dr. Ludvig Hektoen, professor of morbid anatomy in Rush Medical College, delivered an address entitled "Segmentation and Fragmentation of the Myocardium." He showed that these lesions may be present under many conditions, both of health and disease, and he contended that sudden death may result in consequence. In fact he asserted that it is probable that in many cases of sudden death in which other obvious cause was wanting, these lesions would be found.

A Medical Health Commissioner in Chicago.—The platform of the supporters of the recently elected mayor of Chicago declared that the health commissioner should be a physician, and now the medical men of that city are expecting the fulfilment of this pledge by the appointment of one of their number.

Dispensary Investigators.—The St. Louis Medical Society recently appointed a committee of three to investigate the various free clinics in that city in the attempt to remedy the abuses of the system.

Dr. John Welsh Croskey has been elected attending surgeon to Wills Eye Hospital of Philadelphia, in succession to the late Dr. Peter D. Keyser, recently deceased.

The Fifth International Congress of Criminal Anthropology will be held in Amsterdam in August, 1901.

Obituary Notes.—Dr. Le Roy McLean, of Troy, died in that city on April 23d, of apoplexy. He was born in 1831 and was graduated from the Albany Medical College in 1855. He served during the civil war as surgeon to the Second New York Volunteers. At the close of the war he took up practice in Troy and until 1877 served as surgeon of the Third Division of the National Guard. He had a slight apoplectic stroke ten years ago, but recovered and continued in practice until six months ago, when a second attack incapacitated him.—Dr. Frank Abbott died suddenly at his home in this city on April 20th. He was born in Maine in 1836 He began the practice of dentistry in Johnstown, N. Y., but in 1863 came to this city and attended lectures at the University Medical School, where he obtained a medical degree. He had been connected with the New York College of Dentistry since its foundation in 1866, and was dean of the faculty from 1869 until his death. He was a member of the County Medical Society, the Academy of Medicine, the American Dental Association, and many scientific and other societies.

The Results of School Inspection.—Dr. Blauvelt, chief of the medical school inspectors, in his report to the health board of the work of the school inspectors for the week ending on April 23d, stated that out of 4,599 examined, 243 children were excluded. There were 4 cases of measles, 4 of diphtheria, 1 of scarlet fever, 2 of croup, 13 of mumps, 8 of chicken pox, 28 contagious eye diseases, 160 cases of parasitic diseases of head and body, and 13 skin diseases.

The Small-pox Outbreak in New York appears to have been gotten under control by the board of health. The largest number of cases in any one locality was on Randall's Island, where thirteen cases were discovered within a week.

Dr. Hermann M. Biggs, of New York, will deliver the address on public medicine before the British Medical Association in Montreal.

Nature Study for Public Schools.—The College of Agriculture of Cornell University has, under the Nixon or agricultural extension bill, undertaken to assist, free of expense, all teachers who wish to introduce nature study into their schools. All parents and teachers interested in this work may obtain detailed information by addressing the chief clerk, College of Agriculture, Ithaca, N. Y.

Osteopaths in Michigan.—It is stated in the *Medical Age* that "osteopathy" has received legal sanction from the legislature of Michigan, and in a way, moreover, that entirely excludes it from being interfered with or in any measure brought under subsequent medical acts.

Castration of the Feeble Minded.—A bill has been introduced into the Michigan legislature by Dr. W. R. Edgar providing for the castration of all inmates of the Michigan Home for the Feeble Minded and Epileptic before their discharge; also for that of all persons convicted of a felony for the third time, and of those convicted of rape. The advocates of castration are too mild in their measures of prevention. The attempt to asexualize the vicious and the unfortunate may fail through faulty operation, especially in the case of women. A much safer remedy is decapitation. It is equally effective as a means of preventing the propagation of the unfit and it is far more certain. Besides, it is not only a prophylactic but a curative method. Half-way measures are foolish.

Prof. Max von Pettenkofer, of Munich, has been invited by Lord Playfair, president of the Society for Public Hygiene in London, to come to England in order to receive the Harben gold medal.

The American Public Health Association.—The twenty-fifth annual meeting of the American Public Health Association will be held at Philadelphia, Pa., October 26, 27, 28, 29, 1897. The executive committee has selected the following topics for consideration: 1. The Pollution of Water Supplies. 2. The Disposal of Garbage and Refuse. 3. Animal Diseases and Animal Food. 4. Car Sanitation. 5. Steamship and Steamboat Sanitation. 6. The Prevention of the Spread of Yellow Fever. 7. The Transportation and Disposal of the Dead. 8. The Relation of Forestry to Public Health. 9. Nomenclature of Diseases and Forms of Statistics. 10. Cause and Prevention of Infectious Diseases. 11. Public Health Legislation. 12. Cause and Prevention of Infant Mortality. 13. Transportation of Diseased Tissues by Mail. 14. River Conservancy Boards of Supervision. 15. The Period during which each Contagious Disease is Transmissible, and the Length of Time for which each Patient is Dangerous to the Community. 16. Sanitation, with special reference to Drainage, Plumbing, and Ventilation of Public and Private Buildings. 17. Some Method of International Arrangement for Protection against the Transmission of Infectious Diseases. 18. Disinfectants. 19. Existing Sanitary Municipal Organizations of the Countries belonging to the Association, with a view to a Report upon those Most Successful in Practical Results. Upon all the above subjects, special committees have been appointed. Papers will be received upon other sanitary and hygienic subjects also.

An Impudent Forgery.—A Brooklyn correspondent writes us that a prominent resident of that city died while under the care of an unregistered quack, and that the latter in issuing the death certificate signed to it the writer's name. A warrant was issued for the forger's arrest, but there was so much red tape necessary that the man got wind of what was going on, and escaped. He was subsequently captured, however, and was convicted of practising medicine without a license and of forgery.

Sterilized Water in the French Army.—An experiment with the use of sterilized water in some of the barracks in France has proved so successful that these barracks, previously the frequent scene of typhoid fever, are now reported thoroughly healthy. Sterilizing apparatus is now being generally introduced in all military centres in France where the drinking-water is not undoubtedly pure.

A Candidate Quarantined.—The mayor of a Wisconsin town was surprised recently to find himself a prisoner in his own house by order of the health officers. His son was suffering from diphtheria, and the health commissioner issued an order that the mayor should not be allowed to leave his house, and a police officer was stationed at the door to see that the order was not disobeyed. The town was in the midst of its municipal campaign, and the mayor, who is a Democrat, was a candidate for re-election. The health officer is a Republican, and possibly his very laudable zeal may have been quickened somewhat by the happy chance which its exercise afforded him of keeping his opponent housed until the election was over.

The New Gouverneur Hospital.—The sinking fund commission opened bids a few days ago for building the new Gouverneur Hospital. There were twelve bidders. The lowest bid was $116,000, but the contract could not be awarded on account of a technical error in the bid. The next lowest bid was $129,400. The contract will be awarded later.

Inspection of Pupils in the Industrial Schools.—It is the intention of the board of health in this city to have the six thousand three hundred and fifty-four pupils in the twenty-three industrial schools of the city looked after by the special inspectors recently appointed with a view to stamping out contagious diseases in the public and parochial schools.

Hog Cholera.—The agricultural department has taken steps looking to the extermination of hog cholera, and as an initiative has sought the co-operation of the States of Tennessee and Iowa in an experiment to determine how economically the malady which is devastating swine interests can be stamped out. If the governors of these States will co-operate in the

work, it is the intention of the department to send representatives of the bureau of animal industry to one or two counties which the governors have been asked to designate as particularly subject to an outbreak, in order to study the disease and discover, if possible, some effective means of prevention.

Dr. A. W. de Roaldes, of New Orleans, has recently received the decoration of a knight of the French Legion of Honor.

Excellent Advice.—A forlorn "British exile," in a letter to *The Lancet*, containing some more or less accurate information concerning the medical-practice laws in this country, concludes with one word of good advice to the English medical man who has ideas of coming out here to heal the sick—"Don't."

Extreme Poverty of a Medical Man.—It is reported from Hazelton, Pa., that a physician holding a diploma of the University of St. Petersburg and indorsed by the Michigan board of medical examiners, was recently arrested for practising without being properly registered. On investigation it was found that the man and his family were destitute in the most extreme degree.

Lycoming County (Pa.) Medical Society.—At the annual meeting of the Lycoming County Medical Society, held at Williamsport on April 6th, Dr. Thomas J. Mays, of Philadelphia, read a paper entitled "The Treatment of Consumption." The following officers were elected for the ensuing year: *President*, Dr. William B. Konkle, of Montroseville; *First Vice-President*, Dr. G. M. Adams, of Williamsport; *Second Vice-President*, Dr. G. W. Metzger, of Hughesville; *Secretary*, Dr. W. W. Hull, of Williamsport; *Treasurer*, Dr. B. H. Detweiler, of Williamsport; *Trustees*, Drs. C. W. Youngman and John Klump; *Censor*, Dr. J. S. Bell, of Williamsport. Delegates were elected to the Medical Society of the State of Pennsylvania and to the American Medical Association.

The Hospital of St. Francis is the name chosen by a collection of antivivisectionists for a hospital they propose to build in London. The institution is to be named after St. Francis of Assisi, whose love for animals was the source of so many beautiful legends. Forgetting that St. Francis also loved his fellow-men, these people purpose to treat the patients of the hospital after antivivisection principles, returning therefore, if they are consistent and honest, to the guesswork methods of the darkest ages. Of course such consistency would be as impossible as it would be criminal, and we shall therefore see patients treated by antivivisectionists according to principles discovered through vivisection. A vegetarian butcher would be no greater an absurdity.

Atlantic City (N. J.) Academy of Medicine.—At a meeting of the physicians of Atlantic City, N. J., held April 9, 1897, a medical society was organized under the title of the Atlantic City Academy of Medicine. The purposes of the society are the interchange of medical thought and opinion, and the fostering of debate and consideration of medical matters, and the consideration of matters of public good that may properly come within the province of the medical profession. The officers elected for the ensuing year are: *President*, Dr. W. M. Pollard; *Vice-President*, Dr. W. Blair Stewart; *Secretary*, Dr. E. C. Chew; *Treasurer*, Dr. Walter Reynolds; *Reporter*, Dr. Joseph F. Edwards; *Governors*, Drs. Boardman Reed, E. A. Reilly, and the president of the society.

Medical Degrees for Women in Austria.—The correspondent of the *Medical Press* writes that for the first time in Austria the degree of doctor of medicine was conferred on April 2d, in Vienna, upon a woman, in the person of Baroness Possaner von Ehrenthal. She matriculated in Vienna, and studied later in Zurich, where she obtained the M.D., but she had to pass another examination in order to have that degree confirmed in her native country. The rector of the university, in congratulating the new doctor, remarked that when women occupying thrones can, by their wisdom, obtain immortal fame in history, the time had certainly arrived for considering the sex eligible for university degrees.

The Episcopal Eye, Ear, and Throat Hospital was dedicated recently in Washington. It occupies a building at the corner of Seventeenth and L Streets, which has been remodelled to suit its present purpose. In the basement are the kitchen, dining-room, and office. The first floor will be devoted to the dispensary service. There are four rooms on this floor, including a waiting-room, consultation room, refraction room, and ophthalmoscope room. The second floor contains the room of the superintendent, and three private rooms for pay patients. The third and fourth floors are taken up by the free wards, the third floor for white patients and the fourth floor for colored patients. There are bathrooms on each floor above the first, and on the third floor is an operating-room.

Jefferson Medical College.—The trustees of Jefferson Medical College have decided to inaugurate a system of summer laboratory work in the department of pathology and bacteriology, partly undergraduate and partly post-graduate.

The Commencement of the Johns Hopkins Medical School will be held in June, at the same time as that of the other departments of the university. There are one hundred and twenty-seven students in the medical school, of whom twenty are women, with seventeen students in the graduating class; one is a woman. This is the only medical school in the country that requires an academic degree for admission to its school. Harvard will make the same requirement after 1899.

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on April 14th. Dr. Joseph Price read a paper on some of the common causes of mortality in abdominal surgery. Dr. Mordecai Price read a report of a case of laceration through the sphincter ani, with remarks on suits for malpractice. Dr. A. Ferree Witmer read a paper entitled "Is There a Daily Rhythm in Epilepsy?"

Clinical Department.

A CASE OF NOMA.

By W. M. CUMMINGS, M.D.,

TRINIDAD, COL.

In the MEDICAL RECORD of March 20, 1897, Dr. Alexander McKenzie Campbell reported a case of noma. In reading his report I am reminded of a case occurring in my practice nearly twenty years ago, the clinical history of which is very similar to that reported by Dr. Campbell, the cause of the disease in my case being, however, quite different. I have preserved a few notes of the case, and will report it, chiefly because of the favorable termination and because I have reason to think that the treatment adopted conduced to the favorable result.

"E. G——, female child, aged five and one-half years, of healthy parentage; both parents advanced in years, mother past fifty, and father near sixty. Child appears anæmic, ill-nourished, cachectic. The mother states that the child has always been well until two months ago, when she had fever for two weeks (presumably remittent), and since then has had 'the chills.' She noticed four or five days ago something wrong with the child's mouth; it seemed to her that the right cheek was swollen a little, and, as she expressed it, the child 'drools' all the time.

"There is a swollen, livid, shining appearance of the right cheek, which to the touch is hard and resistant; the breath has a marked gangrenous odor, and inspection of the cavity of the mouth shows a grayish-colored ulcer in the right cheek, and also upon the gums of both upper and lower jaws, opposite the ulcer in the cheek. The teeth in the affected gums were so loose that I removed three of them with my fingers."

I began the treatment with four-grain doses of quinine, to be repeated every fourth hour, which were continued for six days, and after that two-grain doses were given three times daily for ten days longer. Locally I ordered the following.

℞ Cupri sulph. ..... ℥ iv.
Pulv. cinchonæ rub.,
Pulv. cinnamomi cort. ..... āā ʒ i.
Aquæ ..... ℥ vi.
M. S. To be applied to the diseased parts on a cotton swab every six hours.

This was applied faithfully for five days, after which it was used only twice in the twenty-four hours for three or four days longer. By this time, the slough having pretty well separated and the sore having a healthy look, this wash was discontinued. All the molars and alveoli on that side were removed. The ulcer slowly healed, and under administration of citrate of iron and quinine the child regained her health.

I think the favorable result in this case may be attributed in no small degree to the free use of quinine. I gave it because of the pronounced malarial cachexia, but I have since observed a very marked beneficial result in several cases of severe ulcerous pharyngitis, in which there was no reason to suppose there was any malarial poisoning. I have upon more than one occasion observed that in pharyngitis of that character treated locally with antiseptics and astringents, as carbolic acid and Monsel's solution, not only has there been no improvement, but, the patient growing worse, the administration of four or five ten-grain doses of sulphate of quinine, repeated every four or six hours, has acted with the best result, promptly changing the condition, lessening the swelling, and limiting the ulcerated area. So I am inclined to think that it was of importance in the case above, aside from its value as an antidote to the poison of malaria.

APPENDICITIS VERSUS GRAPE SEEDS.

By GEORGE E. ABBOTT, M.D.,

CORONADO BEACH, CAL.

Although not in a position to report a long list of operations for appendicitis and peritonitis, I am in an exceptionally favorable position to speak negatively of a point in its etiology. I do not know to whom belongs the priority of refuting the grape-seed theory of appendicitis; but my attention was first called to the exceedingly small percentage of cases in which grape seeds are ever found by Dr. McBurney, at a meeting of the New York County Society, some years ago. Others have shown a much more probable etiology in constipation and catarrh. In this paper I hope to show that whenever seeds of fruit are found, it is in all probability a matter of coincidence and not the cause of the intestinal trouble. I shall also show that in grape countries children and adults eat from one hundred to three hundred grape seeds and from four hundred to five hundred guava seeds every day for months at a time, without any intestinal trouble whatsoever. Notwithstanding these facts, that the large proportion of cases of appendicitis are due to constipation and catarrhal conditions of the bowels, and that comparatively few cases are due to grape seeds, the old theory that they were the cause of all cases still dominates the majority of people, and one often meets patients or friends who are in mortal fear of grape seeds and cherry pits, and their life is made miserable thereby, while they deny themselves the pleasure of many healthful and refreshing foods on account of their unnecessary fear. It is to allay this unwise anxiety and to give confidence to those who need to enjoy and be benefited in health by the seed fruits that I send you this article.

I am at the present writing spending a vacation in El Cajon Valley, one of the most noted of California, famous for its Muscat grapes and Valencia raisins. There are in this valley nearly two thousand inhabitants, of whom about one hundred and fifty are school children and a large number children from school age downward. All of these, adults and children, eat grapes and guavas (the latter fruit having more seeds than the grape) every day and many times a day, during the season—a period of three months and over.

I have just taken an average-sized bunch of these grapes, such as a man would select at the table, and carefully counted the seeds. There were from one to five seeds in each grape (average three or four) and ninety-five in the bunch. At a guava festival (similar to your Eastern strawberry festivals) a saucer of guavas will contain four hundred and thirty-three seeds. These vary from the size of a pin head to a grape seed, and are as hard as a stone. Seeds and all are swallowed by every one. I know that school children eat two and three times as many grapes as I took, so I said to one of the school boys, about fourteen years of age: "What is the 'dose' of grapes for you school boys—a bunch as large as this?" First a queer look of contempt came over his face, followed by a smile, as he said: "Why, doctor, we boys and girls eat grapes until we can't get another one down, and that just about lasts us until recess." "Well! do you discard the skin and seeds?" "No; the teachers do, but with us boys everything goes except stems."

The next day I drove past the high school, located at the edge of a very large vineyard. The bell had just rung for the close of recess, and the children came running in from among the vines, grapes in hand, munching away for dear life, proving the boy's statement.

It is entirely within bounds to state that the average school child will swallow from one hundred to three

hundred grape seeds daily (one to three teaspoonfuls), for weeks at a time, during the grape season, and the rest of the population will eat in proportion.

Now, what is the practical outcome of this? I drove over to Dr. C. M. Johnson, formerly of New York State, who for many years has had all of the medical and surgical practice of the valley, and asked him, in a casual way, how many cases of appendicitis he had had of late years. He said that there had been none. I then asked for cases of peritonitis—because formerly cases of appendicitis were considered as cases of peritonitis—but to this again came a negative reply. Then followed a careful conversation with Dr. Johnson, and it was most evident that not only had there been no cases of appendicitis or of peritonitis in this grape-eating community for many years, but that the health of the valley was unusually good during the three or four months of the grape season. This report was also confirmed by two well-educated ladies of the valley, who were conversant with most of the cases of sickness here.

Now these statistics, gathered in this practical way, ought to relieve all anxiety and allow the free use of the desirable seed fruits, which add so much to the general health.

A CASE OF FRACTURE OF THE CRICOID CARTILAGE.

By GEORGE B. STORY, M.D.,

PORTLAND, ORE.

On December 22d, I was called to see S. E. O——, a mill hand, aged thirty-two years, who while at work about fifteen feet distant from a large circular saw had been struck on the right side of the neck by a piece of wood projected from a log which was being sawed.

Arriving about thirty minutes after the accident, I found the patient sitting up in a chair, the breathing being difficult and stridulous in character. At frequent intervals he coughed up large quantities of frothy mucus and blood. The countenance was extremely pale, and there was distinct emphysema of the neck and lower portion of the face. When first seen he was able to speak in a weak but very high-pitched tone of voice, but complete aphonia quickly supervened.

I was told that a splinter of wood had entered the neck, and after an exceedingly hasty examination I found a wound on the right side of the neck, from which there was but a trifling amount of hemorrhage. This wound was about an inch in length, and situated midway between the right clavicle and the right half of the inferior maxilla, over the sterno-cleido-mastoid muscle. It proved to be superficial and in no way connected with the larynx. The patient was then ordered to be removed to the hospital, with the view of doing either intubation or tracheotomy as soon as possible. He had been carried but a short distance toward the hospital before he expired.

A few hours after death an autopsy was performed, which revealed the wound of the neck to be only about one-quarter of an inch in depth. There was an area of ecchymosis extending along the lower border of the right side of the inferior maxilla. The entire body was emphysematous. The eyeballs protruded and the pupils were dilated. There were also bruising of the pneumogastric and recurrent laryngeal nerves and a fracture of the left side of the cricoid cartilage, extending through the attachment of the crico-thyroid muscle, or, in other words, a fracture of the cricoid cartilage by contrecoup. There were also emphysema, œdema, and a more or less hemorrhagic infiltration of the glottis. All of the viscera were in a state of acute congestion, the venous heart being enormously distended.

Asphyxia was the immediate cause of death, being induced by œdema, hemorrhage, emphysema, and spasm of the glottis, accompanied by shock. I was unable to determine which of these conditions was the most influential in causing the asphyxia.

A CASE OF DERMATITIS VENENATA DUE TO SNOW-ON-THE-MOUNTAIN.

By GEORGE THOMAS JACKSON, M.D.,

PROFESSOR OF DERMATOLOGY IN THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY.

Snow-on-the-mountain is defined by the Standard Dictionary as "a spurge of the western United States, sometimes cultivated for the curious, white-margined leaves around its flowers." Its botanical name is given as Euphorbia marginata. A great many of this family of plants are well known to possess acrid qualities, and to produce vesication and inflammation when applied to the skin. White ("Dermatitis Venenata," Boston, 1887) names several species as giving rise to dermatitis, but does not mention the one that produced the trouble in this case. So far as I have been able to ascertain, there is no report of this plant being dangerous to handle, and, as there seems no doubt that it did give rise to the inflammation of the skin in this case, it seems proper to report it. Gray, in his "School and Field Botany," describes the plant as follows: "It grows wild on the plains of the United States west of the Mississippi River. Leaves pale, ovate or oval, sessile, the lower alternate, uppermost in threes or pairs, and broadly white margined. Flower cups with five white petal-like appendages behind as many saucer-shaped glands."

The subject of the poisoning is a gentlewoman who is very susceptible to drugs of all sorts, whether applied to the skin or taken by the mouth, and had been poisoned often by both the poison ivy and the poison dogwood. The poisoning took place in the country where she resides in the summer, a place that is peculiarly free from poisonous plants. As she had not walked off her own grounds for several days before the dermatitis set in, and is positive that she had not come into contact with poison ivy or dogwood, both of which she knows well by sad experience, there seems to be little doubt about the sequence of events now to be narrated.

On a certain Tuesday in September of 1896, a neighbor presented to the patient a bouquet of snow-on-the-mountain, the stems of which were well wrapped up in paper. The donor said at the time that she had been told that the plant poisoned some persons, and therefore she brought the bouquet herself, rather than send it by one of the children of the patient. As the flower was beautiful, it was put in water and set on the mantelshelf. During the day, which was cool, a fire was burning on the hearth, before which the patient sat. She became warm and sweated freely. The next day her face felt hot and uncomfortable, and soon began to swell. From then on the swelling, redness, and vesiculation steadily increased. The eyes were closed, and the patient felt so ill that she thought of the possibility of erysipelas. Shortly after the face became swollen the same dermatitis showed itself on the hands and ankles, the swelling of the hands being so great that they could not be used, while the feet became so painful as to render walking difficult. The inflammation was at its height in about four days, and then subsided, but it was several weeks before the skin returned to its normal condition.

The patient asserts that there was far more pain associated with this form of dermatitis than with that due to rhus poisoning, and that the swelling and vesiculation were the worst she had ever experienced.

FACIAL PARALYSIS WITH NO LACHRYMATION.

By G. D. MURRAY, M.D.,

SCRANTON, PA.

Mary O'Neil, aged twenty-six, domestic, presented the following history: Four weeks ago she was taken with a severe pain in the neck, near the angle of the jaw, which continued several days. At the end of the third day she noticed the paralysis. The unusual feature of the case is that on the paralyzed side there is no lachrymation and the eye is dry. I believe this is the second case of the kind on record. Goldzieher has reported a similar case, with the exception that in his case the velum palati was paralyzed.

A FATAL CASE OF SANTONIN POISONING IN AN INFANT OF ELEVEN MONTHS.

By J. S. TAYLOR, M.D.,

ORANGE, N. J.

On the afternoon of March 20th I was called to see a baby suffering from "convulsions." The parents were Italians of the poorer class, and as I have several times seen convulsions in Italian babies under eighteen months, resulting from the gastro-intestinal irritation produced by the ingestion of macaroni, liver, and confections of different kinds, I was prepared for something similar in the present instance.

The infant was an unusually large, fat, healthy-looking boy of eleven months. Besides a promiscuous diet of bread, meat, soup, and potatoes (the baby showed especial predilection for the latter), the mother was in the habit of giving it a mixture of condensed milk and water, in the proportions of one to five, as her supply of breast milk was exhausted. There was a history of a convulsion accompanying indigestion six months before. With that exception the child had always been healthy. The present indisposition dated from two days before my first visit. The child had been fed freely on potatoes, and in the course of some hours became fretful, gave evidence of abdominal tenderness, and toward night had a convulsion. The mother administered santonin—"a little on the end of a teaspoon, ever so little"—and repeated it on the morning of the day of my visit, which was paid late in the afternoon. The child had a second convulsion after the first dose of santonin, but no more.

On examination I found great general abdominal tenderness, but rather more marked in the right iliac region, where there was distinct dulness on percussion. Lungs and heart normal. Respiration shallow and rapid; pulse full, tense, and slightly increased in rate; temperature normal. Patient unconscious. Slight icterus. Pupils normal. Convulsive movements of hands, arms and legs, and head on manipulation, especially on making slight pressure over the abdomen. The bowels had moved but twice from the santonin.

I prescribed a tepid bath every morning, absolute restriction to milk diet, and five powders one hour apart, containing each one grain of milk sugar and one-tenth grain of calomel.

I called early on the morrow, expecting to find the child better or else that something more definite had developed. The stools induced by the mercurial during the night were three, and of spinach color instead of yellow, as the first ones were. The abdominal tenderness had disappeared, and there had been no more convulsions. It had fed eagerly from the bottle and taken sips of cool water when offered, but at other times lay in a profound stupor, with eyes tightly closed and hands gripped. The temperature was now 102° + F., and the jaundice had increased somewhat, though it was not even yet conspicuous. There was profuse and constant flow of saliva from the mouth. The pulse had become rapid and weak, and the respirations continued shallow, labored, and rapid. On again examining the thorax, fontanelle, abdomen, limbs, pupils, nothing amiss could be discovered. I ordered a suitable amount of carbonate of ammonium in spearmint water as a stimulant, gave directions about the bath, fresh air in the overheated, unventilated room, and requested to be called at once if alarming symptoms appeared.

Without having been summoned, I called in the evening. The mother reported that while the amount of golden-yellow urine had been noticeably large up to the time of my morning's visit, the child had passed none since. It had sweated profusely all the morning, but the skin was now harsh and dry. I discovered slight puffiness of the eyelids. It no longer drank readily from the bottle, and lay perfectly still and showed no sign of consciousness when the mother, pursuant to my orders, changed the child's position from time to time as a prophylaxis against œdema of the lungs. I immediately put the infant in a hot bath, which was followed by a hot pack. When a handkerchief wrung out in cold water was laid over the infant's head, it opened its eyes and cried for the first time in twenty-four hours. After copious sweating had been produced, I began the administration of minute doses of digitalis, acetate of ammonium, and acetate of potassium. No urine was passed, and on the morrow, March 23d, at 8 A.M., the child died.

In the absence of any increase in the intracranial pressure as evidenced by the fontanelle, in the absence of vomiting, in the absence of bloody stools, serious cough, râles, dulness, and there being no paralysis in any limb, I made a diagnosis based on the following facts: History of incautious administration of santonin on two successive days, prolonged stupor, jaundice, increased flow of urine followed by suppression, profuse salivation, convulsive movements, elevation of temperature. In the three days of illness the child had lost no flesh, and, except for the icteric hue and the slight œdema of face at the close, might have passed for a healthy infant.

If this interpretation of the symptoms was correct, the lesson as to the danger of the administration of santonin to infants is emphatic, and druggists should sell it, and worm candy and vermifuges, of which it is an ingredient, with great caution, always specifying that it shall not be given to a child under three or four years old. The toxicity of the drug even in small doses is very great in infants of a year or more, as evidenced by the fatal result in this case, in which in favor of recovery was the fact that the child was robust, hearty, well developed, was soon relieved of pain in the intestines, that it took its nourishment well, and that it was able to survive for twenty-four hours a complete suppression of urine, and to survive for nearly three days the ingestion of two poisonous doses of santonin. It is to be regretted that the exact number of grains administered cannot be determined, but it could not have been less than two or three grains, to judge by the estimate the mother gave me by putting some sugar on the end of a spoon.

"The Practitioner," edited by Malcolm Morris, is one of the most pleasing examples of high-standard journalism that comes to our exchange desk.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting, April 12, 1897.

W. W. VAN ARSDALE, M.D., CHAIRMAN.

Lipoma Resembling a Tail; Spina Bifida.—DR. B. F. CURTIS presented a female baby three months old, a photograph, and the specimen removed, a lipoma of the shape of the appendix vermiformis and situated over the sacrum, presenting a resemblance to the fancied human beings with a tail. Further, there was a spinal bifida in the sacro-lumbar region, with the cord in the sac, and in the lipoma was a distinct mass of cartilaginous tissue, which, no doubt, was originally intended to close in the gap. The cord made a U-like bend into the sac just at the beginning of the cauda equina, and was attached to the sac by a rather broad mesentery. Its separation was somewhat difficult. No nerve symptoms were present before or after the operation.

Tuberculous Peritonitis Cured; Tuberculosis of Hernial Sacs Persisting.—DR. CURTIS presented a boy under ten years of age, who, five months ago, began to have symptoms which led to the diagnosis of tuberculous peritonitis, enlargement of the abdomen, loss of appetite, loss of weight, irregular temperature, fluid in the abdomen, etc. He was treated with guaiacol and creosote and the tuberculous peritonitis had seemed to disappear, and the general health had improved. But double scrotal hernia was present; the hernial sacs were evidently tuberculous, presenting hard masses at the bottom of the scrotum, while the testicles themselves were healthy.

Plastic Operations on the Face.—DR. CURTIS also presented two patients, showing to what extent gaps left by operations on the face could be filled by a flap of suitable shape, cut out on the face and shoved around into place, thus avoiding the necessity for skin grafting. One patient was a girl with a nævus, of the hairy, pigmented form, larger than a silver dollar, encroaching on the ala nasi. The other patient was an aged woman with epithelioma of the lower eyelid. In both the diseased area was removed, and the gap filled by circular flap brought in from the face.

Osteoplastic Resection of Sternum for Retrosternal Dermoid.—DR. WILLY MEYER presented a young man who, when sixteen years of age, had had intermittent pain in the right ear, neck, and sometimes in the shoulder. A swelling appeared above the clavicle, and when he was twenty-one years of age he visited a clinic in his country, Austria, where the tumor was aspirated and drainage was established above the clavicle. On a subsequent occasion an opening was also made below the clavicle. His pain returning and the opening continuing to discharge, the patient visited Dr. Meyer while in this country. Dr. Meyer recognized restrosternal dermoid, as had also been done in Austria; he made an osteoplastic operation in part, by dividing the sternum through the first intercostal space, and with the hook lifted the upper portion of the sternum and excised the accessible part of the dermoid. The main wound closed and the painful symptoms disappeared. Through the sinus in the sternum hair could still be withdrawn.

Radical Operation for Femoral Hernia.—Dr. Meyer also presented a woman on whom in November, 1896, he had performed Fabricius' operation for femoral hernia on the right side. There had been no recurrence, but a similar hernia existed on the left side. Dr. Meyer described the operation, said he had not found it difficult in any of the three patients upon whom he had performed it, and thought it was to be recommended. In introducing the sutures, one must feel the pubic bone with the needle in order to know that he had grasped periosteum.

Severe Injuries of the Spine; Recovery without Operation.—DR. PEARCE BAILEY presented four patients illustrating severe injuries of the spine without fatal issue and with partial disappearance of symptoms subsequently; no operation. The first was a man forty years of age, who, some years ago, had sustained a heavy blow on the back, causing dislocation in the lower dorsal region, paraplegia, loss of sphincter control. Two years ago he was still unable to walk, but had since recovered power of locomotion, being able to go about on crutches. There was still dropfoot. He could retain his water for the most part.

In the other three cases the injury was in the cervical region. One was that of a man of fifty who had sustained a stab wound just below the axis, partly dividing the cord and causing motor paralysis on one side and sensory paralysis in large degree on the other. The patient still had spastic paralysis, but was able to go about with a cane. The third was an old case, that of a man who had fallen from a wagon, striking the back of the head, causing unconsciousness and dislocation of the fifth cervical vertebra. He was unable to move the body, had no control over the rectum for a year: sensation had been markedly impaired, but had returned. The patient now had difficulty in getting about with crutches, and presented evidence of degeneration of both pyramidal tracts on both sides, with atrophy of hand muscles. The reflexes were exaggerated, as they were also in the other cases. The fourth case was that of a young man who had struck his head on diving from a height into shallow water, evidently causing hemorrhage in the upper cord. He did not lose consciousness, but lay abed three days, unable to move the limbs. He began to walk after four weeks. At present the right leg was normal: the left one was weak, and on walking showed spastic rigidity. The knee reflex was increased. There was some stiffness in the hands, most marked in the left hand: the little finger was nearly paralyzed. The evidence was strongly in favor of a slight hemorrhage in the region of the first dorsal vertebra, chiefly on the left side.

Result of Implantation of Bone Chips Five Years after Operation.—DR. CHARLES L. GIBSON presented the patient, a young man of eighteen, who, in 1891, was operated upon at St. Luke's Hospital, at which time the head of the diseased tibia was chiselled out and the cavity filled with bone chips, the soft parts being united over the wound by suture. After a time the patient acquired good use of the limb until the spring of 1896, when he entered Dr. Gibson's service with the old wound discharging. Cutting down, he removed a considerable amount of the old bone chips, which he found entirely unchanged, buried in loose tissue and detritus. He curetted the cavity freely. As it showed no signs of filling up after some weeks, he freshened it and nailed the soft parts to the bottom. The flap united to the bone and there had been no further trouble. Two nails had been used, one of which was removed after the fifth day to relieve dangerous tension, the other one after the tenth day. The cavity in the bone was now covered entirely by skin or cicatricial tissue. It was expected to become shallower as time passed. He believed general experience had been unfavorable to bone chips.

A Case of Successful Bone Grafting.—In the absence of DR. A. M. PHELPS, DR. WALKER presented his patient, a man who had fallen in 1888 and sustained fracture of the upper part of the humerus. Eleven months subsequently he entered a hospital, where an

incision was made down upon the fragments and they were wired together, but without successful result. He subsequently came under the care of Dr. Phelps, who took small bone fragments from the patient's patella, placed them in the gap, and put the arm up in a splint: bony union took place, and the man recovered with a strong arm.

Dr. Curtis said he had seen a case like Dr. Meyer's two years ago, it being evidently one of dermoid cyst behind the sternum. It occurred in a child, with a history of abscess, which had been opened two or three times, and a sinus remained in the sternum about the third rib. The microscopical examination showed one side lined with skin, the other with columnar epithelium. It was not connected with the bone.

Dr. Weir remarked that Dr. Meyer's case was another in the direction of opening up a new field in surgery. Very recently he had read an article by Milton on the splitting in two of the sternal cartilage, separating the edges, and introducing the fingers. In this manner he was able to reach the heart, feel the bifurcation of the trachea, palpate tumors, etc.

Dr. B. Sachs said with regard to the cases presented by Dr. Bailey that they were not cases in which it was at all certain that surgeons or neurologists would have recommended an operation. He thought we should distinguish between cases in which the injury had resulted only in the production of unilateral symptoms, and those in which it had been followed by bilateral symptoms. In the former the extent of the lesion in the cord must be quite limited, too limited to be found and successfully treated. In at least three of the cases presented by Dr. Bailey, he thought an operation was not indicated.

Dr. Weir said, with regard to use of bone chips, that he could recall cases in which, after three to five months the chips had come away, and were in as good condition for use in other cases as originally!

Antistreptococcus Serum; Report of Six Cases.—Dr. R. F. Weir read a paper in which he gave the histories of six cases of septicæmia treated by antistreptococcus serum, with but little if any benefit. He pointed out that in 1895 Marmorek, connected with the Pasteur Institute in Paris, reported four or five cases of virulent erysipelas which recovered under the use of serum. Other successful cases were reported in Paris, but Charpentier's conclusion from a study of forty puerperal cases was not in its favor. Probably there were no ill effects from the injections. The amount of the fluid injected had varied greatly, ranging from two to ten cubic centimetres, and in one case Dr. Weir had injected in the course of the day as much as one hundred and twenty cubic centimetres. His first case was one of ileo-lumbar abscess. The temperature when the abscess was opened was 99 F. A few tubercle bacilli were found in the fluid. The temperature rose on the fifth day, there was streptococcus and staphylococcus infection. Septic symptoms continuing, serum from Paris was used. It was concluded that the fall in the temperature, improvement in general condition, and recovery were due to making counteropening and freer drainage, and not to the antitoxin. The second case was one of chronic suppurative ostitis of the femur with secondary involvement of the knee. Operation in December, 1896. Only slightly turbid serum was found in the joint itself. After the operation staphylococci appeared in abundance, while previously only tubercle bacilli had been found. No impression was noted from serum injections. The thigh was amputated in January. The third case was one of carcinoma of the breast; amputation by the Halstead method, septic infection, treatment by antistreptococcus serum, no change, death. The fourth case was one of compound fracture of the thigh; involvement of the knee-joint, suppuration, amputation, serum injection, no improvement. The fifth case was one of general extensive purulent peritonitis from appendicitis; no benefit from the serum, death. The sixth case was one of perforative appendicitis; general suppurative peritonitis, operation, use of serum, the only effect being on the pulse, which fell to 60. The circulatory effects disappeared when the serum was discontinued. The patient succumbed on the fifth day after the operation.

In his remarks Dr. Weir said that most of the German writers had expressed an opinion adverse to the effects of the serum. But Aronson had pointed out that the serum lost its value if kept beyond a certain age. Marmorek and Baginski had reported good results from its use in scarlet fever—prevention and disappearance of glandular enlargements, etc. Remarks were also made upon the varying effect due to different kinds of pus-producing germs and of streptococci. Mention was made of Dr. Lilienthal's case and of Dr. Gerster's experience, which had been more favorable. Dr. Weir thought it was fair to draw the conclusion that Marmorek's serum had a good effect in erysipelas and probably in scarlet fever; that its value had yet to be proved in puerperal sepsis: that it was worthy of further trial in surgery.

Dr. Lilienthal was asked to open the discussion. He thought there ought to be a more accurate method of dosage than by cubic centimetres. As with diphtheria antitoxin, it would be desirable, if possible, to grade the dose by antitoxin units. The entire technique seemed to be in its infancy. The eight cases in which he had seen it used led him to think it had a great future.

The chairman, Dr. Van Arsdale, wished to put on record two cases of general septic peritonitis with recovery after operation and the use of streptococcus antitoxin. One was a case of appendicitis in a schoolgirl; laparotomy, abscess found, also general purulent peritonitis; insertion of drainage tubes, use of the serum, recovery. The other case, diagnosticated as general peritonitis, was found to be due to gangrene of the gall bladder; sero-purulent peritonitis present, drainage established, serum used, recovery. In these cases he had used from six to nine cubic centimetres of streptococcus antitoxin at a dose.

SECTION ON GENITO-URINARY SURGERY.

Stated Meeting, April 13, 1897.

Ramon Guitéras, M.D., Chairman.

Cancer of the Testicle, Cord, and Omentum.—Dr. Eugene Fuller presented a sausage-shaped mass, about two inches in diameter by five inches in length, consisting of the testicles, cord, and a piece of omentum, which constituted one carcinomatous tumor. The disease had extended up from the testicle, and had involved the omentum back of the internal ring, apparently by proximity. When he began the operation it was his impression that the tumor was a hæmatocele, the result of a kick received about a month previously, and that the tumor had undergone inflammatory changes. The pathologist had examined it and pronounced it sarcoma. The inguinal glands were enlarged and were removed. The man recovered and left the hospital. It was the only case known to him in which a cancer of the testicle had extended up and attached itself on to the omentum in this peculiar way.

Report on Catheterization of the Ureters in the Male (Seven Cases).—Dr. Willy Meyer read the paper (see page 613).

A Difficult Procedure.—Dr. Samuel Alexander thought the author had presented the subject as based

on his own experience in a fair and conservative way. One might, however, obtain a false idea of the ease with which the ureters could be catheterized, if he could judge from his own experience and observation of that of others. Dr. Alexander had tried to catheterize the ureters in four cases, and had succeeded in only one, using Casper's cystoscope. The successful case proved to be one of tuberculosis of the kidney, in which he performed nephrotomy and drained the kidney. Pus had been obtained by catheterization from both ureters, and in it were tubercle bacilli, yet after draining the one kidney the urine from the other cleared up. In the other cases he had seen the ureteral orifices, but had failed to enter.

Dr. F. K. Otis thought that a cystoscope constructed with the mirror at the outer instead of at the inner end would be easier to use than Casper's or Nitze's. Instrument makers here and in Paris had thus far failed to carry out his suggestions, although the theory, he thought, was correct and could be made practical. With such an instrument one could gain direct entrance into the ureteral orifice.

Dr. Frederic E. Sondern remarked as follows:

"Through the kindness of Dr. Willy Meyer, I have had for examination the specimens of urine obtained from the cases he has mentioned.

"It is for the consideration of such examination of urine obtained by ureter catheterism in the male, as compared with those made without the use of the separate analysis, in other words, an analysis of the bladder urine in similar cases, that I would intrude on your time for a few minutes.

"The difficulties presented by an examination of bladder urine in an endeavor to make a diagnosis of the surgical diseases of the kidney are manifold, and to infer the presence of a healthy kidney in addition to the diseased one is generally not possible without error, even in the most typical cases.

"Surgical diseases of the kidney being so frequently associated with primary or secondary affections of the bladder, the resulting bladder elements in the urine tend to hide the structures desired for diagnosis of the renal lesion.

"The large quantities of bladder pus, mucus, and groups of epithelial cells thus make it more difficult to find a few casts, tubular plugs of pus originating in the kidney, elements of pseudoplasm, pathogenic organisms, such as tubercle bacilli, gonococci, etc., and to differentiate groups of pelvic and other renal epithelial cells, to say nothing of the fermentation frequently begun in the bladder, which, if marked, as so frequently is the case, is apt to change the renal elements so that they cannot be recognized at all. The latter difficulty has been somewhat reduced by the use of the centrifugal apparatus, as I described in the *Medical Journal* of February 25, 1893, by means of which a specimen can be examined immediately after it is passed, and before the fermentation has been allowed to proceed.

"Let me cite a few points: Take, for example, a case in which a diagnosis of pyelitis has been made. The question is: To what extent is the parenchyma affected and have we a normal kidney on the other side? Urinary analysis, carefully done, without going into details, shows that we have to deal with a pyelitis. We find, say, some hyaline, epithelial-studded and possibly a few granular casts, and a practically normal daily excretion of urea. Have we a badly affected parenchyma on one side, with a normal one on the other doing the excretory work? Or have we simply a hyperæmia of the parenchyma secondary to the pyelitis, both kidneys doing normal work? Or have we a bilateral pyelitis with hyperæmia only of the parenchyma of each kidney? In other words, shall we consider a nephrotomy or a nephrectomy indicated in this man? In many instances it is well to know which before operation. From the point of view of the clinical microscopist, I have given these points much attention, and must conclude, as do others, that every specimen of this kind offers the same difficult problem.

"The separate analysis of urine from each kidney, in connection with the clinical data, makes such a complete and positive diagnosis absolutely unequalled by any procedure which has hitherto been at our service, and justifies a conclusion as to the functional activity of each organ which before has never been possible in the male.

"Such separate examination always decides whether the pathological process is unilateral or bilateral, and, with a record of the excretory power of each kidney in addition, we have the cardinal points in forming the indications or counterindications to surgical procedure. While we have been able to do all this in the female, Dr. Willy Meyer's paper fully demonstrates how successfully the same has been done by him in the male, which is a long step in the direction of improvement in the diagnosis, indications for treatment, as well as safety for the male cases of surgical kidney.

"As to the analysis of specimens obtained by ureter catheter, the fact that this procedure collects urine only as it is voided by the kidney, and therefore consumes not a little of the operator's time, and, in not a few instances, the pathological renal lesions calling for its employment are associated with more or less irritable conditions of the bladder, for the sake of both operator and patient it is essential to minimize the time of collection, and, therefore, to employ methods of analysis requiring the smallest amounts of urine which will at the same time be consistent with thorough work. I have been able to satisfy myself of the efficacy of the following technique, which I take the liberty of recommending under the circumstances cited. While I have found that six cubic centimetres form the smallest practicable amount required, it is, however, possible to use even less by carefully diluting the amount at hand, as would be indicated if for some reason a larger amount could not be obtained; and if ten cubic centimetres can be secured the work is even more easily done.

"For the purpose of collection I use two glass tubes with stoppers ground in, marked respectively 'Right' and 'Left.' These, after thorough cleansing, are sterilized in the usual manner and placed in a small box for safe transportation. On the back of the latter is a label calling for information as to the time required to collect the contained quantity from each kidney, and such other remarks as may be of value. Granted that we have six cubic centimetres in one of the sterile tubes, or, as before stated, if the amount is smaller, that an accurate dilution has been made, my method of procedure is as follows: This entire amount is poured into the receptacle of a Westphal's specific-gravity balance; and I may state that the apparatus is a very accurate one, far more so than the better class of urinometers. It is not possible to obtain one of the latter that will work with anywhere near such small quantities of fluid as we are considering here.

"After noting the gravity indicated by the balance with the use of a series of weights, the sediment of the whole quantity is obtained by means of a centrifugal device, for which purpose one of the many forms of apparatus now on the market may be used. I believe better results follow a speed not excessive and continued for a longer period than otherwise.

"The sediment thus obtained is sufficient not only for the routine microscopic examination, but after this has been made the same deposit can be used for staining for pathogenic organisms, or such other pur-

poses as the case in question may indicate (chemical tests to corroborate diagnosis of crystalline or amorphous deposits, etc.).

"The remaining specimen is then carefully poured through a small filter, and after the reaction has been determined at least five cubic centimetres remain. Of this quantity one cubic centimetre is used for Heller's cold nitric-acid test for albumin, or Tanret's, or the ferrocyanide-of-potassium test, as the analyzer may prefer; one cubic centimetre for Esbach's picric-acid test to corroborate one or other of the former. If albumin has been found, the remaining three cubic centimetres are then boiled and the former filtered off.

"One cubic centimetre is then used for the relative determination of urea, which I think is a most important point. Half a cubic centimetre properly diluted serves for the sugar test, for which at present I prefer the Whitney reagent, principally on account of the small amount of urine required and the fact that a quantitative result is obtained at the same time. Deducting shrinkage, one cubic centimetre now remains, which can be used for the approximate estimation of the chlorides present, or for one or other chemical test which the condition in question may indicate.

"After the specimen from each kidney has been thus manipulated and the results have been noted, it is an easy matter to draw logical conclusions as to the condition of each organ.

"Bacteriological researches by means of cultures made from the specimens, collected in the sterile tubes in the aseptic manner in which surgeons are in the habit of working, may be of much value in determining the etiological factors of the pathological conditions in question.

"To recapitulate, the points on which information is desired are the following:

"Do the specimens from each kidney differ from one another in the following, and to what extent?

"1. Quantity. Is there a unilateral polyuria, anuria, or diminished excretion in quantity?

"2. Color.

"3. Odor (as would be the case if there were a fermentation in the renal pelvis).

"4. Reaction.

"5. Specific gravity.

"6. Deposit.

"7. Quantity of urea and chlorides excreted in a given time, being the means of determining the comparative excretory power of each kidney.

"8. Presence or absence of albumin and sugar.

"9. Microscopic examination. (*a*) Evidences of the affection of the parenchyma, to be considered in connection with the amount of albumin and the relative excretion of urea and chlorides. (*b*) Evidences of the condition of the renal pelvis, pyelitis, simple catarrh, etc. (*c*) Evidences of a pyonephrosis. (*d*) Etiological factors, elements of pseudoplasm, pathogenic organisms, evidences of stone.

"Dr. Willy Meyer has pointed out the cardinal features of the specimens obtained from male patients, so I will not repeat them here. Let me, however, add the details of a typical examination of the character in question:

"Right kidney: 9 c.c. obtained in 14 minutes. Odor, slightly offensive. Specific gravity, 1.004. Urea, 1 per cent. Chlorides, ¼ per cent. Albumin, ¼ per mille (Esbach). Microscopically: Pus and tubular plugs of the same: mucus: hyaline, epithelial-studded, and granular casts: groups of epithelial cells from the renal pelvis; casts of sodium urate.

"Left kidney: 11 c.c. obtained in 14 minutes, normal. Specific gravity, 1.008. Urea, 1 per cent. Chlorides, ½ per cent. Albumin, none. Microscopically: No renal elements: no crystalline deposit.

"What conclusions are we allowed?

"1. The left kidney is normal.

"2. Right pyelonephritis, on account of the diminished excretion of urea and chlorides, presence of albumin, and the microscopic picture as stated.

"3. That if all the urine secreted by the kidney during the stated time was caught by the catheter, an estimate of the percentage of the excretory work done by each kidney would be: right kidney, 30 per cent.; left kidney, 70 per cent.

"As a portion of the urine is liable to descend alongside the catheter, there is some liability to error.

"Still, when we learn these details of each organ separately, how simple becomes the matter of diagnosis, how plain the indications for treatment, and how exact is the procedure as compared with former methods in male patients."

Dr. Eugene Fuller said he had made considerable use of Casper's instrument, but had not found ready entrance into the male ureter. He thought it could be improved upon, and the idea suggested by Dr. Otis seemed to him a good one. If a catheter could be introduced into both ureters at the same time it would be an advantage, for the traumatism caused by introducing it into one might cause sympathetic anuria before it was introduced into the other, and thus make it appear that the second kidney was secreting less urine. Among morphological elements, pus was of great value. One might think he had evidence of stone, and yet find none on operating. But such operations not infrequently resulted in relief.

Dr. Bangs would confess to failure in his attempts to catheterize the male ureter. His opportunities, however, had been limited, for he had made the attempt only in cases in which it seemed necessary for diagnostic purposes.

Dr. Ferd. Valentine said he envied Dr. Meyer his success, which no doubt depended upon skill, for Dr. Valentine had himself failed in his first attempts to catheterize the male ureter, although he had had the best instructors, including Casper himself. His first success was with Nitze's instrument, and among the advantages which this possessed were smallness compared with Casper's, the ease with which it could be turned to the right or left when in the bladder, and the fact that, on withdrawing the light tube, one could use it as a straight child's cystoscope.

Dr. Meyer said, in closing, that when the mouth of the ureter was farthest away in the cystoscopic picture, almost invariably the catheter would enter. He regretted that Dr. Otis was spending his ingenuity in improving or inventing instruments for ureteral catheterization, for the ground had been gone over thoroughly already, and the best points had been embodied in the instruments of Casper and Nitze. It would be wiser to employ one's time in mastering the use of these. The advantages expected from Dr. Otis' theoretical instrument would be more than offset by important disadvantages. For instance, one could not view the whole bladder through a straight instrument —only the picture immediately ahead; whereas with the other instruments an area was illuminated as large at least as a half-dollar. Dr. Meyer had limited his work to office patients and those whose consent precluded the possibility of a suit at law. He preferred Casper's instrument somewhat to Nitze's. He had never been successful with Brown's.

Malignant Disease of the Penis Sembling Fibro-Sclerosis.—Dr. Alexander repeated the principal points in the clinical history of the case which he had related in the discussion on Dr. Taylor's paper on fibro-sclerosis of the penis, read at the February meeting. Afterward the pathologists presented their reports on the tumor. It would be remembered that the man was troubled with upward curving of the penis

during erection; that there was a small lump on the dorsum of the penis, which on removal measured about two and one-half centimetres in breadth and length, involving the corpora cavernosa. It was examined by Dr. E. K. Dunham, and there was a question whether it was carcinoma.

Dr. E. K. Dunham demonstrated the microscopical appearances on the board, and expressed the opinion that it was endothelioma, and this opinion was concurred in by Dr. Johnson, Dr. Young, and Dr. Prudden. Dr. Pollitzer thought it was cancer, but of epithelial, not endothelial, origin.

Surgical Suggestions.

Immunity from Infection.—Dr. Stimson says that ahbitual immunity from infection creates an operative confidence that may lead to a neglect to give full weight to such warnings or contraindications as might be found in the probable severity of the operation, or in the deduction of the patient's vitality, especially in malignant disease.

Surgical Treatment of Focal Epilepsy.—Drs. Sachs and Gerster (*American Journal of the Medical Sciences*, October, 1896), in a paper on this subject, conclude as follows: 1. Surgical interference is advisable in those cases of partial epilepsy in which not more than one year, or at the utmost two years have elapsed since the traumatic injury or the beginning of the disease which has given rise to the convulsive seizures. 2. In cases of depression or other injury to the skull, surgical interference is warranted, even though a number of years have elapsed; but the prospect of recovery is brighter the shorter the time since the injury. 3. Simple trephining may prove sufficient in a number of cases, and particularly in those in which there is an injury to the skull or in which a cystic condition is the main cause of the epilepsy. 4. Excision of cortical tissue is advisable if the epilepsy has lasted but a short time and if the symptoms point to a strictly circumscribed focus of disease. 5. Since such cortical lesions are often of microscopical character, excision should be practised even if the tissue seems to be perfectly normal at the time of operation; but the greatest caution should be exercised in order to make sure that the proper area is removed. 6. Surgical interference for the cure of epilepsy associated with infantile cerebral palsies may be attempted, particularly if too long an interval has not elapsed since the beginning of the palsy. 7. In cases of epilepsy of long standing, in which there is in all probability a widespread degeneration of the association fibres, every surgical procedure is useless.

Uterine Drainage as a Factor in the Prevention and Relief of Pelvic Inflammation.—Dr. R. R. Kime concludes an article in the *Southern Medical Record* of February, 1897, as follows: 1. A uterine tampon is not a true drain and even obstructs drainage in many cases. 2. Capillary drainage is secured by carrying a strip of gauze up into the uterine cavity, not packing it, and then it drains for a few hours only. 3. Gauze cannot act even as a capillary drain when either end or centre is constricted, or when coated with mucus. 4. Gauze, when saturated with serum, unless it contains an antiseptic, forms a hotbed for germ development. 5. Never tampon the uterus in puerperal septic infection except to check hemorrhage. 6. The good effect of a gauze tampon in cases of endometritis and after abortion is not due to drainage, but to its effect as a tampon, *i.e.*, checking hemorrhage, stimulating uterine contractions, prolonging medication of the endometrium, and acting as a surgical dressing. 7. The uterine drainage tube is the most essential factor in the treatment of puerperal infection and the best method of securing drainage when demanded in other diseased conditions of the uterus. 8. It will save more lives, relieve and prevent more pelvic complications than any other one factor at our command.

Ovarian Tumors Complicating Pregnancy.—Dr. Hohl (*Archiv für Gynäkologie*, Band lii., Heft 2) concludes his paper on this subject as follows: 1. Ovariotomy should be performed during the early months of pregnancy if possible. Artificial abortion may be produced in cases in which the tumor is intraligamentous, or is firmly adherent, so that an operation would be difficult; puncture should not be considered. 2. During labor the tumor should be replaced, if possible, under anæsthesia; in case this does not succeed, puncture may be resorted to, with subsequent vaginal incision, if necessary. A Cæsarean section is indicated in the case of solid tumors, when the child is living. Ovariotomy may be performed immediately after, or it may be postponed until the puerperium. It is not justifiable to perform ovariotomy during labor. 3. If performed during the puerperium, the operation should not be done later than the second week.

The Antiseptic Value of Iodoform.—Dr. Lomry (*Archiv für klinische Chirurgie*, vol. liii., p. 787) has investigated this question and attempts to explain the different results obtained by bacteriological experiment and surgical experience. He confined his investigations to the pyogenic streptococci and staphylococci, because it is here that the difference exists. He found that iodoform aided the healing process in dogs as in human beings. In vibrio the growth of cultures was markedly diminished by the addition of iodoform to the nutrient medium. The negative results of previous experimenters are due to their having employed culture media in which iodoform is insoluble. In various kinds of serum in which iodoform is slightly soluble, the effect is very appreciable and explains the action in suppurating wounds. It was also shown that the virulence of the micro-organisms is diminished and their toxins are partly neutralized by iodoform, and instead of injuring leucocytes iodoform actually stimulates phagocytosis. But since it is not bactericidal, ordinary aseptic precautions should not be neglected, and clean iodoform should be used. Iodoform dressings should be renewed daily, so that leucocytes which have done their work may not remain as food for surviving microbes.

A New Method of Operating for Hydrocele.—Surgeon Lieut.-Col. E. Lawrie (*The Lancet*, June 13, 1896) presents the following method for the radical cure of hydrocele: The sac is punctured in the usual way, and after drawing off one-third or one-half of the fluid two drachms of a saturated solution of bichloride of mercury in glycerin are injected into the sac and allowed to remain for from one-half to one minute. The whole fluid is then drawn off. Little pain is experienced, and unless the patient is nervous and takes chloroform he is able to move about immediately after the operation. He may rest for a few days, but must not in any case lie in bed, and in the course of a week he will be entirely well. Provided the physician is careful that his hands, instruments, and injections are clean and free from micrococci when the puncture and injection are made, a uniform result is attained.

Cocaine in Surgery.—The "Codex Medicus" gives some useful suggestions as to the employment of cocaine in surgery: 1. The use of cocaine should not be abandoned because its irrational employment has produced deleterious results. 2. Always make a thorough physical examination of the patient before inject-

ing the drug. 3. It should not be used in cases showing organic diseases of the brain, heart, lungs, or kidneys, or in persons of neurotic diathesis. 4. Children bear it fully as well as adults. 5. The patient should always be placed in a recumbent position prior to its employment. 6. Constriction should be used whenever possible, to limit the action of the drug to a desired area. 7. Use a freshly prepared solution for each case. 8. Distilled water should always be employed, to which phenic, salicylic, or boric acid should be added. 9. A two-per-cent. solution has a better effect, and is safer than solutions of greater strength. 10. Never inject a larger quantity than one and one-eighth grains when no constriction is used. 11. About the head, face, and neck, one-third of a grain should never be exceeded. 12. When constriction is possible, the dose may be as large as two grains. 13. Every slight physiological effect is not necessarily to be taken as cause for alarm. 14. Cocaine does have effect upon inflamed tissues. 15. In case alarming symptoms occur, use amyl nitrite, strychnine, digitalis, ether, or ammonia.

The Conservative Tendency in Surgery.—Dr. Jabez Jackson says: "All along the lines in surgery a conservative trend is apparent. We are now sifting the gems from the sand we have shovelled in past years, and separating the true from the false doctrines of modern surgery. The most precious metals are, in mining, found oft mixed with many that are dross, and no true progress is ever made in life without mistakes along the way. The day of extreme radicalism is passing fast; but, had it never dawned, the sunlight of to-day's conservatism would never have dawned through ignorance's sable cloud."

Deep-Seated Thoracic Aneurisms.—Dr. Clarke (*The Clinical Journal*, December 9, 1896) outlines the symptoms of this affection in the following manner: 1. Pain, which is paroxysmal, sharp, or lancinating in character, often increased or brought on by any exertion: or the pain may be deep-seated, gnawing, burning, or aching in character, especially when the aneurism is eroding the vertebræ. It is generally more or less relieved by rest. The pain may radiate down the arms, especially the left arm, or up the neck, and attacks of pain like those of angina pectoris may be complained of, especially in aneurisms springing from the commencement of the aorta. 2. Dyspnœa, either in the form of paroxysmal attacks closely resembling asthma, or as constant shortness of breath on the least exertion. Dyspnœa may be due to pressure on the recurrent laryngeal nerves, or on the trachea or large bronchi, and is then often accompanied by stridor, unilateral or bilateral. 3. Cough. The cough sometimes comes in violent paroxysms, with the characteristics of the cough which is caused by the presence of bronchiectases, ending in retching or vomiting, and the expectoration of a quantity of watery mucus or of muco-purulent matter, which may be slightly fœtid. Or general bronchitis may be present. Or the cough may be due to pressure on the laryngeal nerves, and has then a peculiar brassy or ringing character. 4. Hæmoptysis may occur in the form of a coughing up of blood-tinged expectoration or of a more profuse hemorrhage. This symptom may be due to the exposure of the aneurism in the wall of the trachea, and may go on for some time before the final rupture. Sometimes hæmoptysis is due to erosion of the tissue of the lung. Any hæmoptysis in aneurism is a serious symptom, because we can never precisely know the exact conditions present. 5. Dysphagia. It must always be borne in mind that a bougie should not be passed into the œsophagus for dysphagia, until it has been ascertained from the analysis of the symptoms and physical signs that the cause of the dysphagia is not likely to be an aneurism. Otherwise the result of passing the bougie may be the rupture of an aneurismal sac, which when it presses upon the œsophagus has often a very thin wall.

Carcinoma Uteri.—Dr. Montgomery advises extirpation of the uterus through the vagina when the disease is confined to the uterus walls and the surrounding tissues are not involved. He advises abdominal hysterectomy when the disease has extended beyond the structure of the uterus, as it facilitates the removal of the entire mass, the observation of the position, and evasion of the ureters. He advises ligation of the internal iliac arteries after ligation of the ovarian arteries, if the broad ligament or the vaginal walls are involved.

Horsley's Antiseptic Wax.—This preparation consists of beeswax, seven parts; almond oil, one part; and salicylic acid, one part. Professor Keen introduced this preparation into Jefferson Hospital several years ago, and uses it extensively to arrest bleeding from the bone during operation. After removal of a growth from the jaw, as an exostosis or an epulis, the bleeding can be controlled by this application. The wax is of great service in bleeding from diploe or cancellous bone.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOSPITAL ABUSE—THE REFORM SOCIETY—REPORT OF VISITORS APPOINTED—ALLEGED INCREASE OF INSANITY—SPECIAL REPORT OF THE COMMISSIONERS—X-RAYS SOCIETY—INFLUENZA.

London, April 9, 1897

The new Hospital Reform Association is forging ahead under the able piloting of Mr. Garrett Horder. But it is a troubled sea on which he has embarked and already signs of storm are visible. A memorial to the Royal College of Physicians, asking it to undertake an investigation into the subject of hospital reform, has been adopted, but it requires great faith to anticipate anything from that venerable body, whose rulers have most of them complacently profited for years (indirectly of course) from the system which needs reforming. In the mean time the society has adopted a report prepared by Dr. Knowsly Sibley and Dr. E. A. Snape. These gentlemen were appointed by the society to inquire into the working of the special hospitals of London. They have personally visited forty-one such institutions, making eighty visits, nearly two each. Their report is now before me, and is largely made up from the reports of the hospitals for the year 1895. So far there is not much of interest in it, and the facts were at the service of any one who chose to collect and compare the reports.

It is otherwise, however, with the impressions gathered from interviews with the secretaries and other officials. Most of them were ready enough to give information and discuss the probabilities of abuse and the means of preventing it. Some few were reticent, and one or two refused all information. This is as might have been expected. The relative value of the several institutions may be partially gauged by the facts tabulated in this report, but it will be no revelation to any one who has experience in out-patient hospital work. A very important point brought forward is the extent to which these institutions rely on the patients' payments for a large proportion of their income, suggesting the possibility that these patients

could afford to employ general practitioners. In some of the most unexceptional institutions the patients contribute three times as much as the subscribers, showing how important an item these payments are in the aggregate. There are instances in which from ten to twenty-five times as much is obtained from the patients as from subscribers. On the face of it this is bad. The visitors recommend the appointment of paid inquiry officers, but managers will be reluctant thus to increase expenses. They further recommend a wage limit of thirty shillings a week for single and fifty shillings for married people. They propose to send a letter to every member of a staff of a hospital, to enlist their interest. Further they recommend the abolition of subscribers' letters. No great objection will be taken to this, for the production of these letters is seldom rigidly enforced. Finally they propose that consultants should reduce their fees for cases sent to the hospitals for an opinion by general practitioners. I think this would be a mistake and lead to unpleasant complications. No fee ought to be taken for anything done at the hospital, and the proposal is on the down grade. There are plenty of consultants who would be pleased to meet a general practitioner's views as to the fee his patient could really afford. Why, then, introduce him to the hospital?

Considerable anxiety is evinced by the public as to the alleged increase of lunacy and some important organs in the press have fostered the alarm, a process easy enough by the careless quotation of statistics. If the number of persons in asylums now, and the number a few years ago, be compared, of course there is a considerable difference. The population has increased as a whole, and all sections with it. That is the first point. Then the better accommodation that has been provided, and the ease with which the poorest can obtain the benefit of treatment in asylums, have induced among all classes, but especially the lower, a readiness to avail themselves of these benefits which could scarcely have been anticipated. Also there remains a reserve of cases outside official knowledge, from which there is a steady and probably increasing flow toward asylums. Among other causes may be named greater accuracy of registration; extended views as to what constitutes insanity requiring confinement; increased density of town populations and decrease of home industries, making it more and more difficult to care for cases in their homes; increased admissions of temporary cases, such as delirium tremens.

When all these and other points have been allowed for, are we to accept the alarmist's notion that there is such a frightful increase of insanity, and that it is due to the pace at which we live in this generation? Our lunacy commissioners think not, and have issued a special report on the subject which is as assuring as their previous utterances. They circularized the superintendents of asylums as to their opinions on the question, and asked for facts and figures on which these opinions were based.

Out of sixty-two replies received, ten admitted some increase and one writer attributed it to the prevalence of influenza in his district. In this view he is supported by Dr. Clouston's last report of the Edinburgh asylum. Of the other answers, thirty were to the effect that there was no increase, and twenty-two that no definite conclusion had been reached. The statistics in this report show that the increase of insanity is almost confined to the pauper class. The absolute increase in numbers of this class admitted to asylums is very considerable, and perhaps the ratio to the population may have recently increased, but former reports up to the last show that the ratio has been stationary for the last five years. The causes mentioned above seem sufficient to account for the apparent increase, and there is no justification for some of the sensational statements that have been circulated.

A skiagraphical society has been formed, the moving spirit being Dr. David Walsh, of the Western Skin Hospital. Scientific as well as medical members are to be admitted, which seems sensible enough, and with Dr. Walsh as honorable secretary the professional users of the *x*-rays are not likely to be neglected.

Influenza has abated and the deaths for the week are below the average for the seven years in which it has prevailed. The mortality from respiratory diseases as a whole continues greatly below the average.

IS CONSUMPTION CONTAGIOUS?

To the Editor of the Medical Record

Sir: In the decision of this question it would appear that the following facts should have an important influence:

In the Brooklyn Home for Consumptives there have been treated, during the fifteen years of its existence, twenty-two hundred and eighty-six patients. The number of employees outside of the staff is at present twenty-one. Of these, three nurses have been employed there for more than three years. In not one of the persons thus employed has consumption, in any form, developed. On the contrary, although some of them have more or less hereditary tendency to this disease, the health of many has decidedly improved since their employment there.

The sputa are all collected in china mugs, and are cremated. At irregular intervals the walls, which are all painted, are washed with disinfectants. The floors are of closely fitted pine, and rugs are used in place of carpets.

Still, many of the patients are ignorant and careless, and doubtless disobey the prudent regulations of the institution.

All of these facts tend to prove, it would seem, that if the disease is contagious it must be very mildly so, and that such contagion may be readily avoided.

W. S. Searle, M.D.

Brooklyn, N. Y.

THE INSIDIOUS INFLUENCE OF THE SOIL ON HEALTH.

To the Editor of the Medical Record.

Sir: Much attention has been given of late to domestic sanitation. The average modern house has better drainage than the millionaire's mansion of twenty years ago. In most cities plumbing must be executed under official supervision, and the public health has been greatly benefited in consequence.

Not enough thought, however, has been given to the insidious influence of the soil upon health. Dr. Bowditch, of Boston, and Dr. Buchannan, of England, by their simultaneous investigations showed the important relations which ground moisture bears to consumption, and I am inclined to think that the health of the community is more affected by the sanitary state of the soil than by all other influences. This is particularly true of New York, where there is so much made land, and where the soil in many places is made damp by old watercourses and polluted by the leakage from gas, water, and steam pipes. Wherever the earth is turned up to lay sewers or water mains, there is an unmistakable odor of illuminating gas, and the ground everywhere is more or less contaminated. It is well known that illuminating gas will pass through frozen ground and crevices in rock for a long distance, and so will cesspool air. Neither foundation walls nor cement flooring are a barrier to damp or foul air,

while their entrance is accelerated by the suction of stoves and open fireplaces. The well-known experiments of Pettenkofer and Professor Doremus may be referred to in this connection.

The mortality charts of the health board show a close relation between the prevalence of certain diseases and the condition of the soil. In low-lying or saturated sections, typhoid, diphtheria, malarial fever, and other diseases find a permanent home. If Manhattan Island could be thoroughly drained, consumption would undoubtedly diminish.

Our overheated houses are like gigantic cupping-glasses, and any impurities in the soil will inevitably be diffused throughout dwellings. In Bombay the plague has flourished most in houses with floors saturated with dripping faucets and drainage. House plants die if placed in a waterlogged soil, and human habitations, like their occupants, should not have wet feet.

In testing a suburban residence with the smoke test recently, I discovered that cesspool air was being forced back into the house through minute crevices in the soil from quite a distance. In a large apartment house the emanations from surface water in the cellar, heated by an adjacent boiler, rose through the casing around a waste pipe into a bedroom on the tenth floor, and caused malaria among the inmates. When the opening was plastered up, the attacks ceased.

Many like cases indicate that more attention should be given to the effects of such conditions on health. I should be glad to obtain from your readers further evidence to corroborate these observations.

CHARLES F. WINGATE, *Sanitary Engineer.*

119 PEARL STREET, April 20, 1897.

Therapeutic Hints.

Ichthyol as a Laxative.—Dr. Gunsburg reports in the *Bulletin Général de Thérapeutique*, October, 1896, that he has given ichthyol in three-grain pills once, twice, or thrice a day in treating women suffering from various inflammatory affections of the genitalia, accompanied by constipation and dyspepsia. He treated fifty cases with the uniform result that the constipation was overcome without colicky pain or diarrhœa: the appetite improved, and the pain in the abdomen decreased. Dr. Gunsburg suggests that the ichthyol be given in keratin-coated or enteric pills.

Ichthyol in Tuberculosis.—It is reported from the Belleville Hospital, Paris, that good results have followed the administration of this drug in the various forms of tuberculosis. The digestive functions were not disturbed; gastric fermentations were relieved. It is best given in the form of capsules; fifteen to fifty-five grains may be administered daily. The doses should be given before meals. Larger doses, when they could be taken, produced quicker results.

The Effect of Rapid Motion on Children.—Dr. John Madison Taylor, in an article on "Children of Feeble Resistance; Their Care and Management," published in the *Medical Times and Hospital Gazette*, December 19, 1896, says that it is very unwise to submit babies to rapid journeys and the looking out of windows at swiftly passing objects while flying along. He says that he has seen migraine develop apparently through the custom of giving small children exercise in a carriage with a pair of fast horses every day. Certain instances of profound disturbance have been caused by this means, and it is reasonable to infer that a continuance of such measures may produce lasting damage upon so delicate an organ as the eye, and the whole sensitive organism is thus imperilled. It is also unwise to encourage a child to sleep while being driven about. The motion is both regular and subject to sudden irregularities. The persistence of one kind of motion up and down is bad, not only producing unsound sleep, but keeping up a molecular agitation which has little to recommend it. If the infant be sufficiently old to sit up or be held up by the nurse, a strain is put upon the spinal column. Thus continuous mild concussions are administered to the brain and spinal cord; the eye is put upon a strain, thus acting directly upon the brain: an element of excitement is introduced, and physiological irritability is the probable result.

Treatment of Tetany.—The *British Medical Journal* points out that the two indications in the treatment of tetany are to favor the expulsion of toxic substances and to prevent their formation. Calomel meets both these indications, and Dr. Oddo recommends a dose of three-fourths of a grain, or a little more if the age of the child warrants it. Washing out the stomach is also a useful measure, but it must be used with discrimination, owing to the danger of exciting laryngeal spasm.

Laryngo-Pulmonary Phthisis.—Dr. Whaling concludes a particle in the *Journal of the American Medical Association*, February 13th, with the following summary: (1) We are still in need of a panacea in laryngeal phthisis. (2) Trichloride of iodine, guaiacol, and lactic acid are the best local remedies. (3) Good results have been reported from cutting away portions of the diseased tissues and applying lactic acid. (4) Guaiacol, or a solution of morphine, tannic and carbolic acids in glycerin and distilled water are most satisfactory to relieve pain. (5) Cocaine should be resorted to only in extreme cases. (6) Surgical treatment should not be recommended in advanced phthisis. (7) Tracheotomy should be peformed only for the promotion of euthanasia in cases of severe stenosis of the larynx.

Alopecia Areata in childhood is treated by a ten-per-cent. sulphur ointment, containing a little salicylic acid, the scalp is washed with a salicylic-acid soap brushed with a soft brush wet with a 1 to 1,000 bichloride solution. For the actual plague itself strong bichloride solutions are employed, 1 to 100 or 1 to 50, with the addition of ten per cent. of acetic acid.—FEULARD.

Phthisis.—Dr. Winternitz (*Deutsche med. Wochenschrift*) says that cold water is the best means of fortifying the system against phthisis, because of its general tonic effect. In cases already advanced cold water decreases the fever and night sweats, increases the body weight, and lightens and diminishes the cough and expectoration and other subjective complaints. The local condition is improved, and there is a lessening or disappearance of the bacilli. These statements Dr. Winternitz has proved by clinical work.

Repose in Bed for the Insane.—*La Presse Médicale* reports that in St. Petersburg this system of rest has been introduced on a large scale for noisy, excitable patients, and cases with psychic depression and general debility. Neither force nor narcotics are used, but the patients are simply accustomed to remain in bed, although they take their exercise as usual. It is not necessary to keep them in separate apartments, and the economy of space and trouble to attendants render the practice a great convenience.

The Treatment of Disabled Joints Resulting from So-Called Rheumatoid Disease.—Dr. Goldthwait (*Boston Medical and Surgical Journal*, January 28th),

in an article on the above subject, draws the following conclusions: Of the cases classed as rheumatoid arthritis two types are described, clinically, which for convenience are designated rheumatoid arthritis and osteo-arthritis. The differentiation between the two types is of the utmost importance in the treatment. Rheumatoid arthritis is much more acute than the other; it occurs in middle and advanced life, but early in life as well. During the acute stage the joints show a spindle-shaped swelling, which finally subsides, leaving the joint much atrophied and usually ankylosed. In these cases the joints should be manipulated after all acute symptoms have disappeared, and the character of the manipulation is of much importance. Cases are reported showing the results of treatment in this class. Osteo-arthritis is a much more chronic condition, occurring only in middle life or old age, and is characterized by a proliferation of the articular cartilage, with the formation of nodes about the joints. These cases should not be manipulated, as any injury or undue violence results in a more rapid development of the cartilage. It is this tendency which explains the impairment of function which so often results after comparatively simple injuries to a joint. Protection and immobilization in such cases are of importance.

Acromegaly.—Dr. Marinesco has reported three cases to the Académie de Médecine, in which he has treated acromegaly with tablets of pituitary-body extract. In this disease he finds the pituitary body constantly hypertrophied and altered. There was no diminution of the parts affected, but the headache and neuralgic pains in the limbs were either diminished or disappeared entirely, movements becoming slightly freer and the urine being increased in quanity.

Sciatica.—Inject deeply into muscles near the nerve one to four cubic centimetres of a solution of five grams of glycero-phosphate of sodium in twenty grams of distilled water. It does not produce pain, and recent cases end in recovery after a few days, while inveterate instances are improved.—Billard, *Gaz. des Hôp.*, January 21st.

Pertussis.—

℞ Tr. bellad.	10 gm.
Phenacetin	5 "
Spirit. frumenti	15 "
Ext. fol. eastaneæ fl.	60 "

S. For infants of one year, ten drops. For infants of ten years, one drachm every two to six hours.

—Lancaster.

Dyspepsia Accompanied by Acne.—To excite glandular secretion:

℞ Potass. sulphat., Sodii sulphat.	āā 0.05 cgm.
Pulv. ipecac., Pulv. strych. ignatii sem.	āā 0.01 "
Sod. bicarb.	0.30 "

For one powder. One such to be taken before each meal, the St. Ignatius bean being a stimulant to the muscular fibres of the stomach. Lebon.

Tincture of ignatia amara may be taken in fifteen-drop doses after each meal.—Mitour.

Ichthyol for Insect Stings.—Dr. W. Ottinger (*Wiener medizinische Blätter*, December 8, 1896) tells of his lack of success with ammonia, but says that he has found ichthyol an admirable remedy. He has tried it for the stings of flies, gnats, bees, and wasps, and has found that it causes the phenomena of inflammation to subside quickly and surely. He attributes its effect to vaso-constrictor action. He advises applying it pure in a thick layer, but it may be used in the form of an ointment.

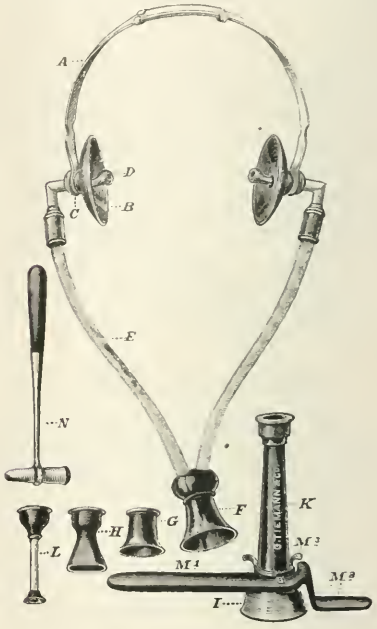
New Instruments.

AN IMPROVED STETHOSCOPE WITH AN ATTACHABLE PLESSIMETER.[1]

By S. A. KNOPF, M.D. (Paris and Bell., N. Y.),
NEW YORK,
FORMER ASSISTANT TO PROFESSOR DETTWEILER, FALKENSTEIN SANATORIUM

The last few years have produced, to an almost bewildering degree, an increase in the number of instruments designed to auscultate the chest and abdominal cavities. Numerous stethoscopes, auscultoscopes, phonendoscopes, ampliophones, microphones, etc., have been presented to the profession, each inventor claiming the superiority of his own instrument.

In presenting to you this evening an improved



stethoscope and an improved attachable plessimeter, I wish to preface the description of the instruments by saying that I have not sought to make a stethoscope which will have the acoustic powers of the phonendoscope, which sometimes so exaggerates the sound as to make it almost misleading, nor a plessimeter which will equal the finger of the experienced percussor possessing an acute and trained hearing. In thinking out the mechanism of both instruments I have been guided by the desire to combine and increase, if possible, the good which is found in the best existing instruments, and to do away, as far as may be, with the bad that is found in many. But, above all, I have sought to make the stethoscope, as well as the plessimeter, practical and useful, not only for the great specialist and clinical teacher, but also for the busy every-day practitioner.

The stethoscope is composed of a steel headband, earplates, eartips, tubes, and various chestpieces.

The headband (*A*) consists of two pieces, forming an adjustable spring, the steel so tempered as to allow of its being bent to fit the exact conformation of the cranial vault of the auscultator. This head-

[1] Read before the New York Academy of Medicine, section on general medicine March 16, 1897.

band does away with the downward pull on the ears produced by the ordinary Cammann stethoscope, in which the whole weight is supported by the external auditory canal.

The earplates (*B*) are concave, and are united at their external convex surface to the head band by a ball-and-socket joint (*C*), so as to fit any one, whatever the conformation of the external ear. These earplates, which, thanks to the adjustability of the headspring, can be brought very close to the external meatus of the auditory canal, serve to protect the auscultator, as much as possible, from hearing sounds coming from the exterior, which may creep in if the eartips alone have to fulfil that office, as is the case, at least to my knowledge, in all binaural instruments now in use. The earplates also receive the pressure of the spring, thus relieving the external auditory canal, and no pressure comes upon the eartips when in position.

These eartips (*D*), which have the typical curve, may or may not be used, since they are not fastened to the tube. When inserted they are movable in all directions, to fit the depth and conformation of the external auditory canal. Without impairing the accuracy of the sounds transmitted, they can be introduced just as far as the auscultator desires, in order to avoid the unpleasant sensation which a foreign body always produces if deeply inserted in this delicately lined passage. You will all agree with me if I say that this often amounts to real pain, especially when using a stethoscope in which the strong front spring is attached to heavy steel tubes which add their weight to the pressure of the spring. Clinical teachers, hospital physicians, and all who do a great deal of auscultating, become sometimes real sufferers from the prolonged use of the otherwise excellent instrument usually known as Cammann's binaural stethoscope.

By making the headband serve at the same time as a spring, the need of heavy metal tubes which serve in the ordinary binaural stethoscope for the attachment of the steel or rubber front spring is done away with. The transmission tubes (*E*) with chestpieces are attached to the earplates, which in their turn are suspended from the headband. The fact that the portion of the stethoscope connecting earplates and chestpieces is entirely of flexible tubing makes this instrument more pliable than those having metallic tubing for the attachment of the front spring. This also permits the transmission tubes to be shorter, and thus the sound is brought more directly to the ear. To intensify as much as possible the acoustic powers of the instrument, I chose for this flexible portion a wire tubing with airtight covering, which has also the advantage that it cannot take a sharp bend, as the soft-rubber tube may do when the chestpiece is moved from side to side, thus closing the passage to the sound.

Besides the usual chestpieces for lung (*F*) and heart (*G*) auscultation, I had an oval piece (*H*) made for intercostal auscultation; a soft-rubber one (*I*) to use for children and sensitive adults, with whom the pressure of the ordinary hard-rubber chestpiece proves sometimes painful; and a long intermediate piece (*K*), which will come handy whenever the auscultator wishes to be at a greater distance from the organs to be examined, as in gangrene of the lungs, for instance, fetid bronchitis, ozæna, etc. Its most important use, however, is in connection with instrumental percussion, of which I will speak directly. To meet the modern demand for an instrument of precision for tracing organs, I had this little steel delineator or localizer (*L*) constructed in such a manner that it is attachable to the stethoscope. I do not claim for this little delineator the acuteness and precision of the localizer of the Italian instrument or of the phonendoscopes recently patented in the United States, but I believe it will answer in the majority of cases (after all such cases are relatively rare) in which it is necessary or advantageous to outline an important organ by auscultation.

Coming now to the subject of instrumental percussion, that is to say, the use of the plessimeter alone or in conjunction with the stethoscope, I would like to state the reasons which may justify bringing this instrument again before the medical profession. Just as it is possible for the physician who carries, sometimes for hours, the tips of the strong-springed Cammann stethoscope in his ears, to get an otitis, it is easy for one who percusses a great deal during the day to get a periostitis of his left index or whatever finger he habitually uses as plessimeter. To any one who is called upon to percuss a good deal I would recommend the use of the plessimeter as a prophylactic measure.

The plessimeter (*M*) can be used with or without the stethoscope. Thanks to the long convenient handle (M^1) and the little bent part separating it from the plessimeter proper (M^2), it can be more easily manipulated than most of such instruments now in existence. But, as I stated above, neither this nor any other plessimeter will ever do as well as the experienced living finger, with which one can feel even the degree of elasticity of the tissue underneath. However, I claim that, in conjunction with the stethoscope, the inexperienced or impaired ear distinguishes more readily a lower or higher pitch, and differentiates more accurately between dulness and flatness. As you see, the attachment of the plessimeter to the stethoscope is very simple. The soft-rubber chestpiece with the long intermediate piece is attached to the stethoscope, the little spring of the plessimeter (M^3) encircles the neck of the chestpiece, and the whole is in position. The long intermediate piece (*K*) serves to make the act of percussion more convenient to the auscultator. I prefer to attach the plessimeter to the soft-rubber chestpiece (*I*), so as to be sure not to hurt the patient when striking with the hammer or fingers, especially since the plessimeter is in such close proximity to the chestpiece, although when used with the stethoscope a much lighter tap is sufficient to produce a clear percussion note. As a rule, of course, one should see that the plessimeter and the rim of the chestpiece touch uniformly the surface to be percussed.

To complete the outfit we must, of course, have a hammer. Flint's percussion hammer (*N*), having a steel handle and a soft-rubber head, seems to unite firmness and elasticity, and thus is well adapted for instrumental percussion.

As it is with all new instruments, so will it be with these; and especially with a new stethoscope, one has to get accustomed to its use.

In closing, I wish to thank Messrs. Tiemann & Co. for their great courtesy in so carefully constructing these instruments, until after much experimentation I believe I am in a position to present them to the profession, not perhaps as perfect, but, I trust, as useful, comfortable, and practical.

34 West Fifty-Eighth Street.

Dysentery of the Vermiform Appendix is a name suggested by Golouboff for certain attacks of appendicitis occurring as quasi epidemics. He has observed a number of instances (*Le Sailpel*) in the scholars of a lycée who sat together on the same row of seats; also four cases in another school during the month of March, no instance of appendicitis having occurred in the institution for several years. The author believes in an analogy between epidemic dysentery and epidemic appendicitis, the common microbes of the digestive tube becoming suddenly virulent in each.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 24, 1897:

	Cases.	Deaths.
Tuberculosis	243	118
Typhoid fever	8	4
Scarlet fever	177	13
Cerebro-spinal meningitis	6	7
Measles	235	6
Diphtheria	216	39
Laryngeal diphtheria (croup)	9	0
Small-pox	13	3
Chicken-pox	42	0

Roentgen Rays on Calculi.—The effect of the rays upon renal stone are studied by Dr. James Swain in the *Bristol Medical and Chirurgical Journal* for March. The article is illustrated and in many ways instructive, including a report of a case of renal calculus in which the diagnosis was confirmed by skiagraphy.

Danger in Temperance Drinks.—The *Daily Mail* has been led by the death of a prominent teetotaller from delirium tremens, caused by the excessive use of so-called non-alcoholic beverages, to make an investigation of this subject. One physician is quoted as saying that very many who drink supposed non-stimulants find in so doing an excellent way in which to swallow their principles and their alcohol at the same time, without endangering their reputations as total abstainers. This physician states that there are numbers of persons, in his knowledge, who would not wittingly touch a glass of spirits, and yet who are passing through the slow stages of alcoholic poisoning due to the temperance beverages. He cited the instance of a woman who glories in her principles of total abstinence, and yet she is being slowly but surely poisoned by the alcohol of a certain tonic wine. It is not the cocaine contained in it, but the alcohol which renders it so insidious and fatal. The amount of damage done by this class of drinks is regarded by this physician as appalling. A death in Jersey the other day was put down to the daily consumption of large quantities of seaweed tonic by a man who "never drank."

Marriage by Doctor's Consent.—In a presidential address delivered to the members of the Life Assurance Medical Officers' Association, Dr. Douglas Powell proposed to apply the doctrine of "doctor's consent and approval" to a very personal and delicate set of social affairs. "In the course of our professional work," said Dr. Powell, "we are often consulted, either by individuals themselves or by those interested in them, as to whether they are in a fit state to marry; and a family practitioner is often in some perplexity as to how to advise in this important matter." The word "perplexity," perhaps, hardly does full justice to the situation in most cases of this kind. As a matter of fact, between the parents on the one hand, and the irresponsible and absolutely unscientific young people on the other, the unfortunate doctor is not merely "perplexed," but is not seldom entirely at his "wits' end." If he advises to please the young people, the parents may scowl upon and repudiate him; if he advises to please the parents, the young people will hardly be content without his "head on a charger;" while if he takes the line of high science and future possibility, both parents and young people will alike regard him as an unpractical adviser and a pompous professor of scientific pedantry. What is to be done in a case of this kind? Dr. Douglas Powell says that life assurance, more especially that part of it which is medical, is the way out of the difficulty. Both parents and young people are willing that due provision should be made for emergencies when so serious a business as civilized marriage is in contemplation. In a doubtful case let the young man—and why not the young woman also?—be examined for life assurance. Then the family doctor, and even the occasional consultant, are both saved from a perplexing situation, and an absolutely disinterested and competent third party is called upon to solve the knotty question. If a man or a woman be not in a condition of health to emerge from the assurance specialist's consulting-room with a certificate of average healthiness—in other words, if the assurance doctor cannot pass the examinee as a "first-class life"—then it is at once made clear that he or she, at any rate at the moment of examination, is in no condition to enter upon the marriage state. It is not proposed that an unfavorable result of a first examination shall be a permanent bar to marriage. In such a case let the young man or the young woman submit to a probationary period of health improvement, not of course at the hands of the assurance medical officer; and if the probationary period result in the desired improvement, let the marriage take place, but if otherwise then let it be abandoned. There is only one course more logical than the foregoing, and that Dr. Douglas Powell does not fail to point out. Instead of waiting until two young people have been "engaged" for a more or less lengthy period, and until the time of the marriage draws near, let the physical examination of both of them by an assurance medical officer precede the preliminary "engagement." "Of course," says Dr. Powell—and we do not detect any evidences of a sympathetic tear on the pages of his pamphlet—"of course, in such questions considerations of sentiment will come in," as indeed they will; "but," he adds, "with sentiment we have here nothing to do." It is but too true; and because none, not even the most brilliant of modern physiologists, have succeeded in reconciling science with sentiment in these matters, therefore it is that we are at such a tremendous discount in all manner of daily affairs, and are regarded too often as scientific nuisances, whose great function it is to act the part of "kill joys," and to make life "not worth the living." But although we cannot get the dicta of science carried out in the absolute way in which they commend themselves to such scientific hierarchs as Dr. Douglas Powell, it does not therefore follow that science will continue to be altogether unheeded in this matter. Dr. Douglas Powell's "principles of right marriage," as they may be called, are at present to the multitude nothing more than mere "counsels of perfection." But there are always a few among civilized people who will strive to base their conduct even on "counsels of perfection." Then, as the application of these counsels in practice is seen to justify itself by results, other persons become convinced by facts, and so knowledge is extended, and a scientific principle converts itself into a commonplace of practice. That marriage among civilized people ought to be something more than a mere community of sentiment, that such a union ought not to be entered upon without adequate thought and preparation, not only for the future of the married persons themselves, but also for their probable offspring, surely goes without saying. Men and women are reasoning creatures; it is not for them to mate like the lower animals, without prevision and without preparation. All classes will do well to accept Dr. Douglas Powell's "Principles of Right Marriage" as altogether sound and wise in theory, and as being worthy of the fullest adoption in practice which the present state of civilization will allow.—*The Hospital.*

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Original Articles.

SOME OBSERVATIONS ON COLLES' FRACTURE BY THE AID OF THE *X*-RAY.

BY EUGENE R. CORSON, B.S., M.D.,

SAVANNAH, GA.

THERE will have to be a new treatise on fractures and dislocations, based on the *x*-ray. There are many surprises in store, many surgical bugaboos will go, and many revelations will simplify much which is still obscure.

I wish to present radiographs of four wrists injured by a fall on the palm of the hand, and all diagnosed and treated as Colles' fracture. I think they are very instructive and will help to clear up certain mooted points in regard to this very common and interesting fracture, about which so much has been written, the treatment of which varies so much, and which is not infrequently followed by poor results, even in the best hands.

I fear that in the reproduction of the photographs some of the finer details will be lost. It is the study of the negative viewed by transmitted light, with all other light cut off, which brings out the finer details. However, I think that even the half tones will pretty well tell their story.

Fig. 1 is the right wrist of a gentleman, aged about fifty, who broke his wrist five months ago. It was set and treated in the usual way, and was followed by considerable deformity and impaired motion. The hand is shifted to the radial side, the ulna overprominent on the palmar surface of the wrist, with an unsightly sinking in over the point of the internal lateral ligament. There is a general thickening of the tissues over the dorsal and palmar surfaces of the wrist. Flexion and extension are much impaired, and the movements of the fingers and grasp of the hand are restricted. Of course, there will be much improvement in this direction, but the unsightly failing of the hand to the radial side, with the sinking in on the ulnar side and the prominence of the ulna on the palmar surface, are there to stay.

The wrist was set and treated by a physician in one of the smaller towns, and the patient consulted a surgeon of national reputation who informed him that the bone had been set crooked, and that the only thing to do was to have the bone rebroken and reset. This the patient declined to do, but he naturally felt aggrieved with the man who had set his wrist. Now the radiograph shows in this connection two things: first, that the radius is in fairly good position, there being but a slight dorsal displacement of the lower fragment, and that the man who set it is exonerated; and second, that, had an attempt been made to rebreak the bone, it would have made matters worse. The mistake made was ascribing the deformity to the bones, when it was the ruptured ligaments which were the cause of the trouble. This seems to be the general idea among the profession, and the *x*-ray, I think, shows quite conclusively that, if we can hold the hand in a proper position and control the effects of the ruptured ligaments, the fractured bone or bones will take care of themselves.

A closer inspection will show the styloid process of the ulna broken off, though still held in position by the ligaments and surrounding tissues; that the fracture of the radius has been transverse and comminuted a good inch above the articular surface, with the styloid process of the radius broken off and tilted out, and, though there is evidence of a tearing up of the periosteum above the fracture on the ulnar side, this membrane has held the fragments in fair position, with only a slight dorsal displacement of the lower fragments. This is shown by examining the wrist and the difference in the planes of the articular surfaces of the radius and ulna, shown in the radiograph. Throwing them out of their common plane makes one appear longer than the other, though in this case it is the displaced ulna which produces most of the disparity. The callus which has been thrown out is evidently being quite rapidly absorbed. It has extended between the radius and the ulna, and evidently proves that the anterior and posterior radio-ulnar ligaments have been completely torn. There is evidence, I think, that the periosteum has been considerably torn up by *arrachement*, favoring thus Pilcher's view of the case. The carpal bones hold well their natural positions in relation to each other, but the entire carpus has shifted to the radial side. It also appears as if, in the jamming down of the carpus upon the comminuted fragments of the radius, more or less

FIG. 1.—Comminuted Colles' Fracture; Styloid Process of Radius broken off and tilted out; Callus being rapidly absorbed; Styloid Process of Ulna broken off; Displacement of Hand and Ulna.

fibrous adhesion had taken place between these fragments and the semilunar bone and a portion of the scaphoid. The extension of the callus between the radius and ulna explains the limited pronation and supination.

This radiograph shows us, then, that, though the fracture of the radius has been a very bad one, the periosteum and surrounding tissues have kept the fragments in pretty good position, and that the fracture *per se* is of secondary consideration in the production of the deformity. The displaced ulna and slipping of the hand toward the radial side are the chief deformities in the case, and they are due to the stretching or rupture of the anterior and posterior radio-ulnar ligaments, the internal lateral ligament, and the triangular fibro-cartilage, and more or less involvement of the anterior and posterior carpal ligaments. The blurring of the carpal bones, in such contrast to their distinct outlines in the radiograph of the normal wrist (Fig. 5), shows the fibrous thickenings in all these tissues following the accident.

Fig. 2.—Transverse Fracture of Radius one inch above Articular Surface, with perfect reposition of fragments; Styloid Process of Ulna broken off; Displacement of Hand and Ulna.

The wrist was set and put up according to the text-books, with straight splints on the flexor and extensor surfaces of the forearm, held midway between pronation and supination, with the hand allowed to drop by its own weight toward the ulnar side.

Fig. 2 is another instructive radiograph of the left hand, seeming the right in the illustration, with a history of two injuries at the wrist, both diagnosed as Colles' fracture. The patient is a lady, aged sixty. The first injury occurred two and one half years ago; the wrist was put up in plaster for twenty-one days, and little deformity followed. The second injury occurred one and one-half years ago, and under chloroform was examined and corrected by me. I made out a fracture of the radius, one inch above the articular surface. The swelling and pain from the injury were intense. I used a felt splint, with the forearm midway between pronation and supination, and kept on the dressings twenty-one days. When I removed the bandages, the ulna on the palmar surface was overprominent, though the hand seemed in fairly good position, but gradually the shifting of the hand to the radial side increased. This is an important and significant fact. I do not think the radius was broken in the first injury, and the ligaments were probably only strained.

A study of the radiograph shows the following: the styloid process of the ulna has been broken off and since quite absorbed, the anterior and posterior radio-ulnar ligaments probably torn loose, the internal lateral ligament torn, and the triangular fibro-cartilage displaced; the ulna has shifted toward the palmar surface as well as toward the radius, the bones overlapping one-fifth of an inch: the radius gives evidence of a transverse fracture a good inch above the joint, with two cracks running into the articular surface; the lower fragment has tilted somewhat toward the dorsal surface of the wrist, so that the articular surface is overprominent in the radiograph: again, the lower fragment has been tilted to the radial side, shifted there by the carpus and the muscular pull; the shifting of the whole hand toward the radial side is well marked. As the case now stands, flexion and extension are slightly impaired, while pronation and supination are reduced one-half.

Fig. 3 is the right hand of the same patient, injured by a fall on the palm of the hand twelve years ago, diagnosed as a Colles' fracture, and treated by hot water and a roller bandage. It was evidently nothing but a severe sprain, without any fracture. It is interesting to note, however, that the strain or rupture of the internal lateral ligament has caused the hand to fall slightly to the radial side, as shown by studying the relationship of the ulna and its styloid process to the cuneiform and pisiform bones (see normal wrist in Fig. 5).

Fig. 4 is perhaps the most instructive radiograph shown. It illustrates a case of fracture of the styloid process of the ulna, without any fracture of the radius, so far as can be made out—a rare condition according to Hamilton—but, judging from its frequency in Colles' fracture, must be more common than generally supposed in pre-Roentgen days. There are certain interesting conditions present. The internal lateral ligament has been torn, and probably, too, the anterior and posterior radio-ulnar ligaments, and the triangular fibro-cartilage displaced, for the articular surface of the ulna touches the cuneiform bone, being widely separated in the normal condition. The ulna has tilted toward the palmar surface of the wrist and toward the radius.

The injury occurred two years ago, and was treated by me. The patient, a woman of fifty-five, in falling, struck the ulnar side of the little finger and hand against a projecting ledge, and the fracture and ligamentous rupture were probably caused by *arrachement*, so much dwelt upon by Pilcher. The parts were much swollen and very painful, and almost entirely on the ulnar side. In this case there is also considerable falling of the hand to the radial side, as well as the overprominence of the ulna on the palmar surface of the wrist. This radial shifting of the hand is not so apparent in the radiograph, as the patient, in placing the palm firmly on the plate, was directed to keep the hand as straight as possible, and has somewhat corrected the deformity. The subluxation of the ulna, however, is shown by this bone appearing somewhat in advance of the radius.

Fig. 3.—Displacement of Hand and Ulna from severe Sprain; no Fracture of Bones.

There were so much swelling and inflammation at the time of the accident, and such severe pain, too, that the case was treated for eleven days by hot fomentations and no support but a roller bandage. The wrist was then placed in a short anterior and posterior splint, semi-prone, with the hand allowed to drop by its own weight toward the ulnar side.

This seems to me a very interesting and significant case. Though the fracture has been quite insignifi-

cant—simply the styloid process of the ulna—the ruptured ligaments have produced considerable deformity, quite equal in extent to the typical Colles' fracture, and with the accompanying thecitis so char-

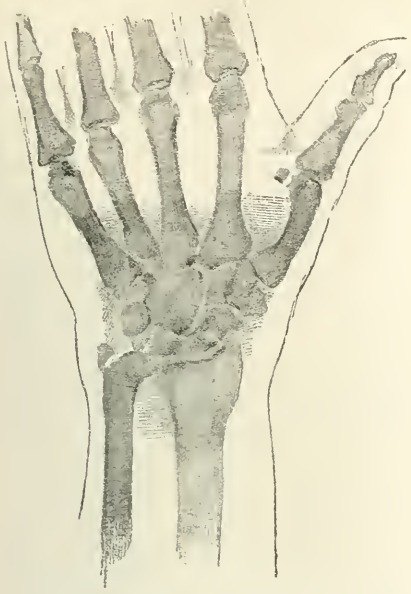

Fig 4.—Displacement of Hand and Ulna with Radius intact; fracture of Styloid Process of Ulna the only Injury to the Bones.

acteristic of this injury. Looking at the hand, one could easily take it for a Colles' fracture, and yet the radius was not broken.

A careful study of these four cases taken at random, being the most accessible at the time, seems to me to yield some very interesting facts, and to point to a line of treatment quite at variance with the present modes. The conclusions I have arrived at may be thus briefly stated:

1. That in the typical Colles' fracture, with the great strain on the internal lateral ligament and the anterior and posterior radio-ulnar ligaments, and a displaced triangular fibro-cartilage, one or all of these ligaments are stretched or torn, and that the styloid process of the ulna is frequently broken off, if not by direct violence, at least by *arrachement.* The surgeon who first called attention to this fact was Nélaton, but I believe his assertion has not been generally accepted. He considered this fracture the rule rather than the exception.

2. That the fracture of the radius near the joint, provided the fracture is transverse, which is usually the case, gives rise *per se* to but little trouble, as it is in the large majority of cases impacted and held fairly well in position by the periosteum. Even in comminuted fractures into the joint and in oblique fractures, and even if there is much displacement, they are easily reduced by gentle and continuous extension and a certain amount of flexion, abduction, or adduction, as the case may be. Hamilton has strongly insisted upon this point, and he is borne out by museum specimens. Radiograph No. 1 certainly bears us out here, as there was undoubtedly a comminuted fracture into the joints, and yet the fragments have been held in good position. Whatever callus is thrown out is quite rapidly absorbed from the great vascularity of the parts. In Fig. 1 the large callus evidently thrown out originally is, after five months, quite well absorbed. A year would probably be sufficient to dissipate it. I mean, of course, in strong subjects and not too old. Hamilton had never noted non-union.

3. That by the rupture of the internal lateral ligament and the anterior and posterior radio-ulnar ligaments, and a displacement of the triangular fibro-cartilage, the ulna slips toward the palmar surface of the wrist—probably under the influence of the strong anterior carpal ligaments—and under the same influence slips toward the radius, showing in the radiograph an overlapping of the two bones. I cannot see whereby this displacement could occur from muscular action, unless, indeed, that over-estimated muscle, the pronator quadratus, is to blame.

In the radiograph of the normal wrist (Fig. 5), the articular surfaces of the radius and ulna form a continuous curve, and a distinct line of separation is seen between these two bones. In the radiograph of Colles' fracture, or where the ligaments have been torn, this line is broken, and the two bones are seen to overlap slightly. In the natural state they are separated by a synovial membrane, and this the *x*-ray beautifully brings out, as well as all the synovial sacs of the carpus.

4. It seems also quite evident, as pointed out by Hamilton, that the slipping of the hand toward the radial side, producing the most prominent and unsightly deformity in Colles' fracture, is due to the stretching or rupture of the internal lateral ligament principally, aided by the rupture of the anterior and posterior radio-ulnar ligaments, and perhaps other ligaments in addition, in conjunction with the much stronger muscular pull on the radial side of the hand. There is a figure in Gray's "Anatomy," the full significance of which never occurred to me before, giving a transverse section through the wrist, showing the annular ligaments and the canals for the passage of the tendons. It is reproduced in Fig. 6. If we ac-

Fig. 5.—Normal Wrist.

curately bisect this figure, it is beautifully shown how the muscular pull predominates on the radial side. This must have considerable influence in intensifying this deformity.

5. That the treatment of Colles' fracture must be principally a treatment of the sprain and ruptured ligaments, and every effort must be made to keep the different bones in position which have lost their ligamentous supports. The fractured bone or bones will take care of themselves.

6. That the present methods in vogue are based in a measure on false premises. Keeping the forearm midway between pronation and supination started with the idea that in this position the two bones of the forearm were kept farther apart, and the pronator quadratus was less liable to pull the fragments together. In Gray's "Anatomy," Fig. 252, p. 402, the artist has shown a fracture of the lower end of the radius, with the upper fragment drawn in contact with the ulna, this latter bone being pulled far upward and inward. It shows how much easier it is to imagine than to ascertain correctly the real conditions present. Hamilton has shown the fallacy of this. The fracture of Colles is too near the joint to be influenced by the pronator quadratus, and a study of the movements of these two bones through the fluoroscope shows strikingly the fallacy of the idea. In the radiographs of the forearm perfectly prone, the radius and ulna are far apart above the radio-ulnar articulation. Again, allowing the hand by its own weight to drop toward the ulnar side has not the slightest influence in preventing the hand from falling to the radial side. On the contrary, it intensifies this deformity. As the hand and carpus move as one, the abduction of the hand toward the radial side would have more influence in overcoming this deformity.

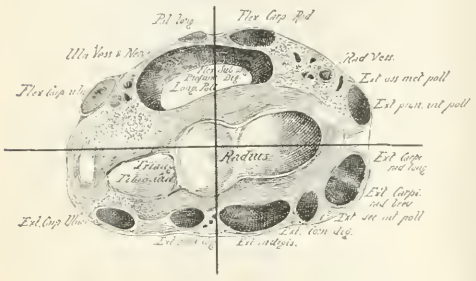

FIG. 6.—Transverse Section through the Wrist, showing the Annular Ligaments and the Canals for the Passage of the Tendons (Gray).

7. As in falling the hand is naturally abducted, the strain on the external lateral ligament is decidedly less than on the internal, and thus the former is less apt to give away. Hamilton, in his classic treatise, largely ignores it, and justly so, I think. Should it be ruptured, too, the falling of the hand to the radial side would be intensified, and allow also the muscular pull on the radial side to increase greatly the deformity. Hamilton reports a case where this probably occurred, and the hand was abducted almost to a right angle with the forearm.

8. These conclusions being admitted, the different results obtained in different and yet competent hands seem to be easily explained. When there is simply a fracture of the radius without tear of the ligaments, the result will be good with almost any treatment. But when there is, in addition, a severe straining or tearing of these important ligaments, the deformity will be more or less marked, according to the severity of the injury. As shown also by Hamilton, a severe strain or rupture of the ligaments without any fracture will be followed by marked deformity. Fig. 4 shows this in a striking way. The only break was in the little styloid process of the ulna, and yet the deformity was considerable, and a good year elapsed before the patient got much use of the hand. This case seems to me a most instructive one.

In 1878 Dr. Louis A. Pilcher published a paper on this fracture, which impressed me at the time as one calculated to better our knowledge of this injury and to aid us greatly in its treatment. He there set forth the importance of treating the sprain, and I have always attempted to follow his advice by reducing the inflammatory symptoms as soon as possible. He contended that the fracture was due to *arrachement* from the excessive dorsal flexion at the wrist. He contended also that by this *arrachement* the inferior fragment is tilted backward; the periosteum on the posterior surface, strengthened by fibres of the annular ligament, is torn from the radius, allowing the inferior fragment to ascend posteriorly, while the superior fragment penetrates the torn periosteum. While this may occur in very severe cases, in the ordinary Colles' fracture it must be rare. I have never met with it. Hamilton, while favoring this explanation in certain very severe cases, thinks it too exclusive, since Pilcher ignores the part played by the internal lateral, the anterior, and posterior radio-ulnar ligaments, and the triangular fibro-cartilage. No one, I think, devoted more careful study to this fracture than Hamilton, and much that he has written is confirmed by the *x*-ray. The value of Pilcher's contribution to me was his insistence upon treating the sprain. The *x*-ray so far bears him out, but it carries us, I think, much further.

9. The important question, then, is: How can we best carry out the treatment of this injury to the ligaments? There are three conditions which seem to me to be called for: (*a*) That the forearm and hand be perfectly prone and in a direct line with each other. In this position only can the ligamentous strain be equalized and the ruptured ligaments evenly supported. Again, I believe that the displacement of the ulna, or any backward displacement of the lower fragment of the radius, can be best corrected and watched in this position. Again, in this position hot fomentations or cold compresses can be more easily applied. I know a country physician, uninfluenced by the text-books, who treats his Colles' fractures prone on a shingle, and who gets as good results, if not better, than those who follow the old methods. (*b*) That the parts should be so bandaged that hot or cold compresses can be used to overcome the swelling and inflammation of the fibrous tissues, that the tendons can have free play, and that electricity, an agent of immense good in all sprains, can be used if necessary. (*c*) That while in from three to four weeks, or even earlier, complete bony union is assured, a much longer time is necessary for ligamentous union, and I should think that twice this time, at least, would be necessary for this purpose. This, I think, was exemplified by one of my cases, where the deformity gradually increased after I removed the dressings on the twenty-first day. I would suggest, then, the following simple bandage: Any displacement of the fractured bone being reduced, I should apply the hand and forearm perfectly prone on a straight splint, slightly padded to fit the flexor surfaces of the forearm, wrist, and palm, extending from one inch below the elbow to the metacarpophalangeal joints. This will permit perfectly free movements of the fingers, a very important part of the treatment.

To overcome the displacement of the ulna toward the palmar surface, I should insert a wedge, made of a roller bandage two and one-half inches wide, and rolled firmly to one inch in thickness, and placed under the lower extremity of the ulna and extending to the pisiform bone. This bridges the ulno-carpal articulation, and forms a *point d'appui* for the roller bandage. Another wedge of the same size, made in

the same way, is placed alongside the radius as a point of counterpressure; this bridges the radio-carpal articulation at this point. A smaller pad, similarly made, may be placed over the dorsum of the radius, also bridging the joint, although it will probably be rarely necessary, as the roller bandage gives sufficient retention.

Taking a narrow bandage, one and one-fourth to one and one-half inches wide, I start it on the ulnar side, over the ulnar pad, and carry it around under the splint to the radial side, and over the dorsum of the wrist to the point of starting, making two turns; then from the radial side diagonally over the dorsum of the hand to the metacarpo-phalangeal joint of the little finger, under the palm of the hand to the corresponding joint of the index finger, and finally across the dorsum of the hand diagonally to the starting-point of the bandage at the ulno-carpal articulation, thus making a figure of-eight; and this is repeated twice. The bandage is then continued up the forearm to the upper end of the splint. The straight flat splint should be broad enough to give one-half inch on each side of the forearm.

This will keep the hand in an exact line with the forearm. If the hand is so placed, it will be found that a straight line through the middle of the index finger will touch the outer edge of the styloid process of the radius. This is a good guide.

A hand so placed and bandaged will show the bones perfectly through the fluoroscope, and this will be an immense help in assuring ourselves that the bones are in proper position. Further, by this simple bandage, we can apply hot and cold compresses, as the case may be, as well as electricity. A rubber dam stall can be drawn over the entire dressing to retain moisture and get the effects of a poultice. I know no simpler arrangement to enable us to reduce swelling and inflammation.

If we can keep the hand from falling to the radial side, can keep the ulna from slipping toward the palmar surface, and the lower fragment of the radius from rising above the upper, we have overcome the chief difficulties of the problem before us. With electricity, massage, lubricants, with proper tendon exercises, and, later, careful efforts at pronation and supination, with ever a due regard to time, we shall have done for our patient all that in us lies. There are undoubtedly cases among the aged and infirm where deformity is bound to follow, in spite of any treatment, but the physician can always protect himself by a prognosis to that effect.

Other and perhaps better retaining and supporting bandages may be devised: the principle of cure must be the same, and the chances are the simpler the bandage the better it is.

I may state that my *x*-ray apparatus consists of a ten-inch induction coil, made by Willyoung & Co., with an adjustable condenser in the base, run by eight storage cells (five ampères, sixteen volts), furnished by the same company. I have been using a "Queen" focus tube, also furnished by this company. The entire apparatus has given me great satisfaction. I imagined in the beginning of my work that a rotary make-and-break was necessary for such a large coil, even when using the current from a storage battery, and with this impression I purchased a rotary make-and-break from Meyrowitz, as suggested in his catalogue. The model sent me does not work with that current. It is with the one-hundred-and-ten-volt current only that the make-and-break wheel becomes necessary, in which case I should advise the Willyoung model, or the model suggested by Dr. Morton, of New York. I have found the App's vibrator on my coil to work admirably.

I am indebted to Mr. W. H. Hoffman, of this city, a skilled photographer, for the development of my plates, which I have found to be a most important part of the process. He believes in a little overexposure, with a very slow developing.

11 Jones Street, East.

REPORT OF A CASE OF PSYCHO-SEXUAL HERMAPHRODITISM.[1]

By C. W. ALLEN, M.D.,

FORMERLY VISITING DERMATOLOGIST, AND GENITO-URINARY SURGEON TO THE CITY HOSPITAL, ETC.

Mr. President and Gentlemen: I regret that I am not enabled to show for your inspection the subject of the following sketch, which I have been asked by Dr. Sherman to present before you.

Viola Estella Angell, as the patient calls himself, applied for admission at the Florence Mission, a shelter for fallen women, with which Dr. Sherman is connected in a professional capacity, and to whom the patient was referred. The dress and general appearances were those of a female, and as such he asked admission.

The history given was that the subject was born in Nova Scotia, in 1874, the youngest of seventeen children; that the mother had been chased by a man and

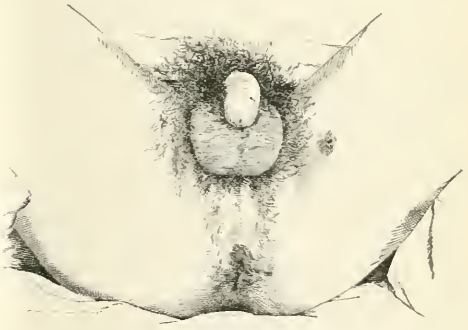

Fig. 1

frightened in the third month of her pregnancy, and that at the time of birth some deformity of the genital organs was made out by Dr. Mitchel and Dr. Murray, who officiated. The father is said to have had a "devilish temper."

Up to the age of fourteen years according to the subject, girl's clothing was worn, when, because of certain changes which had occurred in the appearance of the genitals and because the mother thought the child "would have less trouble in the world as a male," the dress was changed to that of a boy, and as such he was sent to the normal school at Truro, sixty miles from Halifax, where he remained for three years. Here, on account of his effeminate ways, manners, and general appearance, he was called "sissy," and, as he expressed it, "lead the life of a dog" from the taunts and jeers of his school-mates. He left school, and in passing through Halifax was followed by a crowd (which the subject states numbered thousands) calling out that he was a girl in disguise. A policeman interfered and took him to his friends, but did not place him under arrest.

He states that at the age of fourteen, while dressing in male attire, he began to have regular monthly losses of blood by the rectum, continuing for a period of four or five days each time. He states that this continued

[1] Read before the section on genito-urinary surgery, at the New York Academy of Medicine, Tuesday evening, March 9, 1897.

during the time that he was wearing man's clothes and ever since. The blood passes at times through the urethra as well as through the back passage, and occasionally has been attended with sufficient pain to cause medical aid to be sought, and he says that physicians have given treatment for painful menstruation and that their remedies have acted in a way to relieve the pain. He states that for a year or more before the hemorrhages began he was pale, sickly, had a cough, and was thought to be in a "decline." He was also subject to fits of unconsciousness or seizures of some kind, attended with headache, and for three months before the blood first appeared there were almost continuous abdominal cramps. The intervals between the hemorrhages have not been uniformly regular, at times three and at times five weeks intervening.

The statement is also made that urine has always been passed in both ways, *i.e.*, through the penile urethra and by way of the rectum.

The instincts are in every way those of a woman, and it is denied that any manly feelings exist; the penis has never been in a state of erection, nor has there been any discharge through its canal which would correspond to an ejaculation of semen, either in intercourse, in dreams, or in attempts at masturbation. There has been sexual intercourse with men a few times, and always rather against his inclination, but never any desire or attempt at intercourse with women.

He states that having found life at home and in man's attire unbearable, and having a repugnance for man's occupations and an attraction toward the pursuits of women, he left off male dress and ran away from home dressed as a girl.

In Boston he was engaged for a long time as a machine operator with a large number of girls in a factory, until, casually meeting in the streets one day a man from his native town, he was denounced as a man masquerading in female attire, and was placed under arrest. He states, however, that after he had told his story to the police, despite an examination made by the matron of the prison, he was released and went to Philadelphia, where he was employed as a female domestic and associated with women.

After a casual examination, it was decided that the applicant was not a suitable subject for the mission; but, being destitute and friendless, and seemingly desirous of having the question of sex definitely settled, he, was taken to Dr. Sherman's sanatorium, where Dr. Grandin and I saw him together in consultation, and a number of physicians who it was thought would be interested were invited to be present and take part in the subsequent examination. It is for the purpose of eliciting the opinions of these gentlemen and of others in the discussion upon the many interesting features which such instances of sexual psychopathy present, that I have consented to introduce the subject at this time.

Contrary sexuality or perverse sexual feeling, whether congenital in origin, depending upon hereditary neuropathic taint, or acquired as a result of environment, education, and external influences, has such important sociologic, forensic, psychologic, and pathologic bearings, that no apology seems necessary for presenting in this section the report of an instance of pronounced type, especially as it involves points of interest which I trust will receive elucidation in the discussion.

There are two reasons why these cases are not better understood. The first is that application is so rarely made by the subject for treatment, and when the case finally comes under observation it has passed into the stage in which often the lunatic asylum is the only prescription required. The second is that there has been and still exists a decided tendency on the part of physicians to pass by the whole subject of sexual perversion as one too likely to defile the investigator. I trust, gentlemen, that the eye of science may soon discriminate between pitch and that which looks like pitch, and that the hand of science will not hold back when it becomes necessary to touch. Strictly proper cases for the physician's ministrations have been left too much to the care of the magistrate and police, without according to these officials the knowledge they require from us to enable them to do justice at once to the individual and to society at large. Certain perverse impulses can undoubtedly be controlled by treatment better than by incarceration, but until the physician points out the factors upon which to base a differentiation we can scarcely expect the magistrate to decide justly in all instances, as between the criminal and the mentally irresponsible.

The examination of the subject in point gave the following results: Height, five feet ten inches; weight, one hundred and fifty pounds. Head of the Goethe type, the hair receding from the temples, rather coarse and wavy from artificial curling. Evidences of beard kept down by autoepilation; subject says he never shaves. Features—mouth, eyes, and general expression—both in repose and in animation, distinctly feminine. Voice soprano; subject says he has sung in concerts and theatres. The right breast is somewhat larger than the left, but has little about it to suggest gland formation. One hand and one foot approach the feminine type, while the other is distinctly masculine. The limbs, trunk, and pelvis correspond in measurement to the masculine type, and the physical characteristics are for the most part masculine. The pose in standing, walking, and sitting are easy and natural, but essentially feminine; and the manner of sewing and carrying out feminine pursuits suggests a natural bent rather than an acquired condition. The dress is that of a female in the lower walks of life, worn with some degree of carelessness, but showing a pronounced fondness for neat and clean bows, ruffles, and ribbons, finery, and flowers. This fondness for personal adornment with gay colors, while belonging more particularly to the feminine instinct, it must be remembered is occasionally strong in men, especially those of savage tribes.

The subject is slightly hysterical at times. The ego is pronounced. There is a somewhat exalted mental condition, with a tendency to expansive morbid ideas. There is perverted judgment in minor matters, but the psychic anomalies are not marked. The subject is of a rather low order of intellectuality and inclined to indolence, with fondness for poetry, music, acting, fancy drawing, letter writing—the letters showing extravagances of imagination and expression, especially upon topics of love.

Continuing the examination, a well-formed and normal-sized penis and testes were disclosed, with pubic hair of the male type. The perineum was strikingly long, giving the impression that the genitals were seated high up over the pubes. The rectal opening was large, lax, almost if not quite devoid of sphincter action, and surrounded with fleshy tabs, suggesting caruncule myrtiformes rather than hemorrhoidal formation or the remnants of ulcerative action. The condition is well shown in Fig. 1 from a photograph kindly taken and loaned by Dr. H. L. Callyer. A bloody discharge, most suggestive of a menstrual flow, was present at the first examination, and this continued in gradually diminishing amount until the time of thorough rectal exploration several days later, when some blood was still present. The subject explained that this was the terminal stage of one of the regular monthly periods—and, indeed, under inspection it seemed to cease entirely.

By rectal touch nothing definite could be made out.

No uterus or ovaries could be felt, nor did bimanual manipulation disclose any rudiments of female organs.

Through the rectal speculum, which could be distended largely without causing pain, the internal sphincter was found very tight, and resembled in appearance the cervix uteri, with very small external os. Near this, high up, was an ulcerated surface, and near it was what appeared to be an opening of a fistulous tract, through which a probe could be passed for several inches. There was no history of syphilis, but some cicatrices were found near the anus, upon the skin surface, suggesting previous ulcerative lesions.

No discharge of blood was seen to pass by way of the urethra. Under the close scrutiny of two observers, fluid was seen to flow from the rectal opening at the same time as through the urethra, though in lesser amount.

No opening into the bladder from the rectum could be discovered, and a sound passed by the urethra could be traced by rectal touch through the bladder wall at various points, without disclosing any such opening.

A point to which I would direct especial attention was the apparent lack of anything approaching normal sensitiveness in the firm, full-sized testes. The subject claims that they have always been devoid of feeling, and they can be pressed or even pounded without discomfort. I failed to elicit any complaint or indication of normal sensitivenes upon decided squeezing, even when the subject's attention was distracted. There was also apparent lack of cremasteric reflex.

Fearing that he was to be compelled to put on male attire before leaving the sanatorium, he absented himself in the night, leaving behind a note, in which he promised at the earliest opportunity again to resume men's clothing and get along in the world as best he can.

Such, gentlemen, is as much of the history as I am able to give of a creature persenting a type of perversion which is not unfamiliar to you, but which presents certain unusual features. Even in asylum practice it is rare that one finds the male possessed of the delusion that he is a female. The subject of this report appeared to be honestly convinced that nature had intended him for a female; but whether prevarication and deception were not largely employed to make others think the same way, is a question upon which personally I have little doubt. Although it may not have been so in the present instance, I can well imagine a pronounced state of mental hermaphroditism, without marked desires or inclinations for sexual congress of any variety, but rather a desire to engage in a legitimate and law-abiding manner in the pursuits of the sex whose instincts the subject feels.

If there is, as Uhlrichs thought, such a thing as *anima muliebris in corpore virili inclusa*, and coincidently an entire inability to make physiologic use of male generative organs which exist, the possessor should not, in my opinion, be looked upon as an outcast or as a criminal, by reason of such an unfortunate congenital combination.

Are we to believe that in this subject, with the present development of external genitals, there could have been up to the fourteenth year any question of sex? I would look upon this statement as a fabrication. If, however, for any reason, the dress, occupation, and environment were such as described, a lasting imprint may have been made upon the nervous system in the growing impressionable child. Were we in a position to state positively that a congenital deficiency of generative glands had an influence upon the psycho-sexual development, we might here look for an explanation of the psychic state and distorted type in the lack of functional activity of the testes, as claimed by the patient and apparently confirmed by the lack of normal sensitiveness in the organs, a sensitiveness which, as I believe, is always present in sexually normal man.

When we turn to leading authorities for aid, we receive but little in this direction. Krafft-Ebing says that so far as the anatomical and functional foundation for the psycho-sexual constitution is concerned, it is absolutely unknown. In the absence of generative organs of the female which can be made out, a theory of congenital persistence of rudiments, which up to the third month of fœtal life are common to the two sexes, might be invoked to form an anatomical basis for this psycho-sexual hermaphroditism.

Dr. Sherman has suggested that the urachus might have opened into the cloaca instead of into the allantois. If, however, we are to believe that the sexual 's wholly a function of the cerebral cortex we must look upon such instances of perverse sexuality, when occurring spontaneously about the time of puberty, as equivalent to congenital phenomena, since before this time during the earlier years there is supposed to be little or no development of the centre for sexual emotion. Westphal held firmly to the opinion that such instances as the one here under discussion are congenital.

I would conclude with the propositions:

1. If there is here a true delusion of sexual transformation, it is equivalent to a monomania and the subject should receive asylum treatment.

2. If it be an instance of one mentally and sexually degenerate, he should be removed from society and cared for; but not as a punishment.

3. That it is not just to class such a one with the vicious who practise pederasty from perverse inclination. (The psychic personality and mental state of effeminacy here seem to overbalance the perversion as it has to do with acts of homosexual nature. At least, according to the subject's statements, passive pederasty has been practised but rarely, and then against his inclinations. In many reported instances these acts have seemed to be as repulsive as they would be in a normal being.)

4. That if not mentally irresponsible, having been informed by those competent to judge that male attire is the only proper dress, the subject should be placed under arrest if found dressed as a woman. I would ask for discussion upon this point, *i.e.*, the physician's duties in the matter and the lengths permitted him to go in questions of knowledge acquired in his professional capacity.

The Anticipation of Post-Partum Hemorrhage.—Atthill (*British Medical Journal*, March 6, 1897, p. 576) expresses the opinion, based upon a long experience, that ergot, given alone or in combination with strychnine, may be taken by pregnant women in the usual doses for a considerable time, with absolute safety to both mother and child. When taken continuously for not less than three weeks prior to labor, it tends to delay the setting in of uterine action. Its exhibition for some weeks prior to the commencement of labor arrests the tendency to post-partum hemorrhage and facilitates the involution of the uterus, thus also lessening the chance for the occurrence of subsequent uterine troubles, many of which depend upon imperfect involution. Employed in this manner, ergot will not bring on premature labor or induce abortion unless uterine action has been previously set going. In cases of threatened abortion such administration of ergot frequently seems to act as a uterine tonic, and in some cases tends to avert the danger of miscarriage, provided the ovum be not blighted. If, however, the ovum be blighted, and especially if it be detached, ergot usually hastens its expulsion.

TEN YEARS' EXPERIENCE OF THE COLD-BATH TREATMENT OF TYPHOID AT THE BRISBANE HOSPITAL.

By F. E. HARE, M.D., late R.M.O.,

CHARTERS TOWERS, N. QUEENSLAND, AUSTRALIA.

BRAND'S system of cold bathing was commenced on January 1, 1887. From that date to December 31, 1896, every case admitted has been subjected to the operation of this rule, unless distinctly contraindicated.

The results of the first three years of this period have already been published,[1] and the cases therein referred to are consequently included in the complete statistics for the decade.

The results obtained before the introduction of the bath treatment, which have been already published, may here be conveniently reproduced:

TABLE I.

Years.	Cases.	Deaths.	Percentage Mortality.
1882 from May 15th.	147	25	17
1883	273	40	14.6
1884	575	89	15.5
1885	360	49	13.3
1886	464	68	14.6
Totals.	1,828	271	14.8

It is plain that during the expectant period in Brisbane the results obtained differed but little from those of the large hospitals of England and the United States at the present time.

The results of the ten years' bath period are as follows:

TABLE II.

Year.	Cases.	Deaths.	Percentage Mortality.
1887	239	27	11.3
1888	339	23	6.8
1889	595	42	7.0
1890	160	16	10.0
1891	137	7	5.1
1892	104	7	6.7
1893	50	2	4.0
1894	70	1	1.3
1895	69	8	11.6
1896	130	10	7.7
Totals.	1,902	143	7.5

There has occurred, therefore, a reduction in the mortality of the disease of practically 50 per cent.; or, in other words, about 7 of every 100 cases admitted have been saved by the bath treatment. This result harmonizes exactly with the latest conclusion of Osler on this subject. He says:[2] "The cold-bath treatment rigidly enforced appears to save from 6 to 8 in each century of typhoid patients admitted to the care of the hospital physician."

In order correctly to gauge the value of these figures, it is necessary again to refer briefly to the fallacies which tend to inhere in all typhoid statistics. These arise mainly from:

1. Paucity of data.
2. Variations in extension of the term typhoid.
3. Errors in diagnosis.
4. Differences in the age and sex constitutions of the series compared
5. Variations in the severity of the disease in different countries, climates, and districts; and in different epidemics in the same places.

[1] Practitioner, March, 1891.

[2] Johns Hopkins Hospital Reports, 1895

1. Paucity of data would appear to be the main stumbling-block of typhoid statisticians. The possible error due to this cause is found by Poisson's formula. Tested in this way, the expectant series of 1,828 cases shows a possible error of but 2.3 per cent. in its mortality rate. Similarly the bath series of 1,902 cases has a possible error of but 1.7 per cent.; *i.e.*, in any future series of cases equal in number, the limits of the mortality rate will be, *cæteris paribus*, between 9.2 per cent. and 5.8 per cent. Of course, the probable error is vastly less, but either is quite insufficient to account for the fall in death rate.

2. Variations in the extension of the term typhoid are a frequent and serious source of fallacy. In making up the statistics of the first three years, cases which were obviously febricular, together with cases which were apparently typhoid but which convalesced before the tenth day of the fever, were all excluded from the list. The result was that while 1,173 cases appeared as typhoid with 92 deaths, 201 cases of doubtful fever, or 14.6 per cent. of the whole, all of which ended in recovery, were excluded. During the last seven years, however, an even more stringent exclusion has been made. While 1,902 cases of typhoid have been treated during the decade, with 143 deaths, the exclusions of doubtful cases, all of which ended in recovery, have during the same period amounted to 616, or nearly 25 per cent. of the whole number admitted.

3. Errors in diagnosis do not in the case under consideration affect the statistics at all. The lists are prepared from the recorded diagnoses, which are entered only at the discharge or death of the patient.

4. Differences in the age and sex constitution of the series compared. The first is not of great importance in typhoid, except perhaps at the two extremes of life. During the last seventeen months of the expectant period, 1.1 per cent. were under ten years and 4.3 over forty. Of the 1,902 cases in the bath period, 0.7 were under ten and 6.7 over forty. As far as it goes, then, age constitution tells against the latter. Sex constitution in the two series is almost identical. Of the 1,828 cases in the expectant period, 668, or 36.5, were of females; of the 1,902 in the bath period, 714, or 37.5, were of females.

5. Variations in the severity of the disease in different countries and districts do not concern the present inquiry, since all the cases in either series came from the same districts and were subject to the same climatic conditions. There remain only therefore for consideration variations in severity of different epidemics. Without denying the existence of this epidemic influence, it may be permitted to contend that it has been greatly overestimated. It has been shown[1] that in the four complete fever seasons before the introduction of cold bathing, the natural seasonal variations in mortality did not amount (with one exception in which the numbers were inconsiderable) to 1 per cent. — a variation well within limits of error due to paucity of data. Again, on reference to Table II. it will be found that the annual mortality rate varies from 11.6 per cent. to 1.3 per cent. That this, however, is due to arithmetical and not to epidemic reasons, can be easily demonstrated.

The series being sufficiently long to exclude errors due to paucity of data, the variations have practically disappeared; there is instead, as pointed out by Osler, a remarkable uniformity in the results.

If from the whole decade we strike out the first six months during which the treatment was but inefficiently carried out, we have a series of 1,731 consecutive cases, extending over a period of nine and one-half years, with 122 deaths. If now, instead of into

[1] Practitioner, March, 1891.

years, this series is divided into three equal groups of 577 cases each, we obtain the following:

TABLE III.

Periods.	Cases.	Deaths.	Percentage Mortality.
July 1, 1887, to February 21, 1889	577	42	7.3
February 22, 1889, to October 14, 1890	577	49	8.9
October 15, 1890, to December 31, 1896	577	40	6.9

The most important result of the systematic employment of Brand's treatment is the alteration it has effected in the constitution of the mortality list. The statistics of the first three years of the decade led to the conclusion that the treatment was ineffectual to reduce the mortality from perforation and hemorrhage, and that the vast bulk of the reduction was due to the prevention of those complications and modes of death which, being more or less common to the febrile state however induced, are termed pyrexial. Further experience has simply verified this.

In the 1,902 cases in the ten years' bath period, 56 patients died of perforation, or 2.9 per cent.; 23 of hemorrhage, or 1.2 per cent.; while 64, or 3.4 per cent., succumbed to other causes. The following table shows the modification which has been imprinted upon the constitution of the typhoid mortality list by the introduction of the cold-bath treatment:

TABLE IV.

Causes of Death in Typhoid.	According to Murchison. Percentage.	Brisbane Hospital Before Introduction of Bath Treatment. Percentage.	Brisbane Hospital After Introduction of Bath Treatment Percentage.
Perforation	3	2.9	2.9
Hemorrhage	1.4	1.88[1]	1.2
Other causes	12.8	9.73	3.4
Total mortality	17.2	14.5	7.5

Thus almost the whole of the reduction in mortality, amounting to 7 in every 100 admitted, falls upon the third group of causes; or, in other words, perforation and hemorrhage, which together used to cause only about one-fourth of the total deaths, now under the bath treatment cause more than half, and this in spite of the fact that they are if anything actually less fatal.

This fact has an important bearing upon the comparative mortality of the sexes. Statistics on a large scale show that under ordinary treatment the female mortality is slightly higher than the male. In Brisbane, during the expectant period, 1,160 men and 668 women were admitted. Of the former 164 died, a mortality of 14.14 per cent.; of the latter 107, a mortality of 16.02 per cent. The difference is in spite of the admitted fact that men are about twice as liable as women to succumb to perforation and hemorrhage.

It follows, therefore, that the female wards offer a better field for the cold-bath treatment than the male. During the bath period, 1,188 males and 714 females were treated. Of the former, 103 died, a mortality of 8.7 per cent.; of the latter, 40, a mortality of 5.6 per cent. The reduction in the female death rate is thus nearly twice that of the male; and this is due almost solely to the greater incidence (nearly double) of perforation and fatal hemorrhage in the latter sex.

The series of 1,902 cases admitted into the Brisbane Hospital during the decade include every case which at its termination could fairly be considered to be typhoid, omitting only 23 cases still under treatment when the statistics were compiled. It includes, therefore, many subjects that were not bathed at all, because such treatment was contraindicated: many more that were not bathed because the pyrexia was insufficiently high to require it under Brand's rule; many that were hopeless on admission; some that died from old-standing or intercurrent diseases during the course of an attack of typhoid: and some that were only diagnosed at the necropsy. The death rate, therefore, is essentially a hospital typhoid death rate, and is quite distinct from that which might be expected were only cases suitable for the bath treatment selected.

[1] The percentage of fatal hemorrhage is rather too high. Similarly that of deaths from other causes is probably a little below the true average. This column was made up from only 586 cases.

Progress of Medical Science.

Tabes and Floating Kidney.—In a total of sixty-eight tabetic subjects treated in Eichhorst's clinic, six had movable kidneys. These were all in women, making a statistic of floating kidney in 14.5 per cent. of tabes, or twenty-five per cent. if the women alone are counted. This is too high a percentage to be put down to chance or coincidence, since in general diseases only one per cent. show this anomaly. It is more or less frequent in neurasthenia. In tabes loss of flesh or weakening of ligaments may be looked upon as a cause in subjects predisposed. Movable kidney at best is very rare in men.

Indications for the Induction of Abortion.—Dr. Jeffé (*Medicinische Neuigkeiten*), after a study of the literature of the last ten years, fixes the indications for the induction of abortion as follows: 1. Uncontrollable vomiting of pregnancy. 2. Incarceration of the gravid uterus. 3. Obstructions of the pelvic outlet by tumors or exudates. 4. Progressive and pernicious anæmia. 5. Grave chorea. Dr. Jeffé gives the following relative indications: 1. Great contraction of the pelvis with the conjugata vera below five centimetres. 2. Pulmonary emphysema, with signs of degeneration of the heart. 3. Nephritis, especially with eclampsia. 4. Chronic heart disease. 5. Other general diseases of the mother which would jeopardize her life at the time of delivery. The author thinks that conjugata vera of six centimetres and advanced pulmonary tuberculosis should not be regarded as indications for abortion, as it is not just to sacrifice a future life for one that is "certainly lost."

Sudden Death in the Puerperium.—Goltman (*Memphis Medical Monthly*, April, 1897, p. 145) reports two cases of sudden death during the puerperium, both as a result of pulmonary embolism, in one secondary to varicose veins, and in the other to cardiac thrombosis. He expresses the opinion that pulmonary embolism is the cause of death in most of the cases of this kind. Among predisposing influences are phlebitis, varicose veins, prolonged labor, hemorrhage, anæmia, sepsis, carcinoma, syphilis, etc. In the presence of peripheral thrombosis, etc., absolute rest must be enjoined, especially during the second and third weeks of the puerperium, as this is the period at which the clots disintegrate. Sudden death from air embolism in the puerperium is of doubtful occurrence from physiologic, pathologic, and rational standpoints. Shock may be both a direct and an indirect cause of death in the puerperium, and should be guarded against. Organic heart affections, renal disease, etc., are capable of causing death at any time, and are not to be overlooked during the puerperium.

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THE PROPOSED DISPENSARY LAW.

AMONG the bills now in the hands of the governor of New York and awaiting his signature is the one introduced by Mr. Sullivan and calculated to remedy the abuse of medical charity in the dispensaries of the various cities of the State. It is safe to say that no legislative measure presented during the past session carries with it more weight of approval on the part of the medical profession and more interest to the public at large than the one to which we desire at this moment to refer. Although, as originally drafted by a committee of earnest medical men, it contained some conditions that were somewhat arbitrary in character and a trifle unreasonable in application, the bill as finally passed, giving the State board of charities the control of all its provisions, now places the proposed law on the broadest possible basis of common good to all concerned. Thus far there has been a very practical outcome of the discussion which has occupied the serious thought and earnest endeavor of all parties concerned in remedying a gross and growing evil. Heretofore, with the differences of opinion which have existed between the managers of the dispensaries and the medical staffs of the same, there has been no court of appeal before which the vexed questions could be brought. Under the pending provisions all these are reasonably reconciled. In fact, there does not appear to be any tangible grounds for criticism either as to the real motives of the reform or as to the practical application of its principles. While there is no intention of interfering with legitimate dispensary work in the disposition to minister to the pressing needs of the sick poor, the line is very sharply drawn between such as use and such as abuse their privileges. The proper assumption is that all dispensaries shall be free to the poor, and very naturally it is concluded that all institutions that claim even nominal fees from applicants have no right to do business on a so-called charity basis. A system of registration and inspection is enjoined which is calculated to eliminate the undeserving patrons and punish them for misdemeanor. In the enforcement of these provisions the central board of control is vested with the power to annul the charters of such institutions as may directly or indirectly favor the present reprehensible practices of bidding for a large patronage and opening the doors to all comers. This will doubtless tend in a very direct way to prove the utter uselessness of many of the establishments which have been conducted on the purely business interests of managerial boards in obtaining extra donations and of the medical staff in securing increased clinical material. An opportunity will be offered also of demonstrating the comparatively small number of really deserving persons who have a right to apply for free medical treatment and the outrageously large number who cheat the poor, abuse charitable donations, and swindle the struggling doctor of his legitimate fee. It is absurd to suppose, even in the face of the utmost stringency in the enforcement of the proposed law, that any one in actual need of free medical treatment will suffer. With the well-known generosity of the medical profession this would be impossible, even if the majority of the bogus charities should go out of business at once.

As might have been anticipated, the opposition to the measure on the part of various dispensary managers was pronounced, but happily was useless in stemming the tide of popular opinion. The purely selfish interests were easily disclosed and the higher principles of pure and discriminative charity were triumphantly vindicated. All that is now needed to put a most commendable law in force is the signature of the governor. It is to be hoped that he will see his way clear in this matter and be the direct means to the end of favoring a measure which is sure to receive the cordial indorsement of the great majority of the working and thinking men of the State.

THE CONGRESS OF AMERICAN PHYSICIANS.

THE Congress of American Physicians held in Washington during the past week is an evidence of the good scientific work which can be done under proper organization and with becoming earnestness of purpose. It can hardly be denied that such gatherings of picked men worthily represent the true spirit of scientific progress in this country. Although modelled after similar associations abroad, it is in many respects an improvement on them, in the extent of territory covered by its membership as well as the guaranteed fitness of the membership by previously demonstrated qualifications.

Nothing could be more promotive of harmony of purpose or more indicative of substantial progress than the plan of a congress of special societies convened for the discussion of selected subjects of general professional interest. The topics for the past session were well chosen and well elaborated, thus infusing a solidity and a dignity into the proceedings which mark the association as the leading one on this side of the Atlantic. The novelty of the condition is in the fact that each participant is an expert in his own branch, and calculated to give his utterances, based on special experience, a becoming weight of authority and a lasting influence for good. No time is wasted in parliamentary discussions, in wire-pulling for official posi-

tions, or in the settlement of professional quarrels. Therefore, may the congress and its component parts long live and prosper.

THE PRESENT STATUS OF THE PUBLIC-BATH QUESTION.

About seven years ago a physician of this city inaugurated an agitation for free public baths, which seemed to bear much promise of success. Bringing the subject repeatedly before our medical societies and urging it in medical journals, he not only obtained the approval of his colleagues, but by arguments for and explanation of the rain bath, which he earnestly advocated as offering a solution of the public-bath question, several philanthropic societies were induced to adopt this economical and cleanly bath. The practical result of this agitation is the bathing of about two hundred and fifty thousand people annually, in clean warm water, with abundance of soap and towels at the nominal cost of five cents each.

Having thus established the practicability and value of this method of bathing, Dr. Baruch sought to interest the city officials in the subject of free public baths. The Medical Record has earnestly endeavored to further this great sanitary movement. Dr. Baruch interested the board of health, and the board of aldermen appropriated, in 1891, $25,000 for an experimental public bath. Unfortunately, the mayor pigeonholed the measure, and turned a deaf ear to the personal appeals of the projector. The latter approached the succeeding mayor also, in order to obtain his approval of a bill authorizing free public baths in the city, which the governor could not approve without such endorsement. This mayor also proved obdurate.

A flank movement was made upon the city politicians by Mr. Goodwin Brown, of Albany, who, with the aid of Dr. Baruch, succeeded in having an "omnibus bill" passed, which provided that "all cities of the first and second class shall establish and maintain such number of free public baths as the local board of health may deem necessary," etc.; "any city, village, or town may loan its credit, or may appropriate of its funds for the purpose of establishing such free public baths." This act became a law on the 18th of April, 1895, and seemed to contain all necessary mandate and authorization for the construction of free public baths. Now came upon us the great reform movement, which promised to purify city politics and bring untold blessings upon its inhabitants. The committee of seventy had promised the people public baths and lavatories. Unfortunately the law providing these had been passed without their assistance. What was the result? On June 25, 1895 (two months after the passage of the mandatory bath act), Mayor Strong created "The Mayor's Committee on Public Baths and Public Comfort Stations," to see if some means cannot be devised for erecting (?) and trying at once some of the recommendations of the committee of seventy. What has the mayor's committee accomplished during the past two years? Absolutely nothing, except the obstruction of this great movement. From a pretentious volume of one hundred and ninety-six pages, called a "Report," for which we are indebted to Mr. Tolman, its secretary, we learn among other things, to be referred to below, that the committee has obtained all possible information on European baths. We fail to discover the slightest value of this "investigation," since this city already possessed the best examples of true public baths. The plain mandatory law of April, 1895, which gives the board of health authority to direct the construction of public baths, and authorizes cities to appropriate funds for their establishment, would, it seems to us, have covered all demands of the case. But it evidently did not suit the "reform" politicians to give the board of health control of so important a measure. Nine months the mayor's committee "labored and brought forth a mouse," in the shape of the clumsy act, passed March 25, 1896, providing that "the commissioner of public works, with the consent of the board of estimate, is empowered to erect such and so many buildings for free public baths, and such and so many structures for the promotion of public comfort within the city, as in their opinion shall be necessary and proper," etc. Thus a sanitary measure belonging to the board of health was wrested from its proper guardians and relegated to the politicians. The mayor's committee obtained an appropriation of $200,000, we believe, to carry this act into effect. One year has elapsed, and what has this sapient committee accomplished besides its "Report"? On page 174 we have the following "lame and impotent conclusions" of its labors: "The law being mandatory with reference to the location of baths in the public parks only, and as there was no public park in which a public bath could be constructed that would meet the wants of the tenement-house population, it was seen that no further action could be taken without additional legislation," etc. Wise solons, these! We do not claim to be experts on public baths, as are these authors of the "Report," but we do claim to understand English, and we fail to find one single reference in the act of March 25, 1896, either to a mandatory or other permissive use of the public parks for public baths. The only reference to the public parks is contained in section 4: "The commissioner of public works is authorized and empowered to locate any or all of the structures for the promotion of public comfort in any public park of the city," etc. It will be seen that this applies only to lavatories, and not at all to baths, and, moreover, that it is not mandatory at all.

Thus the mayor's committee has succeeded by its own blunders in delaying the construction of public baths and in arousing needless, but just, antagonism against the unlawful use of Tompkins Square for public-bath purposes.

The act of April, 1891 (which by the way this sapient committee claims, on page 30, to be the result of its own work, despite the anachronism involved in the fact that the committee was not called into being until June 25, 1891, viz., two months later), made ample provisions for the erection of free public baths under the control of the board of health. Why the committee did not carry out the provisions of the

law can be explained only by the fact that it was the creature of "reform" (?) machine, and was controlled by it.

Thus has a great sanitary movement, begun by a medical man, urged through medical channels, and auspiciously brought to a happy conclusion, been wrecked by Mayor Strong's committee on baths. The latter should go down to posterity as "The Mayor's Committee on Bath Literature." The English bath houses, which the committee dilates upon, may be neat and ornamental and pleasant places for swimming; but they are not true types of a good public bath. The latter should offer ample warm water, soap, and towels, be cleanly and cleansing, accessible to the poor, built on a modest scale as to size and cost, and they should offer water as free as the parks offer air. Such is the bath the projector seems to have contemplated in all his addresses and writings and appeals. Instead of such small centrally located baths, the mayor's committee proposed to "ornament" Tompkins Square with a grand structure for one million bathers, provided with a public laundry, etc. Much as we regret the delay in this beneficent movement, due to the well-meaning but impotent mayor's committee, we shall regard the delay as a blessing if it arouses the city authorities to a sense of the impracticable character of the committee, and induces them to seek more practicable guides in the construction of these free baths.

COMMITMENT TO HOSPITALS FOR THE INSANE.

In a recent issue of the *Albany Medical Annals* attention is called to the peculiarity of our lunacy laws, whereby many patients in the incipient stage of insanity are precluded from treatment in State hospitals. The law, as it now stands, is very stringent in its provisions and does not permit voluntary admissions to asylums, but in many cases the symptoms of those who have the most to hope for from treatment are too slight to warrant the granting of a medical certificate. In this respect our methods in New York are behind those of Pennsylvania and Massachusetts, where voluntary admissions are allowed and where much good and no evil has been accomplished in consequence.

"The beneficial effects of voluntary admissions," says the *Annals*, "are seen in the results of the laws upon this subject in Pennsylvania and Massachusetts. In Pennsylvania a patient is permitted to commit himself voluntarily for a period of thirty days, and then to sign a renewal. This period was originally seven days, but was extended on the recommendation of the State board of charities. It is a constant practice of the private hospitals of the State to receive patients who commit themselves for medical treatment for nervous and mental conditions, and for the alcohol and drug habits, and the average results have been good. Numerous patients from New York, excluded from the hospitals of their own State, have sought and have received treatment in those of Pennsylvania. In Massachusetts a similar practice prevails, in accordance with a law which has been in operation since 1891, that 'the superintendent or keeper of any hospital, as aforesaid, may receive and detain therein as a boarder and patient any person who is desirous of submitting himself to treatment, but whose mental condition is not such as to render it legal to grant a certificate of insanity in his case; provided always that such boarder shall make written application for such treatment, and that he shall not be detained for more than three days after having given notice in writing of his intention or desire to leave such hospital.'"

It ought to be a simple enough matter to provide against abuse of the privilege of voluntary entrance into an asylum for the insane, and certainly the law should be so changed that those who stand most in need of the benefits of hospital treatment may be permitted to avail themselves of it.

THE CROWD PANIC AT THE BAZAR DE CHARITÉ.

The recent dreadful tragedy at the Grand Bazar de Charité in Paris, in which large numbers of persons lost their lives by fire, emphasizes the danger of instantaneous panic under readily provokable conditions. Although the gathering was not a large one, its concentration of selfish interest, culminating in the delirium of an overwhelming fear, amply demonstrated the well-recognized phenomena of crowd panic. With the lamentable example of the same condition on the Hodynsky Plain in Russia only a year ago, we are happily spared the comparison of an equally large death record. This is due to the respective difference in numbers rather than to the absence of the usual causes that start the explosion of uncontrollable human terror. The fire in a temporary building filled with inflammable material was in itself the powerful incitant to the wildest demonstrations of the most overpowering alarm. The great wonder is that so large a proportion of the spectators succeeded in escaping immediate death either by suffocation or burning. As in all similar cases, this result was due more to circumstance and environment than any influences within individual control. With the overwhelming aggregation of human force in one mad direction of safety, individual efforts at resistance are always futile. This is, in fact, the true psychology of crowd panics. The prevention of the thing is the only reasonable means for consideration. In all crowds the slightest cause for any alarm of danger or even anxiety for absolute safety should be thoroughly eliminated. It is lamentable to state that in the recent disaster there was hardly wanting a single contributing cause to the worst form of demoralization. The character of the building, the inflammable nature of its contents, the gauzy paraphernalia used in decorations, the lavish distribution of lights, and, above all, the lack of sufficient police regulation, were the necessary means to the lamentable end. The same conditions were present in the large and flimsy stands at the recent Grant parade, and the only blessing is that there was happily no spark to start the waiting train.

News of the Week.

The Omaha Medical Society. — The annual meeting of this society was held on Tuesday evening, April 13th. The following officers were elected: Dr. D. C. Bryant, *President;* Dr. W. H. Christie, *First Vice-President;* Dr. H. M. McClanahan, *Second Vice-President;* Dr. R. M. Stone, *Secretary;* Dr. W. R. Lavender, *Treasurer.*

Why Dispensaries are so Necessary.—In an article on "Medical Charity," in the New York *Journal*, April 27, 1897, appears the following paragraph: "'The fact of the matter is,' said Superintendent Lathrop of Roosevelt Hospital and Vanderbilt Clinic, among the largest in the city, 'that if we had fewer incompetent physicians we would have fewer dispensaries. The people are becoming educated to know that at a clinic or a dispensary they can obtain treatment from skilled physicians, whereas in going to private physicians they have to take chances.'" In the spirit of ordinary charity for all concerned, we trust that Mr. Lathrop is incorrectly quoted.

Dr. Thomas Manning has been appointed visiting physician to St. Joseph's Hospital, in this city.

Obituary Notes.—Dr. J. G. Maisonneuve died a few weeks ago in Missillac, France, at the age of eighty-seven years. He was at one time one of the leading surgeons in his country, and several instruments, notably a urethrotome, are called by his name. He retired from practice over twenty years ago.—Dr. Traill Green died in Easton, Pa., on April 29th, at the age of eighty-three years. He was born in Easton, was graduated from the medical department of the University of Pennsylvania in 1835, and immediately began the practice of his profession in his native place. In 1837 he was made professor of chemistry at Lafayette College. In 1841 he was called to the chair of natural sciences in Marshall College, Mercersburg. Washington and Jefferson College conferred the degree of LL.D., on him in 1866. Dr. Green built the astronomical observatory and presented it to Lafayette College. For nearly half a century he was a member of the American Association for the Advancement of Science. He organized the Pardee scientific department at Lafayette and until a few years ago was its dean. He was the first president of the American Academy of Medicine, and was a member of many other scientific bodies.—Dr. Louis A. Lebeau, of St. Louis, died in that city in April as the result of injuries received in falling from a bicycle.—Dr. Leoncido Ros, one of the resident physicians of the Woman's Hospital in this city, died on April 30th, from injuries received in consequence of the explosion of a jar of alcohol in which he and the hospital apothecary were sterilizing catgut. The explosion threw burning alcohol over both men, and Dr. Ros especially was very severely burned on the face, arms, and body. He was a native of Cuba, and was twenty-six years old.—Dr. Jefferson J. O'Connell, of Honesdale, Pa., died at his home in that city on April 12th, of perforating ulcer of the stomach. He was born in 1859, and studied medicine for a while in this city, but obtained his medical degree in Chicago in 1886.—Dr. Hugh McDonald Struble, of Middletown, N. Y., died very suddenly on April 30th. He was born in Newton, N. J., in 1852, and was graduated in medicine from the University of Pennsylvania in the class of 1875.—Dr. Graffius Miller Couch died at Altoona, Pa., on April 25th, at the age of forty-seven years.

Unveiling of the Gross Monument.—On Wednesday afternoon, May 4th, the unveiling of the statue of the late Prof. Samuel D. Gross took place in the Army Medical Museum. The exercises were to have been held in the grounds where the statue stands, but owing to rain the company was invited to the library of the surgeon-general's office. The ceremonies were in charge of the American Surgical Association and the Alumni Association of the Jefferson Medical College. After a prayer by the Rev. B. L. Whitman, Dr. Claudius H. Mastin, of Mobile, presented the statue to the United States government. The statue was then to have been unveiled by Miss Adele Horwitz, but this part was necessarily omitted. Surgeon-General George M. Sternberg, U. S. A., accepted the statue on the part of the United States government, and then the address was delivered by Dr. W. W. Keen, of Philadelphia. There was a very large attendance of the members of the congress, the large room of the library being more than filled, many being obliged to stand in the hall out of hearing of the speakers. The statue, of heroic size, stands on the grounds of the museum north of the building.

A Heavy License Tax on Physicians.—It is quite an expensive item to be a doctor in Richmond. The State of Virginia for the past ten years or more has been charging $25.75 for the license of a city doctor who has been in practice five or more years; and for the past two years or more those who practise in Richmond have been arbitrarily assessed by a committee of the city council, in addition, a city license tax varying from $20 to $75—the doctor of average prominence having to pay from $40 to $60 a year.—*Virginia Medical Semi-Monthly.*

Fees in this Country and England.—In a recent number of *The Lancet* is an item concerning medical fees in America, in which it is stated that the average income of a medical man here is higher than in England. Why fees here are higher than in England is a difficult matter for our contemporary to comprehend. "Less competition cannot be the cause, for in the States there is one medical man to every five hundred persons, whereas in England there is only one to every fifteen hundred. The working classes in America receive larger wages than in Great Britain, and no doubt this partly accounts for the higher medical fees, but a still more potent reason is the fact that in America the members of the medical profession stand well together and are resolved to resist as vigorously as possible any attempts to lower the rate of fees."

Society Reports.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FOURTH TRIENNIAL SESSION.

Held in Washington, D. C., May 4, 5, and 6, 1897.

WILLIAM H. WELCH, M.D., OF BALTIMORE, PRESIDENT.

First Day—Tuesday, May 4th.

The Eye Manifestation of Gout.—The first part of the session was in charge of the American Ophthalmological Society, and the general topic for discussion was "The Gouty and Rheumatic Diatheses and their Relation to Diseases of the Eye."

DR. CHARLES STEDMAN BULL, of New York, discussed "Lesions in the Retinal Vessels, Retina, and Optic Nerve, Associated with Gout." He said that most authors mentioned only hemorrhagic retinitis as a common complication of gout. Gouty persons were well known to be prone to hemorrhages as a result of the great arterial pressure and the relaxed condition of the arterial walls. The changes produced in the arteries were now known to be partly due to certain little understood intoxications and also to senile degeneration. It should be noted that endarteritis and endophlebitis were found much more frequently in the retinæ of persons affected with atypical gout than in those who suffered from the ordinary and typical acute form of this disease. The inflammatory process occupies the centre of the fundus, affects both eyes, but rarely causes total blindness, as the periphery of the retina is rarely involved. According to some high authorities these vitreous hemorrhages were to be looked upon as almost pathognomonic of gout. Special attention was called to three features, viz.: (1) The changes in the arteries, capillaries, and veins of the retina; (2) the peculiar, localized retinitis found at the fundus only, with or without hemorrhages in the vitreous, and characterized by a peculiar yellowish exudation occurring in clearly defined patches; and (3) optic neuritis, generally with but sometimes without a retinitis. The subjective symptoms were deterioration in the vision and a certain degree of photophobia most marked with artificial light. The ophthalmoscope showed blurring of the outlines of the optic disc but without œdematous swelling. The retinal arteries were diminished in calibre. The white lines along both the arteries and veins were broad and distinct. Occasionally in places the veins would appear dilated, giving them an appearance resembling that of a fusiform aneurism. Yellowish-white patches of exudation, at first brilliant but subsequently becoming dull, were to be seen mainly grouped about the macula and disc, but without systematic arrangement. These had been proved to be situated in the deeper layers of the retina. In these patients the urine would usually be found to be of high specific gravity and loaded with urates and phosphates. Dr. Bull said that he had occasionally found a little albumin but never sugar or casts in the urine of these individuals.

In conclusion it might be said: (1) That the changes in the fundus were always bilateral though rarely symmetrical in the two eyes; (2) the degenerative changes in the walls of both the arteries and the veins were at first very minute, and were often overlooked; (3) the general angiosclerosis and patches in the retina caused marked impairment of central vision but little impairment of peripheral vision; (4) loss of central vision was always progressive up to a certain point; (5) hemorrhages into the retina were rare except in the comparatively early stages of the disease; (6) the most marked feature was the development of the angiosclerosis in the vessels of the retina; (7) that another important feature was the peculiar yellowish granular exudation in the retina, located by the ophthalmoscope around the posterior pole of the eye and generally leaving the macula intact until late in the disease; and (8) that the changes in the optic nerve seemed generally to be intra-ocular but had been occasionally traced for some distance back of the eyeball.

DR. S. OLIVER RICHEY, of Washington, D. C., considered the general subject in its special bearing on glaucoma. He said that among the earliest changes taking place in the blood-vessels was the contraction resulting from the irritation of the toxin in the blood itself. Later on thickening of the intima and arterial sclerosis and degeneration of the blood-vessels occurred. The increased intra-ocular tension in glaucoma, he said, is due to the distention of the blood-vessels—rarely to derangement of intra-ocular secretion and excretion. Associated with the increased intra-ocular tension was arteriosclerosis with functional disturbance of the heart and probably hypertrophy of that organ. As a result of persistent venous stasis thrombosis and substituting hyperplasia took place in all the tissues of the body. In chronic glaucoma the *materies peccans* of rheumatism could be excluded. Every form of glaucoma might be considered to be due primarily to gout or to acquired syphilis in the tertiary stage. Iridectomy, if performed after the first violence of the attack had subsided, would so reduce the intra-ocular pressure as to allow of the restoration of the intra-ocular circulation and the establishment of the normal tension.

Dr. Richey called special attention to an anatomical point which he said had not generally received much consideration. The venæ vorticosæ pass in the meshes of the sclerotic downward and backward. The shortest are 1.5 mm. in length, that is, half as long as the thickest part of the sclerotic. The longest are 5.5 mm. Given the high arterial tension found in gout, and the arteries would become engorged. The arteria centralis, being engorged, presses upon the vein and produces distention. The venæ vorticosæ pass directly through the sclerotic and the arterial blood has easy access to the interior of the eye. The moment there is any increase of intra-ocular pressure, no matter how small, there will be pressure exerted on the venæ vorticosæ. This produces some venous stasis and this in turn increases the intra-ocular pressure, thus giving rise to a vicious circle.

DR. S. D. RISLEY, of Philadelphia, continued the discussion with a paper entitled "Cataract and Its Association with the Gouty and Rheumatic Diatheses." He said that the classification of hard cataract as "senile" had served to fix the attention chiefly upon age as a factor. It should be borne in mind that while the lens loses its elasticity and becomes hard as age advances, it has only exceptionally lost its transparency to a degree that would seriously impair the vision. When the lens undergoes physiological hardening and at the same time becomes opaque, pathological occurrences should be looked for as the cause of these changes. The speaker contended that the gouty and rheumatic diatheses were the most frequent causes of chronic and subacute forms of inflammation affecting the uveal tract. The entire choroidal tract would be found more or less seriously involved in every case. It was not surprising that the unstable equilibrium of the cells would be disturbed by a change in the constituents of the fluid in and around the lens. He had noted remarkable and instructive

changes in refraction occurring in diabetics, apparently as a result of osmotic changes in the density of the fluids induced by variations in the saccharinity of the blood. If this were true of diabetes it was not improbable that similar changes in the nutrition of the lens might result from the changes in the blood brought about by gout or rheumatism.

Dr. Robert Sattler, of Cincinnati, then read a paper on "Gouty and Rheumatic Affections of the Uveal Tract." He said that the gouty and rheumatic origin of these and other ocular disorders could no longer be questioned. Jonathan Hutchinson assigned the major part to gout, but, according to his own experience, iritis and other choroidal complications were very commonly met with in this country in connection with rheumatism. As a rule ocular manifestations appeared in the earlier stages of gout. In early gout one met with the typical "hot eye" and with muscæ volitantes, but rarely with gouty iritis. If found it was usually only a feature of a complicated process involving other parts of the uveal tract. An insidious variety of choroiditis was sometimes observed, known as serous iritis. Experience showed that the degenerative processes of gout made operative interference dangerous, or at least prevented favorable results as regards restoration of sight.

Dr. R. A. Reeves, of Toronto, followed with a paper on "Rheumatic and Gouty Affections Involving the Cornea, Conjunctiva, and Sclera." He said that one form of keratitis met with in these cases was characterized by intense ciliary congestion, photophobia, lacrymation, and pain, with cloudiness of the cornea. It generally receded in a few days. A partial desquamation of the epithelium occurred only exceptionally. In another form there was a porcelain-like opacity of the cornea, looking as if the sclera had encroached upon it. The condition was commonly met with in persons over forty years of age and of gouty habit. A band-like opacity of the cornea should always give rise to a suspicion of gout. There is a variety of episcleritis presenting severe inflammatory œdema and often attended with severe photophobia, lacrymation, and pain. The attacks last from one to eight days and the total duration of the disease must often be measured by years. Episcleritis proper was to be found in adults, either of a gouty or a rheumatic constitution. The treatment was by the administration of salicylate of sodium and by the topical use of pilocarpine. Scleritis proper attacks the anterior part of the globe, is characteristic and diffuse, and, as a rule, is very painful. A dusky zone usually marks the diseased area.

Dr. J. M. Da Costa, of Philadelphia, opened the general discussion. He said that from the point of view of the general physician in relation to the eye diseases observed in gout and rheumatism, and what was called "rheumatic gout," it was well to bear in mind what these diseases really were. The typical phenomena of acute rheumatism were so well known as not to need repetition, but there was always great doubt in regard to chronic rheumatism and the rheumatic diathesis. He truly believed that four-fifths of all the cases called chronic rheumatism were not rheumatism at all; hence, one should be cautious about admitting the association of chronic rheumatism with eye affections. The case was, however, somewhat clearer with gout, because we knew a little more about the pathology of this latter disease. Certainly something connected with a faulty excretion of uric acid was the underlying pathology of gout. He did not believe there was any such disease as "rheumatic gout," although he believed in the existence of a condition which might be conveniently called "rheumatoid arthritis;" but even this in his opinion was an independent affection. So far as we knew anything regarding this curious affection of the joints, we knew that it was rather a neurotrophic affection than one connected with either rheumatism or gout. As a general practitioner he would say that in connection with acute rheumatism he had most commonly met with conjunctivitis, sometimes associated with iritis. This often occurred at the height of the rheumatic attack, just as one found acute inflammation of the endocardium and pericardium. With gout the case was different. Gouty inflammation of the eye occurred not only in connection with acute outbreaks of gout but at other times. He had found in gouty inflammations that the disease often began in one eye and then later involved the other eye. From the same standpoint—that of the general practitioner—he could hardly recall any case of association of any affection of the eye with rheumatoid arthritis. Again there was a class of persons presenting lithæmic symptoms, or what had been called "suppressed gout." In these patients he had also observed that it was apt to begin in one eye and go to the other. Headache was often associated with this, and he had even known ocular defects to be corrected in the effort to relieve the headaches when the case ultimately proved to be one of lithæmia.

The remainder of this session of the congress was in charge of the American Otological Society.

Otology in Its Relations to General Medicine.—Dr. Clarence J. Blake, of Boston, delivered an address with this title. After giving a historical sketch of the development of the specialty of otology, the speaker referred to the care of the ear by the general practitioner, especially during the course of the acute exanthemata. The great vascularity of the canal, drumhead, and middle ear in children made these portions susceptible to inflammation. The most frequent diseases of childhood, however, affecting the ear, were those involving the middle ear, chiefly by extension through the Eustachian tube. In the earache of childhood attention should be given to the nose and pharynx, as well as to the general health of the child. Dr. Blake insisted upon the importance of frequent objective examination of the ear during the course of the exanthemata, and incidentally called attention to the fact that bacteriological examination had shown the presence of the Klebs-Loeffler bacilli in the discharge from the ear long after they had ceased to be present in the throat. More attention should also be given to the existence of deafness among school children. Touching upon the surgery of the ear, Dr. Blake quoted Professor Politzer's description of the temporal bone: "The temporal bone has four sides. The outer side is bounded by life, for through the external meatus come many of the impressions from the outer world. The other sides are bounded by death." The speaker said that it was now recognized that an effusion or a hemorrhage in the labyrinth might affect the balancing power, giving rise to auditory or labyrinthine vertigo. But in many cases it would be found that a mass or epidermal growth, by pressure on the stapes from without, would give rise to various symptoms, prominent among which was vertigo. Another matter often overlooked was what might be called "the fatigue of deafness," a condition resulting from the great effort required in deaf persons in order to keep in communication with the outside world. Where there was formerly but one act, there were now three: (1) to hear; (2) to see; and (3) to understand.

ASSOCIATION OF AMERICAN PHYSICIANS.

Tenth Annual Meeting.

President's Address.—Dr. J. M. Da Costa, of Philadelphia, president of the association, delivered an address in which he briefly reviewed the progress

of the healing art in the past few years. He spoke of leucomains and ptomains as elements in the causation of disease, and said the work of physicians and that of surgeons were coming each year closer together. Drugs were used less and more frequently alone than in combination. Extracts and active principles were now more frequently employed and have taken away many of the terrors with which the practice of medicine was formerly invested. It is no longer a hardship to be ill. Capsules, tablet triturates, pills of æsthetic color, the dear little pink pills which so often contain potent drugs, as arsenic or strychnine, are now greeted with pleasure by the children. There is an endeavor now to overcome disease and not to permit a patient to fall a victim to its ravages. The expectant method of treatment is a confession of impotence, and is rarely followed now by the thoughtful man. The line of action is a more aggressive one, with new remedies. Digitalis and mercury, for instance, are given differently from what they were. We may return to bleeding, with immediate attempts at reconstruction of the blood with alkaline fluids. The bromides, the nitrites, the nitrates, nitroglycerin, and such drugs are more prominently used now. Many of these remedies, as, for example, the nitrites, come from the physiological laboratory. The antitoxin treatment gives hope of success in some directions, but has led to no great results yet except in diphtheria. Treatment by attenuated virus is more successful, as in rabies. Attempts are on the whole rather more hopeful. The *x*-rays have been a triumph in the popular mind: they certainly have accomplished much, but their danger, as in dermatitis, has not yet been appreciated. The tendency to immediate generalization is greatly to be deprecated. The discoverer of a new germ wishes to announce a new treatment at once, and so he who discovers a new germ daily blossoms out at the end of the year with three hundred and sixty-five new cures, and wishes to record himself as one who would revolutionize science. Immediate generalization is a tendency which should be discouraged. Fixity of opinion is on future clinical medicine. This must continue to be the final court of appeals. The more we investigate the more we know, as the more questions arise. There is no finality in medicine and a certain amount of empiricism must always remain. Clinical medicine would advance if statements were not so vague. Records are not, as a rule, well kept, and generally in the notes it is stated that the "usual treatment was followed" or the "usual dose was given." But what does this mean? It may mean different things, but it does not help the reader. The withholding of the size of the dose is a mistake. Other records are so confusedly kept that they are worthless. They lack the finish of the scholar and the color of the literary artist. The keeping of records should be improved, and, while profound literary style should not supplant the clear reason of scientific facts, the two should be united. One more tendency of the day is the excessive publication of lax knowledge. Half the fact is stated. This is a dangerous thing in any science. Medicine is an inductive science. There are to be no more "pathies."

The Serum Diagnosis of Typhoid Fever. Dr. George B. Shattuck, of Boston, read a paper with this title, in which he reported on one hundred and forty five cases at the Boston City Hospital. The diagnosis was made in the pathological laboratory, and, as many of the patients were far from intelligent, it was necessary to get a good history as to their state when the disease began. The tests were made with liquid blood. In the laboratory one hour was allowed for the reaction, and the time as well as the character of the reaction was noted. Of these one hundred and forty-five cases one hundred and twenty-five were typhoid, nineteen not, and one doubtful. The tests were made from daughter cultures from a spleen culture. Both room and thermostat cultures were used. In the former the organisms were fewer, larger, and more motile, while the reaction was a trifle slow. In the thermostat cultures there was often a sediment of dead organisms which interfered with the diagnosis. In one hundred and sixteen cases there was no reaction before the tenth day of the disease and at varying times up to the one hundred and twenty-second day. In some cases the subject entered the hospital late. In eleven cases the reaction was doubtful, and in four there was no reaction. In the four negative cases the true diagnosis was later found out. In eighteen cases with a clinical diagnosis other than typhoid there was no reaction in fifteen, and in three there was, which was subsequently verified. In the blood from thirteen negroes with clinical diagnosis other than typhoid, eight specimens showed no reaction, three were more or less satisfactory, and in two it was good. The diazo reaction was recorded in forty-two of the one hundred and twenty-five cases and not in forty-seven. In conclusion: 1. The serum reaction may be obtained toward the end of the first week, but is more pronounced later. 2. It may be present without relapse at the end of the fourth month. 3. It may be absent one day and present the next. 4. Of one hundred and twenty-five cases it was absent in one only. 5. In nineteen other diseases it was absent. 6. In one doubtful case there was a reaction. 7. In doubtful cases it was of great use. 8. This test will be a great aid to the clinical diagnosis.

Dr. A. C. Abbott, of Philadelphia, said that the conditions that surround the work in the municipal laboratory are not so satisfactory as in hospital work. Nevertheless, the results in the Philadelphia health department have been very good. Of 164 specimens of dried blood, 115 were examined, and of 68 with a clinical diagnosis of typhoid 66 gave the reaction, or 2.9 per cent. of failures, and 23 had reaction in less than a week. The longest time was twenty-three days. In some cases the primary reaction was negative, while the subsequent one was positive. Seven cases were doubtful at first and positive later. Two cases had very meagre histories.

Dr. J. H. Musser, of Philadelphia, said the reaction was confusing in the early stages, especially when typhoid was a terminal infection, and he related a case in which the reaction at first was negative and the case was treated as one not typhoid, and later the reaction was positive.

Dr. W. Osler, of Baltimore, said that in forty-four cases at the Johns Hopkins Hospital examined by Dr. Bloch the reactions proved satisfactory. Some of these were admitted late in the course of the disease and one during a slight recrudescence, and one was thought to be meningitis and one remittent fever. It was not usually found before the sixth day.

Dr. Hermann M. Biggs, of New York, spoke of the studies of the serum from blisters raised with cantharides in supposed typhoid cases. He thought the amount of blood examined should be taken into consideration.

Dr. James Tyson, of Philadelphia, spoke of the abortive types of the disease, and related the case of three young girls who went skating on the Skuylkill and drank water through a hole in the ice, and all had fever which gave a clinical picture of typhoid. One was well in one week, one in three weeks, and the other later, and in all the blood showed the reaction of Widal. One case which came in on the seventeenth day of illness was supposed to be typhoid, but no reaction could be obtained, and at the autopsy it was seen to be miliary tuberculosis.

Dr. Frank Billings, of Denver, thought that mis

takes were made from a faulty report of Wyatt Johnston's methods. It was stated that an old culture should be used, which was wrong. What he did say was that an old culture should be used as a basic culture, from which fresh cultures should be made. The technique should be understood as to the age of the culture and the proportion of serum to the test. Widal stated that seven years was the longest time that the reaction can be obtained. This was important to remember, for a reaction may be obtained when the disease has long been a thing of the past.

Dr. James T. Whittaker, of Cincinnati, mentioned a case which was first thought to be Bright's disease and later miliary tuberculosis, but which later proved to be typhoid.

Dr. Fred. Shattuck, Boston, also related a case which was of doubtful diagnosis, but which afterward proved to be what the Germans call "nephro-typhus."

Dr. E. G. Janeway, of New York, said he had seen the danger of trusting to the negative side of this test too early. He had been called in to see a case in which the tests had been negative. One test was on the twenty-eighth day of the fever with two negative reactions. There were collapse and intestinal perforation, and at the later stage the positive reaction was found. The negative did not by any means disprove the presence of typhoid fever. The danger was in regarding this test as pathognomonic, when it often misled. Negative results caused a treatment for other than typhoid fever, and often the reaction came too late or in convalescence. We should be very careful in negative cases.

Gall-Bladder Infection in Typhoid Fever.—Dr. A. Lawrence Mason, of Boston, presented the history of a case of inflammation of the gall bladder with perforation and intestinal rupture as a complication of typhoid fever. The literature of the subject shows that most of the forty-five cases on record are post-mortem discoveries. His case was that of a woman, thirty years old, with typhoid, anorexia, vomiting, and constipation. The reaction was positive. There were pain and swelling in the right abdominal region. The liver dulness was normal at first. Aspiration of the gall bladder was done and no stones were found. The pain was relieved and the patient recovered. The gall bladder was resected. The relief was instantaneous and defervescence ensued. He showed a photograph and a sample of the fluid withdrawn, which was much unlike bile. The typhoid bacillus was found in the fluid. Tests were made with it and rabbits inoculated. There are not many cases recorded. Rokitansky and Frerichs have mentioned some. Only in the past ten years has it been possible to use bacteriological methods in studying these cases. Gall stones are sometimes found, but not always. Reinfection from the gall bladder should always be borne in mind. The prognosis is unfavorable. If the gall bladder is much distended, the treatment should be to relieve pain and promote absorption, or else to operate and use surgical measures. He related another case. His conclusions were: 1. The gall bladder is often infected in typhoid fever. 2. Cholecystitis often results. 3. Gall stones complicate the trouble and should be removed. 4. The gall bladder may be a source of infection.

Hepatic Complications of Typhoid Fever.—Dr. William Osler, of Baltimore, read a paper on this subject, considering it under the following heads: 1. The focal neuroses. 2. Jaundice in the course of the disease. 3. Abscess. 4. Affection of the bile passages. He spoke of the rarity of jaundice in this disease, and said that of the first five hundred cases seen by him at the Johns Hopkins Hospital it had been present in only two cases in his practice. Blackstein at the Johns Hopkins Hospital showed that the bacillus lived fifteen and one-half weeks in the biliary passages, and the colon bacillus longer. In fourteen cases of gall-bladder disease that were fatal, the typhoid bacillus was found in seven casses and other organisms in two. In these seven fatal cases there were no hepatic symptoms. There was great possibility of infection of the gall bladder. The production of an acute cholecystitis without typhoid infection is possible, from the records of the present day. He saw a case in which there was a mass of gravel. After a hearty meal of beefsteak and potatoes the patient felt sick, and vomited the meal and the previous one too. There was a tumefaction in the right abdominal region. Halstead operated. There was no bile, but a sudden discharge of yellow liquid. The colon bacillus was found. Chiari's studies show very great care is necessary in discovering them. In an analysis of two thousand cases in Munich in only five was it found. The number of recent cases is greater than is usually regarded. In one case there was a laparotomy with recovery.

Case I.—Typhoid fever reaction on the twenty-seventh day; colon bacillus found. Final recovery. Three months later, pain in right iliac region, operation. Appendicitis first supposed; gall bladder found adherent and with perforation; yellow fluid; stones removed; gall bladder packed with iodoform gauze; colon bacillus present.

Case II.—In third week of typhoid fever; later came into hospital; was jaundiced. Numerous gall stones; gall bladder opened and drained; colon bacillus found; death.

Case III.—Supposed typhoid but reaction doubtful; thirtieth day of fever. Pain in right hypochondriac region; operation; recovery.

Case IV.—Typhoid; pain in side; dismissed. Later readmitted. Headache and weakness; Widal reaction; jaundice; cultures at first negative; late parotitis.

Dr. W. T. Councilman, of Boston, spoke of the frequency of finding typhoid bacilli in the gall bladder. They are nearly always found in typhoid fever. They enter the gall bladder from the blood. They are always in the liver during the disease. Very few organisms in the body escape the liver. Thence they can easily pass into the biliary vessels. He showed a very pretty specimen of typhoid necrosis.

Urea Estimation in Cases of Typhoid Fever Treated by the Brand Bath Method.—Dr. James Tyson, of Philadelphia, read a paper with this title. A patient with typhoid fever in the hospital had albuminuria and hyaline casts in three days after admission. He gave milk and other liquid diet. On the fourth day he began to collect the urine and estimate the urea during the Brand treatment. During the bath the secretion was markedly increased. The patient was tubbed five times in one day and the secretion of urine and urea was increased. Thus:

Day of Disease.	Urine.	Urea.
28th	2,100 c.c.	29.8 per cent.
29th	2,100 "	24.7 "
30th	2,280 "	32.0 "

The albumin fell to one-twelfth per cent. by bulk and finally disappeared, as did the casts. Cough grew less. There were no tubercle bacilli; an otitis media developed in both ears, but there was no defect in the hearing. The nephritis was mild. It is not the circulation of the blood in the kidney that is dangerous but its stagnation, and therefore the Brand method is not contraindicated in this passing nephritis. Of sixty-nine soldiers treated, five had nephritis and all recovered, and of sixty-nine others not treated by baths by the Brand method nine had nephritis and five died. The nitrogen came from the food ingested and from tissue waste.

Cancer of the Stomach in Early Life; and the

Value of Cells in Effusion in the Diagnosis of Cancer of the Serous Membranes. Dr. George Dock, of Ann Arbor, Mich., read a report of a case of cancer of the stomach (scirrhus) in a man of nineteen years. There were extensive infiltration of the stomach with early obstruction of the cardiac orifice; metastasis in the peritoneum and pleura with fatty ascites; later, effusion in the pleural cavities, first left, then right. In the various effusions were cells which, besides containing fatty granules and vacuoles, showed in a large proportion karyokinetic figures, both typical and atypical. After a reference to the literature, a comparison was made with the findings in other effusions in serous cavities, tending to give to such cells a certain diagnostic value.

Dr. Simon Flexner reported a case in which there was a large tumor extending into the intestine. The fluid contained many cells. The case was carefully worked up and found to be a tuberculosis of the peritoneum, while the history indicated cancer.

The Inflammations of the Colon.—Dr. Francis Delafield, of New York, read this paper. He spoke of the various forms of colitis found in New York and their treatment. He exhibited a large number of beautiful drawings and photographs. His treatment was principally flaxseed injections, opium, and castor oil.

Reflex Neuroses of the Abdomen.—Dr. Norman Bridge, of Los Angeles, Cal., read a paper setting forth, from a clinical standpoint, a large number of these reflex neuroses or symptoms, some of which are frequently overlooked and some confusing in diagnosis.

The Relation of Neurasthenic Conditions to the General Nutrition.—Dr. R. T. Edes, of Jamaica Plain, Mass., presented a communication with this title. Gain in body weight and improvement in neurasthenic symptoms usually go together, but there are enough exceptions to the rule to show that the nervous nutrition is something more than a mere sample of the general. The more nearly symptoms approach in character the "fixed idea" of the insane, the less amenable are they to the beneficial effect of mere somatic therapeutics. The blood color (Fleischl) of a considerable number of neurasthenic patients corresponded quite closely with that of the employees in the same institution. It was not possible to establish any correspondence between the degrees of anæmia and the intensity of nervous symptoms. Measurements of the excretion of uric acid afford no sufficient ground for supposing that neurasthenic symptoms depend in any way upon this substance. There may be such a thing as a chronic uric-acid headache, but the ordinary continued neurasthenic headache is not of this character. Indican determinations have not been numerous enough to be decisive, but do not seem to indicate that the poison consists in this substance or in those which may be transformed into it. If neurasthenia is a toxic condition, the poison has not yet been satisfactorily identified.

Two Cases of Erythromelalgia.—Dr. D. W. Prentiss, of Washington, presented the cases.

Case I.—Female, neurasthenic, aged fifty-eight years. Left hand only affected. Has continued in intermittent attacks since August, 1895, presenting in a characteristic form the train of symptoms described by Dr. Weir Mitchell as peculiar to this disease.

Case II.—Widow, aged thirty-seven years. Neurasthenic and hysterical. Pain in the heels extending to the soles of the feet and when more than usually severe up the calf of the legs. No history of previous disease, except the neurotic tendency, in either case, to throw light on the cause.

Diagnosis, pathology, and treatment were discussed with special reference to relation to other diseases classed as vasomotor. The treatment especially was considered worthy of note, since heretofore it had proved almost unavailing. The reporter also invited discussion especially with reference to surgical interference, that having been contemplated in the first case by cutting or stretching nerve in forearm.

AMERICAN GYNECOLOGICAL SOCIETY.

Address of Welome.—Dr. A. H. A. King, of Washington, delivered the address of welcome. Aside from the more serious scientific work of these meetings they were of special value in their social features, giving brief respite to the members from melancholy obstetric and gynæcological work. The Washington members extended a hearty welcome to their visitors.

Multiple Myomata in Abdominal Cavity.—Dr. Bache McE. Emmet, of New York, read a paper bearing chiefly on the genesis of multiple myomata, especially those in the abdominal cavity, and related a case. It was about the uterus that most myomata and the largest ones were found. Those in other parts of the body were uncommon, and seldom larger than a walnut. Their mode of formation was in all instances practically the same; that is, barring the question why they grew, they were believed invariably to take their origin from their own kind. In other words it was held by histologists that they could not spring from any tissue but unstriped muscular tissue. They were rare under the age of thirty-five, were most common in women because of the uterus, but in other organs were more common in men. After quoting Virchow, Ziegler, and various writers on points relating to origin, etc., the author said it seemed to him well established that leiomyomata arose by hypergenesis, and when found in regions where there were no smooth muscle fibres were due to detachment and migration. Although they were said to be permanent, undoubtedly many changes might take place in their size and structure, as was frequently seen in tumors of the uterus. It was not necessary to say anything about the diagnosis of such tumors in the abdominal cavity, as they were so rare. Of all collected he could find but two which were called fibrous tumors of the omentum, one by Dr. B. Woodward, one by Dr. E. Andrews.

On November 22, 1894, Dr. Bache Emmet removed from the abdominal cavity of a woman, aged twenty-five, a large solid mass extensively covered by omental and intestinal adhesions, attached over the fifth lumbar vertebra, ten by twelve inches, base one inch and a quarter in diameter, pronounced myofibroma (dense white tissue) by Dr. Freeborn, who also held that it was at one time attached to the uterus from which it had its origin. He also removed the left ovary, which was cystic, and tube. There was no evidence of any disease about the uterus. He considered that the mass was retroperitoneal, as it had raised the ureter up on its surface, and he then supposed it was a fibrosarcoma. He happened to sever the left ureter at that level and then made uretero-ureteral anastomosis. He watched the case closely afterward. The patient recovered. He heard of her through her physician, who had delivered her with forceps, April, 1896, seventeen months after the laparotomy. After delivery he felt a large mass, eight inches long, on the left side, and later he wrote that he thought it was unquestionably a return of the fibroid at the original site. Later he felt also a small tumor in the right side. Dr. Emmet operated again in November, 1896, for multiple abdominal tumors, which on opening the abdomen crowded the uterus out, but were independent of it. In succession he withdrew and removed seven fibroids, all lobulated and having a pedicle of omental tissue, containing large vessels. The seventh one had the appearance of a kidney, and was firmly adherent over

the spinal column. It was implanted directly over the uretero-ureteral anatomosis of two years before, and the attachment was so close that in its removal he excised a bit of the ureter. This was repaired with black silk and covered with peritoneum. The right ovary was found cystic and was tied off. The operation lasted three hours. The masses weighed seven pounds; microscopically they were nearly pure myomata. The patient recovered, but tumefaction developed, as after the first operation, at the site of removal of the tumor, and was continuing to increase in size, though more slowly than after the first operation. The case suggested many questions difficult to answer, among them being: If the tumor was originally attached to the uterus how came it to be retroperitoneal, and after its removal why should a recurrence take place at the same site?

The Development and Present Status of Hysterectomy for Fibro-Myomata and for Inflammation of the Uterine Appendages in America.—Dr. Charles P. Noble, of Philadelphia, read an abstract of a paper with this title. Hysterectomy, both for fibro-myomata of the uterus and for consecutive inflammatory lesions of the appendages, was of American origin. His conclusions were as follows: Surgery is indebted to America for ovariotomy and for hysterectomy for fibroids. Ovariotomy was originated by McDowell, 1809, and hysterectomy must be considered as an outgrowth from it, the first fibroid tumors having been operated upon with a diagnosis of ovarian tumor. The first hysterectomy for a fibroid, deliberately undertaken, was performed by Kimball, 1853. The type of hysterectomy in America has been supravaginal amputation. This method was adopted by Kimball and by Burnham in 1853. Many surgeons of all countries have worked in this field, notably Schroeder; but in the evolution of the operation the steps in the technique which have rendered it simple and safe have been originated by other American surgeons. These steps are, notably: 1. The retroperitoneal treatment of the stump—Emmett, 1884; Eastman, 1887; Dudley and Goffe, 1890. 2. Ligation of the trunks of the ovarian and uterine arteries in their course through the broad ligaments—Stimson, 1889; Baer, 1892. 3. Amputation through the cervix well below the internal os; and the omission of constricting ligatures in the tissues of the cervix—Baer, 1892. The substitution of a few catgut sutures to close the cervix and prevent secondary infection from the vagina through the cervical canal. 4. The origination of a systematic technique for the removal of intraligamentous fibroid tumors—Pryor, 1894; Kelly, 1896.

The mortality of fibroid tumors is greater than is usually stated. It much exceeds the mortality of operation for the cure of the disease. The mortality of supravaginal amputation for fibroid tumors at the present time is about five per cent.; that of total hysterectomy for fibroids is about nine per cent. The mortality of hysterectomy is greatly increased by the traditional policy of delay in advising operation for fibroids. Early operation should be advised upon the basis of genuine conservatism as contrasted with spurious conservatism. Early operation insures a low mortality. It permits the substitution of myomectomy for hysterectomy in women of child-bearing age in a larger percentage of cases than is possible with tumors of large size. It conserves the life and health of the patient, and when myomectomy can be performed restores the sexual organs to functional activity. Spurious conservatism entailed upon the patient years of invalidism and subjected her to greater risks than early operation. Myomectomy is the ideal operation for fibroids. The next advance in treatment will be the acceptance of early operation with the definite purpose of substituting myomectomy for hysterectomy in women of child-bearing age in cases having only a small number of fibroids.

Dr. R. Stansbury Sutton, of Pittsburg, opened the discussion. He spoke upon conservatism in operations for uterine fibroids. Before answering the question whether to operate, we ought to consider what was the mortality of fibroids not treated surgically. The late Mr. Keith made the statement that not more than ten per cent. of women who had fibroids, if left alone, would die because of their presence, and the inference was that the mortality from operation must be lower in order to justify it. Operations were dangerous, and women ought not to be operated upon simply because they were accidentally found to have a small fibroid but without symptoms. He could recall three young women whom he had advised under such circumstances not to undergo operation, but they went elsewhere, were operated upon, and died.

Dr. Arthur W. Johnstone, of Cincinnati, took the same conservative view as Dr. Sutton. Many women never suffered from fibroids present in the uterus; in many there was retrogression at the menopause; in some he had removed the appendages and brought on retrograde metamorphosis.

Dr. B. F. Baer, of Philadelphia, disagreed with the first two speakers. In skilled hands operative interference was more conservative in these cases than to let alone. Out of one hundred cases he would save more women with uterine fibroids than would live if let alone. Moreover, an operation saved those that lived a great deal of suffering.

Dr. A. P. Dudley, of New York, thought American surgery had been copied a great deal in Europe, with or without credit. In evidence he cited Jacobs' method modified since he visited this country two years ago. Dr. Dudley believed in making a clear diagnosis in each case and adapting the operation to the circumstances—always doing myomectomy when possible.

Dr. W. T. Lusk, of New York, said he saw many women with small fibroids which gave rise to practically no symptoms. They ought not to be operated upon until symptoms developed. He was strongly in favor of myomectomy when interference was indicated, if it were suitable to the case. He could not agree with those who removed the uterus only because the appendages were sacrificed, or left no portion of the cervix in hysterectomy; discomforts arose from altered nutrition in the rectum, vagina, and pelvis from cutting off the entire uterine circulation.

Dr. Baldy, of Philadelphia, thought conservatism was usually on the side of operative interference in fibroma of the uterus. Few women who consulted him did not have symptoms; trust could not be placed in retrograde metamorphosis; the patients might fall into unskilled hands if such men as Dr. Sutton refused to operate.

Dr. Beverley McMonagle, of San Francisco, believed in doing myomectomy, thus sparing uterus and appendages, whenever possible, and this possibility was usually greater the earlier operative interference was resorted to.

Dr. G. J. Engelmann, of St. Louis, expressed the opinion that the operative technique had come to be pretty perfect and that the important question was when to operate, and, bearing on this point, what was the cause of the growth of uterine tumors. Those who believed in interfering in all instances seemed to forget that observation in the autopsy room showed fibroids in a great many women who had had no symptoms referable to the tumor during life. Even large tumors need not cause symptoms and might well be allowed to remain until symptoms arose.

Dr. Gordon, of Portland, Me., referred to his paper read at the Philadelphia meeting, and expressed pleasure at the tendency toward operative interference which

he then advocated. No matter how small the tumor, if it caused the woman to consult him for relief, he operated. No patients had complained less subsequently to operative procedures than those from whom he had removed uterus and appendages.

Dr. Thomas Addis Emmet, of New York, mentioned some experience with fibroids which had become detached from the uterus and transplanted to other structures in the abdomen. In one instance the transplantation was from the uterus on to the abdominal wall, from there on to a growing ovarian tumor. He said he had been supposed to be opposed to removal of the uterus for fibroids. This was not true, although he seldom found hysterectomy necessary. A great many fibroids could be removed through the uterine cavity. He was disposed to think that fibroids would not develop in a healthy uterus, one in which the menstrual function went on normally and the woman bore children. Their commencement was, he thought, always in some interference with normal conditions in the lining membrane.

Secondary Operations.—Dr. H. J. Garrigues, of New York, read a paper on this subject. Patients had sometimes almost a superstitious belief in the efficacy of operative procedures and were greatly disappointed if not cured of every ill, whether related to the condition for which the operation was done or not. Gynæcologists themselves at times formed erroneous opinions of what should be the result of their work. In case of failure to give relief, the surgeon might hear nothing of it, for the patient lost confidence and went to another hospital. Often one operation was only a link in a chain of operations called for to secure complete relief. In many instances there was so great liability to relapse that the patient ought to be warned and instructed to return after a few months for re-examination. The additional treatment called for might be a mere trifle if there were not too great delay.

The speaker related the following case: Mrs. S——, aged fifty-one. May, 1895, he performed vaginal hysterectomy for fibroids and oöphoritis. He did not hear from her for a year, when she came to his office so weak that she had to be supported. There were frequent attacks of vomiting, diarrhœa, pain, vaginal discharge. Examination revealed a small granulating surface at the vault of the vagina and tender swelling in the fornix, corresponding to the stumps after the hysterectomy. Curettage, nitrate of silver, and electrolysis restored health. In other cases more serious, even capital secondary operations were required. A frequent cause of continued suffering was adhesions formed in consequence of the primary operation. Three illustrative cases were cited. In one the woman had undergone seven laparotomies before he saw her. She was then complaining of intense pain all over the abdomen. In performing the eighth laparotomy he removed the whole cicatrix, six inches long and four wide, which had resulted from five preceding operations to the right of the median line; he also freed extensive adhesions between the colon and anterior abdominal wall. This gave relief, although some time subsequently she complained of what seemed to be hysterical paralysis of the detrusor muscle of the bladder. The fifth and sixth cases reported were of patients on whom the author himself had preformed salpingo-oöphorectomy, and the symptoms continuing he added vaginal hysterectomy. Finally he referred to a case published in the Medical Record, November 10, 1894, and February 23, 1895.

Could anything be done to avoid secondary operations? Since extensive adhesions, as seen in some of the cases related, gave rise to great and protracted suffering, the surgeon ought to operate in a manner to avoid causing them, if possible. Raw surfaces could be covered with peritoneum, but the very sutures used for this purpose acted as an irritant, were covered with newly formed tissue, and adhesion took place to neighboring surfaces. It was also useful to cover such surfaces with iodoform or aristol, which to some extent prevented adhesions. But above all he thought the intestines ought to be handled with the utmost care. In our just apprehension of infection we were apt to forget that violent mechanical handling, by scraping off the fine endothelium which coated the intestines and prevented adhering, might become injurious in itself. Only the finest gauze pads or softest sponges should be used. The bowels should be moved early, as a rule forty-eight hours after the operation. Dr. Garrigues would not remove the uterus after double salpingo-oöphorectomy unless disease of the uterus demanded it, believing that patients were less likely to have subsequent symptoms if the organ were left in. In the exceptional cases in which the patient was not cured, hysterectomy could better be added later, when it was both easier and safer.

Dr. Bache Emmet believed that much work denominated secondary was due to wrong or incomplete diagnosis at the time of the original operation.

Dr. P. A. Harris, of Paterson, N. J., dwelt upon the necessity for care in operative detail at the primary operation, if one would avoid subsequent symptoms and secondary operation.

Dr. Lapthorne Smith, of Montreal, had hoped the author would touch upon indications for reopening the abdomen for symptoms during convalescence from laparotomy. He had recently had a case in which symptoms of intestinal obstruction developed; several of the hospital staff doubted the propriety of reopening the abdomen, yet on doing this he found obstruction due to fresh adhesions, broke these up, and the patient recovered.

AMERICAN DERMATOLOGICAL ASSOCIATION.

May 4th—First Day.

Address by the President.—Dr. James C. White, of Boston, delivered the annual address. The association was congratulated upon attaining its majority, it being the oldest national association of its kind in the world. The influence of the society's work upon the advances in cutaneous medicine was reviewed: it could now be justly claimed that American dermatological writings stand on a plane with those of European countries. The work of individual members had aided in the general result of securing an independent position for many dermatoses formerly confused. The advances in methods of cure did not, however, keep pace with the discovery of new affections and the separation of the older ones into more distinctively individual classes. The work of the association for the immediate future was mapped out in a suggestive way, and the necessity for meeting in cities offering an abundance of clinical facilities was discussed. The time of meeting in the future should be so arranged as not to break in upon college work, at so inopportune a period as that covered by the present session.

A Contribution to the Study of Bleeding Stigmata.—Dr. James Nevins Hyde, of Chicago, reported the case of an adult male subject who suffered from hemorrhages from the surface of the skin apparently spontaneous in origin. Some of these bleedings had lasted for six months at a time. Eventually there was a shortage of fifty-five per cent. of hæmoglobin and nearly sixty-five per cent. of erythrocytes. The author reviewed the literature collated under the titles bleeding or bloody stigmata, bloody sweat, hæmatidrosis, Hautblutungen, hysterical stigmata, and ec-

stasy; concluding as follows: "It is clear that at times spontaneous hemorrhage occurs from one or many points of the skin, simultaneously or successively, either as a result of morbid changes in the circulating fluid itself, or as a consequence of disease of other organs, in particular the nervous centres, the spleen, the liver, and the kidneys. One may look with tolerable confidence in the most of these cases, first, for an oozing of blood from many points at one time rather than from a single point at one time; second, for unquestioned evidence of a morbid state elsewhere than in the skin. Suspicion attaches to a second group of cases by reason of the fact that the effusion of blood from the surface of the integument seems to have shared with spontaneous gangrene in the devices of the impostor. In analyzing the phenomena exhibited in this class of subjects the possibility is to be set aside, first, of the staining of the physiological secretions by foreign matters or by micro-organisms existing upon the surface; second, of the substitution for human blood of that of one of the lower animals. When human blood is actually effused from the skin of a subject who has been instrumental in producing the result, not only are all the sites of the hemorrhage within easy accessibility of the hands of the patient, but there are mental and nervous changes which require recognition. The mental states of this class of subjects often defy analysis: among the nervous symptoms may be named disorders of the special senses, particularly of sight, hearing, olfaction, and gustation, and the occurrence of anæsthesia and of hyperæsthesia."

Four Cases of Hysterical Dermato-Neurosis.—Dr. A. Van Harlingen, of Philadelphia, reported these cases. The subjects were all young girls exhibiting evidences of anæmia or hysteria or both, who presented at intervals, often about the menstrual epoch, lesions often beginning as bullæ and becoming excoriated. One young woman, who developed excoriated lesions upon an œdematous base, ceased to show such manifestations after she married. The title "neurotic excoriation" was not considered sufficiently exact to be retained. In the second patient, a pale and slightly hysterical girl, there were repeated outbreaks of erythematous and bullous lesions. Case III. was neurotic. The face, breast, and extremities were the locations implicated by bullous and excoriated lesions. Case IV. likewise showed lesions upon the lower extremities. They were at first bullous, afterward becoming gangrenous. The condition was regarded as hysterical in its origin, but the designation "malingering" or "feigned" eruptions should be dropped, though the general appearance of the sores often suggested a self-inflicted origin.

In the discussion of these two papers conjointly, Dr. Duhring regretted the vagueness surrounding the subject of hysterical eruptions. Angularity of outline is not a proof that a given lesion has been self-inflicted. Many neurotic and hysterical lesions have this angular outline.

Dr. Gilchrist thought many so-called dermato-neuroses were in reality toxæmias.

Dr. Lustgarten spoke of cure by suggestion, as illustrated in a case he reported.

Dr. Bronson said there was usually some internal source of irritation to account for the eruption.

Two Cases of Linear Nævus, with Remarks on Its Nature and Pathology.—Dr. P. A. Morkow, of New York, read the paper. No provision, the author said, was made in the association's nomenclature for the affection in question, though many names had been given it by different writers. The chief characteristics are: absolute limitation of the eruption to one-half of the body; linear disposition in distinct streaks or bands; its papillary or verrucose characters; its congenital origin; often marked sensory disturbances; and the possibility of increase in extent, retrogression, or the occurrence of various degenerative changes in the lesions. An exceptional malignant transformation was alluded to. Two instances were reported and colored photographs shown in illustration. In one a male subject presented verrucose lesions extending in a narrow band-like line from the region of the elbow to the tip of the palmar surface of the fourth finger. The process began upon the palm twelve years ago at the age of seventeen years, and gradually extended. In the second instance a young woman of nervous temperament showed the first evidences of the process seven years ago in the form of a scratch-like streak upon the back of the neck. This gradually extended into the scalp and down the back, keeping to the left of the spine. As regards nomenclature, the speaker thought it well to retain the designation nævus, which in its modern signification is sufficiently comprehensive, but not such qualifying terms as unius lateris, since unilaterality is not peculiar to this form of nævus. The term linear should, however, be retained, as pointing to the type form. The argument that it is not of nerve origin, because the distribution is not that of known nerve supply, does not hold, since in zoster, which is due to a recognized affection of the nervous system, the configuration is not always such as to suggest nerve influence. In the absence of any positive proof of causal connection with alterations in the nerves, not the qualifying term "neuropathic" appears unwarranted. The title linear nævus sufficiently identifies the affection and possesses the advantages of simplicity and conciseness.

The Various Forms of Pityriasis and Their Relation to Erythema, Eczema, and Psoriasis.—Dr. George H. Fox, of New York, believed that many affections usually termed seborrhœal eczema, seborrhœa, pityriasis rosea, or designated by a great many other names, might all be classed under a single term. An acute erythemato-squamous affection occurring in patches or rings upon various regions of the body, and either dry and scaly or moist and greasy, according to the location and secretions of the part affected, is often variously named according to the clinical signs presented at the time the case is seen. To do away with this confusion, the speaker advocated some simple term to take the place of the many confusing names now in use. The term pityriasis, meaning a bran-like desquamating disease, was suggested. Numerous photographs were shown to demonstrate the great diversity of appearance presented by one and the same disease.

In the discussion the general sentiment was that pityriasis rosea constituted a distinct entity, which offered but little chance of being confounded with the dry desquamating varieties of so-called seborrhœal eczema. It was thought that confusion would only be increased by an attempt to group together the cases shown by Dr. Fox in a large collection of photographs. While many processes presented close clinical similarities, it would be unwise to attempt simplicity of nomenclature in the way suggested.

Report on Nomenclature and Classification of Skin Diseases.—Dr. James Nevins Hyde, of Chicago, presented this report, in which many names in the older schedule were changed, while some new ones were added.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-Third Annual Meeting, Held at Washington, D. C., May 4, 5, and 6, 1897.

First Day—Tuesday, May 4th.

President's Address.—Dr. M. Allen Starr, of New York, delivered his address. He referred to the trans-

mission of sensory impulses through the spinal cord, and thought that the conclusions derived from physiological experiments upon the lower animals were open to grave criticism, first, because of the fact that the majority of such experiments performed years ago were done without antiseptic precautions and were attended by secondary septic inflammations of the cord and its meninges which invalidated the conclusions drawn from them; and secondly, because of the great variation in the anatomical structure of the cords of the lower animals and of man. While investigations have abundantly confirmed the general results long known as ascending degeneration in the spinal cord, after lesions of the nerve roots and after lesions of a transverse nature, the recent methods of investigation, especially the staining methods of Weigert, Van Gieson, and Marchi, have furnished some interesting results. It is no longer possible to speak of the columns of the cord as being exclusively ascending or descending in the direction of their fibres. Recent investigations by Hoche have shown the existence of many association fibres of limited extent in the direct cerebellar columns and in the columns of Gowers, and therefore it seems evident that every column of the cord contains fibres which pass in both directions. It is thus proven that the number of the short tracts in the cord is far greater than the number of long tracts, and inasmuch as these short tracts can only be nerve roots, or else tracts of association, it is evident that there are but few very long fibres extending through the cord to the brain. Many of these long fibres, supposed to reach the brain, really terminate in the spinal cord itself. There is no tract passing directly from the cord to the brain cortex. Even if the lemniscus is continuous from the medulla to the cortex, it cannot be stated that the lemniscus forms a direct sensory tract from the cord to the brain, since it begins in the nuclei gracilis and cuneatus of the medulla. A sensory impression of sufficient severity, or if continuous, may practically throw into activity almost the entire subcortical nervous system. It therefore seems quite evident that the transmission of sensations through the cord must have for an anatomical basis a series of short neurons, each conveying the impulse from the level of its reception in the cord to a level somewhat higher, where again it is transferred to any other neuron, and so on till it reaches the cortex. Is it not therefore evident that in the transmission of sensation through the spinal cord, cerebral axis, or brain, we have to consider the tracts as different in their structure from those conveying motor impulses, and as consisting of a series of short neurons closely connected but with very numerous and widespread connections? Is it not probable that the result of this arrangement is to secure a diffusion of single sensations to various reflex, vasomotor, trophic, and automatic mechanisms, as well as to the organ of conscious perception? And is it not also evident that this view of sensory diffusion explains the apparent inconsistency at present prevailing between the clinical symptoms observed in Brown-Séquard paralysis and the pathological degenerations occurring in that disease? He concluded that in the conduction of sensory impulses to the brain cortex a large number of different neurons are concerned, which are located in the gray matter and in all the various columns of the spinal cord, and that there are no true sensory columns or long continuous sensory tracts between the spinal cord and the cerebral cortex.

Purulent Primary Spinal Leptomeningitis. Dr. Frank R. Fry, of St. Louis, reported a case of spinal leptomeningitis. A bacteriological examination showed the infection to be purely purulent. The source of the infection was a slight but rather chronic furunculosis on the back of the neck. The patient was twenty-seven years of age, and a house servant. The site of primary infection was the lumbar or lower dorsal region. The clinical history was that of an ascending paralysis with certain interesting features as to temperature, etc. There was no cerebral involvement. Sections of the cord were presented, chiefly interesting as showing diffuse degenerations in the cervical and upper dorsal regions.

Subarachnoid Serous Exudation Productive of Pressure Symptoms, after Head Injuries.—Dr. G. L. Walton read a paper with the above title, and said that in cases offering moderate febrile movement, prolongation of unconsciousness, and restlessness after trauma, it is of no vital moment whether we adopt the term contusion, bruising, or laceration; but when to these symptoms local paralysis is added the question of operation arises and exact ideas of the pathology become important. Operation over the area indicated sometimes shows only a tense dura, incision of which is followed by a gush of serum. Under the arachnoid membrane the greater part of the cortical cerebro-spinal fluid is collected. Serum may be exuded into the subarachnoid space as well as transuded, and sometimes the swollen and congested brain found under the fluid on operation shows that we have to do with an exudation resulting from increased blood pressure, rather than with a compensatory process. Little attention has been paid to this process. The œdema of Ballard accompanying hemorrhage is analogous; the serous meningitis of Quincke is analogous if not identical, in so far as he includes external meningitis, but he does not refer to this class of cases. The following cases were mentioned: A boy of six years was struck by a bicycle at noon one day, was restless and drowsy, and on the following day became unconscious, with unilateral paralysis including the face. Operation was considered but postponed. The paralysis had disappeared within four days. A child, three and a half years old, fell from a swing, striking the head; was drowsy, and the next day one arm was paralyzed. The paralysis began to lessen on the third day, and rapidly disappeared. A young woman fell, striking the head violently. Unconsciousness, restlessness, vomiting, and hemiplegia appeared. Operation revealed tense dura, incision of which was followed by a gush of serum. There was relief of pressure symptoms, but death ensued from the underlying condition. His conclusions were: 1. A severe blow may result in local bruising and congestion with subarachnoid serous exudation. 2. The fluid may be imprisoned and cause focal paralysis. 3. The process is not compensatory, and is allied to the serous meningitis of Quincke. 4. The lesion is self-limiting. 5. Diagnosis from hemorrhage is difficult. Atypical course, absence of steady increase of symptoms, and persistence of sensitiveness point to serous exudation. 6. Immediate operation is not necessarily indicated in focal paralysis, though perhaps always justifiable. 7. This condition is specially to be borne in mind before operating on children and young adults.

Dr. W. N. Bullard, of Boston, said that further investigation and study of these cases had confirmed his belief that this condition is the pathological cause of many of the symptoms arising in these cases, and that the presence and degree of this increased intradural pressure is one of the most important factors in determining whether or not operation should be performed. As to how far the symptoms due to this increased pressure within the dura, when localized in the form of paralysis and hemiplegia, are to be considered as indications for surgical interference has not yet been fully determined.

Dr. Morton Prince, of Boston, thought the theory of Dr. Walton was plausible but difficult of substantiation, and related the case of a child who had a fall

and showed symptoms of meningeal hemorrhage, such as unconsciousness and hemiplegia. Operation was deferred. The child was perfectly well on the following day.

Dr. B. Sachs, of New York, said the theory was not new. After head injuries three possibilities were to be considered, hemorrhage, local œdema, and purulent meningitis. The view of Dr. Walton was natural and plausible, and he agreed with his views as to differential diagnosis. He would not operate on the skull too soon, but would wait until positive of serious damage to the brain, not until after the lapse of forty-eight hours or several days.

Dr. J. J. Putnam, of Boston, had seen several cases in which such a diagnosis could be borne out, but there was shifting of symptoms, which was important. He had witnessed an autopsy on a woman who after influenza developed localized twitching of arm, leg, and face every twenty minutes; twenty-four hours later hemiplegia and rise of temperature. There were only œdema and a wet soft brain. There was no local accumulation under the pia. He thought the convulsions and hemiplegia were due to the general œdema. The pathology in these cases is not clear.

Dr. Hugh T. Patrick, of Chicago, added a case almost exactly like that of Dr. Prince. A child received a fall, which was not severe, in the latter part of the afternoon, after which he played about as usual. At the supper table he suddenly let fall a fork from his right hand, and soon thereafter had a one-sided fit. Following this he became stuporous, and when seen several hours later was almost comatose; but a distinct hemiplegia was made out. Operation was declined by the family, and two days later the child was absolutely well. A localized œdema is the only possible explanation of such an occurrence.

Dr. C. Herter, of New York, believed that local effusion could give rise to these symptoms, and spoke of a case of extreme general œdema of the arachnoid following syphilis. There was some doubt as to whether the fluid is a simple effusion or an exudate. Inflammatory process, however, could not occur so rapidly. It might possibly be due to cerebral anæmia. Pronounced general œdema of the brain in children may be unaccompanied by any cerebral symptoms.

Dr. Joseph Collins, of New York, related the case of a man, fifty years of age, who fell and struck his head in the left parietal region. This was followed by shock, stupor, and paralysis of the right upper extremity. At the autopsy there was some localized serous exudation, which was evidently of inflammatory origin.

Dr. Edward Angell, of Rochester, asked Dr. Walton if there was any temperature record, to which he replied that there was slight rise of temperature.

Dr. J. J. Putnam had seen venous hemorrhage into the pia which was accompanied by hemiplegia.

The President thought that the question of localized œdema should be one of fact and not of theory. He had seen three cases operated upon in which apparent inflammatory œdema was found. He had also observed a case in which there was a very large amount of œdema involving the entire hemisphere around a very small tumor.

Primary Idiopathic Hydrocephalus in Adults.—Dr. Morton Prince, of Boston, reported three cases with autopsies, besides two others which terminated in recovery. The first case followed trauma and simulated latent abscess with secondary meningitis of the base. Trephining was done with negative results. At the autopsy the ventricles were found dilated to three times their normal size, the convolutions flattened, and sulci almost obliterated. The same condition was found in the second case. The third case followed sunstroke and was of the external variety, the meshes of the pia and arachnoid being filled with fluid so as to resemble a layer of jelly. There are an acute and a chronic form. The acute simulates the purulent form of meningitis, but differs from it in its course and the variability of the symptoms. The chronic simulates and is usually mistaken for cerebral tumor. The affection is common, but not usually recognized.

Dr. P. C. Knapp, of Boston, said that the reader of the paper had omitted to speak of lumbar puncture in differential diagnosis between meningitis and effusion The negative findings are often important.

Dr. Collins felt certain that there were chronic conditions of this affection. He cited a case which presented all the characteristics of hereditary cerebellar ataxia, in which at the autopsy only ventricular distention was found.

The President asked Dr. Collins if microscopical examination had been made of the brain or cord, and was answered in the negative.

Dr. Sachs said that, as the examination was incomplete, Dr. Collins' conclusions should not be accepted as final.

Dr. Prince, in closing the discussion, said that unquestionably there was a chronic form. The principal differential point is in reference to the variation of symptoms from time to time in effusion.

Auditory Aphasia.—Dr. Howell T. Pershing, of Denver, read this paper, with the report of a case.

Dr. Philip Zenner, of Cincinnati, referred to a case with frequent attacks of word deafness and spasm of the right side of the tongue and face. At the autopsy a tumor was found in the lower part of the Rolandic fissure resting upon the first temporal convolution.

Dr. Charles K. Mills, of Philadelphia, agreed with the view of Dr. Pershing, and said that in such cases all forms of language might be affected.

Dr. Wooster, of Danvers, Mass., reported three autopsies in patients with sensory aphasia. There were softening and atrophy of the left first temporal convolution. He had seen sixteen cases. He also mentioned a case of subcortical aphasia. The patient could not speak and had no comprehension of spoken language. He had right hemiplegia. At the autopsy Dr. Wooster found softening of the external capsule and lenticular nucleus.

Dr. Collins said that the auditory centre was localized in too small an area. The speech area is purely a sensory one. There is only one variety of aphasia and that is sensory.

Dr. Pershing, in closing the discussion, said that he had attempted in his paper to combat the views expressed by Dr. Collins.

Poliomyelitis Anterior Subacuta Unilateralis.—Dr. F. W. Langdon, of Cincinnati, reported a case. The patient was an adult forty-four years of age, who made a complete recovery at the end of two months.

Anæsthesia in Spinal Diseases. — Dr. P. C. Knapp, of Boston, read this paper. He referred to the researches of Ross, Thorburn, Starr, and others. In syringomyelia the distribution of the anæsthesia is more apt to follow another type than in cerebral disease, in which the boundary of the anæsthesia is at right angles to the axis of the limb. Two cases were reported, and many others cited proving this distribution.

Dr. Mills thought Dr. Knapp's points were well taken. He had hoped that something would be said on hysterical anæsthesia.

Dr. B. Sachs referred to cases of spinal origin, but which did not seem to be of spinal type, but which he had good reason to believe to be a syphilitic affection of the cervical region of the cord. This type closely resembled syringomyelia. He did not like the term "cerebral anæsthesia," but preferred "regional anæsthesia."

The President said it was practically impossible

to lay down an accurate diagram of the anæsthesias from various regions of the cord. Individual variations must be considered and admitted. Irregularity in distribution is characteristic of spinal anæsthesia.

Syringomyelia.—Dr. Hugh T. Patrick reported the following case: A man of forty-four years began to be weak in the legs ten years before, which weakness gradually increased until he walked with difficulty. A year ago the hands also began to be affected. Examination showed spastic paraplegia with weakness of the grasp and slight atrophy of the small hand muscles. The sensory symptoms were the most interesting. There was a band of anæsthesia about the trunk and extending on to the inner surface of the arms, an area of analgesia covered this and extended beyond it about four inches on the trunk and two inches on the arms. This distribution of sensory blunting is exactly the same as that which has been described by Laehr and the author as occurring in tabes, except that in the latter disease the band of analgesia is much narrower than that of anæsthesia.

So-Called Poliencephalitis Superior and Inferior.—Dr. Patrick reported a second case, that of a woman of thirty, who was attacked with bulimia, following which complete external ophthalmoplegia and incomplete bulbar paralysis developed. She died of respiratory failure about two months after the beginning of the disease. The autopsy revealed nothing. Microscopic examination showed all the arterioles and capillaries of the bulbo-pontine region to be enormously distended. Other signs of inflammation were absent; there was no degeneration of fibres, and the cells of the various nuclei were all but normal. The author considered the case to be one of transition between the so-called acute poliencephalitis and poliomyelitis on the one hand, and so-called asthenic bulbar paralysis on the other. He thought the disease essentially toxic, and suggested as a therapeutic measure the so-called "washing of the blood;" that is, copious phlebotomy with simultaneous transfusion or the subcutaneous injection of salt solution.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

First Day—Tuesday, May 4th.

President's Address.—Dr. Charles H. Knight, president of the association, delivered his address. After a greeting to the members, attention was first called to the matter of antisepsis in clinical work. "When we become absorbed in clinical work, and are thrown into familiar contact with infectious disease, we are apt to become careless as to certain safeguards which involve both ourselves and others. A series of cases recently seen has impressed upon my mind the lamentable consequences of neglect of those precautions as to instruments and manipulations which we are all supposed to observe. In view of the possibilities thus acquired, and perhaps for a long time unrecognized, it has seemed worth while to call attention to the matter.

"Closely allied to this topic is that of antisepsis in general. In the growth of our specialty, surgical procedures in the upper air passages have assumed important proportions. Absolute asepsis in the wounds we are in the habit of inflicting may be impossible, and, in view of the satisfactory drainage usually secured, unnecessary. The modern aspect of this whole question was brought to mind at the last meeting of the British Association for the Advancement of Science. At this meeting, the story of the birth of antisepticism was told in an unassuming way by that distinguished surgeon who, more than any one else now living, has contributed to the advance of surgical science. In a single day Listerism banished hospital gangrene from hospital wards. Lister mentions that in the old days Syme, to whom he refers as 'the safest surgeon of his time,' was inclined to believe that amputation, rather than any attempt to save the limb, was the proper course to pursue in all compound fractures of the leg. Scrupulous ordinary cleanliness and the use of various deodorants were not able to banish putrefaction, but carbolic acid did, and the father of antisepsis still adheres to it as the safest and most efficient antiseptic.

"The work of our own association has always been characterized by a spirit of wise conservatism. We have not been carried away by the fads of the moment. The premature announcement of new cures for tuberculosis which experience has proved to be inert has taught us a healthy scepticism. As to antitoxin, there is reason to hope that, after making all due allowances, we have found in this substance one capable of at least restraining the ravages of diphtheria.

"Another question now much discussed is the value of the laryngoscope in relation to the singing voice. It has probably done little more than to corroborate theories and knowledge acquired in other ways. We know that a normal larynx is essential to a perfect voice. But on the other hand we know that one can learn to speak intelligibly without a larynx by means of the aid provided by the lips, teeth, tongue, palate, pharyngeal wall, nasal chambers, and the bones of the skull. A deviation from normal structure must inevitably modify the voice to a greater or less perceptible degree. While we are by no means agreed as to all the elements concerned in the production of the singing voice, it may be said that nearly all the informa tion given by the laryngoscope as to the movements and the position of the vocal bands during tone formation had already been furnished by dissection of the larynx. The laryngoscope cannot tell why, of two individuals with apparently identical vocal apparatus, one is a great vocalist while the other cannot sing a note. Nor does it tell us why a singer with a good voice of fine quality and perfect intonation and used in accordance with a good method fails to thrill us. In other words, no scientific theory and no instruments of precision will discover that musical instinct, that artistic temperament of every great singer. No more trying ordeal confronts the medical practitioner than the attempt to manage the case of a youthful aspirant for lyric honors to whom nature has denied those gifts essential to success. On the other hand he experiences no more intense satisfaction than in proving his ability to restore a lost voice or in giving such advice as will assist in its recovery. Here then is the chosen and successful field of our art. An individual comes to the physician with hoarse, husky, or whispering voice. No one can deny the importance and feasibility of determining with accuracy, in most cases, the site of the difficulty, whether it be a fault of innervation, a defect of muscular action, a neoplasm or overgrowth of tissue, or a simple inflammatory condition. In the detection and relief of disease and in thus protecting and preserving the singing voice, the laryngoscope will continue to be of inestimable value.

"No reference to the events of the year just elapsed would be complete which failed to mention the continued interest manifested in the new world opened to us by the Roentgen ray. We may take pride in the fact that one of our corresponding fellows, Dr. John MacIntyre, of Glasgow, has been especially active and successful in experimenting with this wonderful discovery. It remains to be seen whether it will be of any practical value to us in our special line of work. In locating foreign bodies, and in determining the dimensions of tumors and the extent of infiltration in malignant disease, it may prove to be of service.

"At the meeting of our association a year ago, a committee was appointed to draft a memorial to Congress protesting against the adoption of a bill to restrict vivisection. It becomes us to approach this subject with caution and at the same time with candor. Such apparent brutalities are said to have been committed in the name of science that we can hardly wonder at the earnestness of those who oppose vivisection. On the other hand, the extravagant and intemperate language of some fanatical antivivisectionists is most exasperating. One of our fellows whose memory we cherish was a particular object of attack by certain champions of the dumb animals. The subject is one of vital interest to all scientific physicians. Who shall say that vivisection has accomplished nothing, has bestowed no boon upon humanity, in view of the achievements of Harvey, of Magendie, of Claude Bernard, of Pasteur, and of our own investigators? The jubilee of anæsthesia might not have been celebrated last year had sympathy for the lower animals prevailed. Without preliminary tests, even Morton with all his courage would hardly have dared to apply his beneficent discovery upon human beings. Thus the race might have been long deprived of that blessed immunity from pain which it has enjoyed for the last fifty years. We claim that vivisection is justifiable and should be permitted as a means of impressing certain important phenomena upon the minds of students in our schools, not indiscriminately to a general medical class, but to the more advanced and special students in pathology and biology. No reasonable man can object to restrictions which look to the prevention of wanton cruelty, but those contemplated by the bill would practically prohibit animal experimentation in the District of Columbia. The adoption of this measure would be merely a step to the introduction of similar bills elsewhere, with the result of eventually closing all our schools of biological research. What shall we say of the sickly sentimentalism which evokes spasms of maudlin sympathy over the death of a worthless dog and sits with folded hands before the horrors of the unspeakable Turk, or denies to suffering humanity hope of exemption from disease, the study of which may be most readily conducted upon the lower animals? The childlike reasoning which jumps at the conclusion that every movement of an animal or of a human subject under anæsthesia is an index of pain is quite in keeping with most of the arguments against vivisection, and only merits attention because persistent repetition of even the most baseless of statements finally gives it a certain authority.

"It is to be hoped that the good sense of our lawmakers will enable them to relieve the question of the plausible sophistries and silly calumnies associated with it by ignorance and prejudice. Let it be our duty to show the world that we are not actuated by motives of frivolous curiosity. Let us demonstrate the fact that many of the advances in surgery and therapeutics hitherto made have had their origin and confirmation in experiments upon the lower animals, and that one of our great hopes for future progress in these departments rests upon further intelligent and unhampered exploration."

Guaiacol as a Local Anæsthetic in Minor Operations on the Nose and Throat.—Dr. James E. Newcomb, of New York City, opened the scientific proceedings by a paper under the foregoing title. He said that while cocaine fulfils to nearly an ideal degree the requisites of a local anæsthetic, its use is not always free from unpleasant consequences. Various substitutes have been suggested, notably eucaine and tropococaine, but even these are not always free from unpleasant after-effects, and they have not come into any extended use. Some two years ago, Lucas Championnière, of Paris, suggested the employment of guaiacol for this purpose. At first a five-per-cent. solution of the remedy in sterilized oil of bitter almonds was tried, but later pure olive oil was substituted. As guaiacol does not readily dissolve in this oil, it was found advisable to remove its resinoids, albuminoids, and coloring matters with dried sulphate of zinc, and its free fatty acids with absolute alcohol. With the oil thus purified, the guaiacol will mix freely. The result is a clear limpid fluid, looking like glycerin but having a more yellowish tinge.

The first application of the remedy in the special field of anæsthesia for intranasal operations was made by Laurens. In aural practice he advises cleansing the ear in the usual way and then the instillation of a few drops of the warmed guaiacol solution, which after remaining *in situ* for a few minutes is withdrawn by means of hydrophile gauze. Under these precautions, it is possible to perform paracentesis of the eardrum without pain. He suggests also that the remedy may be of service in incising furuncles of the meatus.

In the nose the operative field is to be bathed several times with the solution and then a saturated tampon applied in the usual manner. The latter must remain in position in the usual manner for at least fifteen or twenty minutes. Out of seven cauterizations of the inferior turbinate, anæsthesia was complete in four. In the remaining three there was a slight sense of burning. There was but slight retraction of the tissues. Hence guaiacol can never be so serviceable as cocaine in cases in which we wish to make a systematic examination of the nares, or when, in cases of supposed reflex neurosis, we wish to determine the existence of sensitive areas. The cold snare was used in six cases of nasal polyps without pain, and also in one case of polypoid degeneration of the middle turbinate the hot snare was used with a like happy result. In the pharynx it was found difficult to obtain anæsthesia owing to the fact that the application of the remedy caused active reflex movements. Granulations were cauterized five times without pain, tonsils three times, and twice tonsillar tissue was removed by forceps, all painlessly. The remedy proved a failure in one attempted removal of the tonsil with the hot snare. In the larynx the guaiacol solution did not act satisfactorily owing to the apparently slight absorption.

Laurens notes the formation of a whitish magma, a sort of emulsion, on contact of guaiacol with mucus. This can be easily removed with hydrophile cotton or gauze.

A little later Geronzi repeated the experiments of Laurens, using an alcoholic solution of guaiacol. His results may be summarized as follows: Perfect anæsthesia in four cases of nasal polyps, five cauterizations of the inferior turbinates, seven cauterizations of pharyngeal granulations. In the ears, removal of granulations from the drum membrane twice, five removals of polyps, four myringotomies, and three removals of the malleus. There was not always complete anæsthesia, but then this is not the case except very rarely with cocaine. Geronzi used an ethereal alcoholic solution in the larynx and found it well borne, but it did not produce sufficient anæsthesia, so that instrumental interference could not be attempted.

The writer of the present paper used the remedy thirty-six times on twenty-eight different patients, of ages ranging from sixteen to fifty-five years. The conditions treated comprised nasal polyps, diseased ethmoid sinuses, spurs of the nasal septum, cauterization of enlarged turbinates and of enlarged tonsils, curetting of the pharynx twice, and uvulotomy.

Of the results, so far as anæsthesia was concerned, it was perfect in fourteen, partial in sixteen, very slight in two, and wanting in four. The time allowed

for absorption varied from six to twenty minutes. The average was about ten. If the average time had been longer the results might have appeared in a better light. It is distinctly stated by both of the clinical writers quoted that the time to be allowed for absorption should be at least ten minutes, better fifteen. In spite of the fact that guaiacol is said not to retract the vessels, no greater bleeding in cutting operations was noticed than with cocaine. If, as is asserted, paracentesis of the drum membrane can be performed under guaiacol without pain, it ought to prove a remedy of great value. Cocaine has almost no effect on the drum, because the latter is cutaneous rather than mucous in structure.

The remedy is in no way superior to cocaine, but it affords a means of anæsthesia when cocaine may not be permissible.

Dr. H. L. Levain, of New Haven, inquired if Dr. Newcomb considered guaiacol to have the power of penetrating the tissues as deeply as did cocaine. Dr. Newcomb replied that in his opinion it had. It was merely a question of allowing more time for absorption than was necessary with cocaine.

Submucous Hemorrhage of the Vocal Cords.—Dr. S. W. Langmaid, of Boston, reported five cases. All were due to a definite cause and similar in appearance and situation. Few cases of this identical nature were on record. The hemorrhage in each of the five cases was at the junction of the anterior with the middle third of the cord. One was diffuse in appearance, but the remaining four showed a globule of blood under the mucosa as definite as the air bubble in a spirit level. Two of the patients were men, and three women. Four were singers, and one an actor. All hemorrhages were due to vocal strain, came on suddenly with vocal inability, hoarseness, and limitation of register in the higher tones. Four were on the right cord, and one on the left. In all a perfect cure resulted with a full restoration of vocal power. In all there were evidences of pre-existing laryngeal catarrh. The cause of the condition was referable to the over-force necessary to bring into proper phonatory position muscles already lamed by a catarrhal state. Congestion ensued with vascular rupture. Such cases were commonly referable to faulty vocal effort, but wrong vocal methods were not always the assignable cause, as the accident might happen to artists of the highest technical skill. The condition was in reality a laryngeal apoplexy. In one case the clot entirely cleared up in seventy-two hours. As to treatment, absolute vocal rest was imperative; then whispering might be allowed, and later the audible voice. It was a remarkable fact that in none of these cases was there any hæmoptysis. The peculiar globular appearance had never before (to the writer's knowledge) been reported. Dr. Dundas Grant had reported one case due to sneezing. In this instance a vascular tumor formed at the site of the clot. As a rule, both cords are involved. As adjuvants to the rest treatment topical astringents should be used, strychnine given internally, and later, intralaryngeal galvanization employed.

Dr. J. W. Gleitsmann, of New York, stated that he had previously reported one case due to a blow on the larynx. He recollected that a fellow of the association, the late Dr. E. C. Morgan, had reported one case occurring in the ventricular band.

Dr. C. E. Bean, of St. Paul, had seen two cases, in one of which the bleeding had recurred two or three times, and it was a long time before the clot finally cleared up.

Hysterical Dysphagia.—Dr. A. Coolidge, Jr., of Boston, read this paper. The condition had been described by Hofmann as early as 1733. It was sometimes confounded with œsophageal spasm or œsophagismus, which might be due to local disease of the gullet, to affections of the brain and pneumogastric nerve, reflex influences from other organs, various drugs, seasickness, or hydrophobia. In looking over the records of the Massachusetts General Hospital nose and throat service, hysterical dysphagia was found to have been present in about one out of every five hundred of all cases seen. It was more frequent in women than in men, but could also occur in young children. It sometimes occurred in pregnancy, and might result from emotional causes. In all such cases the œsophageal sound could be passed. The symptoms generally felt were pain, a sense of constriction, and the feeling as of a foreign body. The onset was sudden and might result from the temporary lodgement of a foreign body in the gullet, which later passed down into the stomach. It might be provoked also by pharyngeal or tonsillar disease. Patients frequently became emaciated. Regurgitation was rare. The sound might or might not pass readily. Auscultation as a means of diagnosis generally gave negative results. The laryngoscopic appearance might rule out certain supposed causes. The cases would often present temporary abatement of symptoms. The obstruction seemed to occur during the first part of deglutition. As to treatment, in addition to the removal of neighboring lesions if present, the bougie should be passed frequently. The electric sound should be avoided, as alarming effects had followed its use, presumably from the effect on the heart through the medium of the pneumogastric nerve.

Dr. Thomas Hubbard, of Toledo, referred to sacculated dilatations as a frequent cause of œsophageal obstruction.

Dr. John H. Lowman, of Cleveland, had seen one case in a child with gradual onset. The case was suddenly cured by suggestive treatment. He would utter a caution about the reckless use of œsophageal sounds. Three deaths had already occurred from the use of the ordinary stomach tube. We should always use cocaine previous to the use of the sound, as the passage of the latter was thereby greatly facilitated.

Dr. Gleitsmann had observed one case, in a girl of eighteen or twenty years, due to enlargement of the lingual tonsil and greatly improved by the latter's removal.

Dr. Swain had been led to attach great importance to the condition of the lingual tonsil in these cases. He though that lingual varix was, according to some, a frequently occurring causative factor, but such had not been his personal experience.

Dr. Samuel Johnston, of Baltimore, had seen one case, due to impacted wax in the external auditory meatus.

Dr. Emil Mayer, of New York, referred to a case previously reported by him, occurring in a child and proven to be due to a congenital stenosis of the gullet. In this case auscultation showed clearly that fluids would go down just so far, and would then seem to be arrested, but then would follow a sound as of trickling down into the stomach.

Dr. D. Bryson Delavan, of New York, thought that the etiology could always be found in some definite local lesion.

Dr. J. W. Farlow, of Boston, referred to one case he had seen, due to wax in the ear. In this case there was also a painful gland deeply seated behind the angle of the jaw. The patient was a gentleman who would have difficulty in swallowing and in reading aloud. During these acts a sudden spasm of the neck muscles would sometimes come on. Removal of the wax cleared up all symptoms.

Dr. Langmaid thought that there was a special class of cases due to anæmia, and occurring in young

women, especially domestic servants. There was no structural lesion and no apparent nervousness.

Dr. W. H. Daly, of Pittsburg, referred to one case recently under his care, in which he had talked somewhat sharply to the patient, a young woman, with a view of impressing her with the fact that her inability to swallow was purely imaginary and of getting her to throw off her nervousness. The girl died suddenly a few days later. No autopsy was allowed, and he was at a loss to account for this termination of the case.

In closing the discussion, Dr. Coolidge observed that with regard to the anæmic cases he thought the anæmia was the result rather than the cause of the inability to swallow nourishment.

Bacteria of the Normal Nose and Bactericidal Properties of Nasal Mucus.—Drs. W. H. Park, of New York, and Jonathan Wright, of Brooklyn, had prepared a paper which was read by Dr. Wright. The reader called attention to his own experiments on the bacteriology of the nose reported ten years ago. Von Besser had also found pathogenic germs in normal noses. Wurtz and Lermoyez had claimed that nasal mucus destroyed the bacilli of anthrax, while more recently St. Clair Thompson and Hewlett had claimed that the interior of the nose was comparatively germ free, though the vestibule showed many bacterial varieties. Dr. Park and the reader had examined the mucus from thirty-six normal noses. The vibrissæ or stiff hairs in the vestibule were cut away with sterilized scissors and the entrance to the nose was carefully washed with bichloride solution. Sterilized cotton swabs were then carefully passed deeply into the nose and inoculation experiments made with them. As a result of these observations it might be stated that in only six instances out of the thirty-six did the culture media fail to show bacterial growth. The nasal mucosa of two rabbits was examined and in both bacteria were found. Streptococci were not distinctly made out, but were undoubtedly present, especially as they were practically always present in the nasopharynx. In one case in the human species the mucus withdrawn was not bactericidal to the diphtheria bacillus, staphylococci, or streptococci, but there was a marked inhibitory effect on the growth of anthrax bacilli. A similar inhibitory effect on the growth of this particular micro-organism was produced by sterilized sheep serum. The scantiness of bacteria in the healthy nose might result from five different causes: 1st. Gravity; the clear serum draining down from the higher nasal regions not penetrated by the tidal air would tend to wash all the bacteria down and out of the nose. 2d. This action was assisted by the ciliæ of the nasal mucosa. 3d. Nasal mucus was not a good culture medium for most bacteria. 4th. The presence of the vibrissæ tended to keep the nose free from germs. 5th. There were but few pathogenic germs present in ordinary tidal air. One drop of a virulent bacterial culture had been allowed to drop into the noses of two rabbits. Both died of septicæmia inside of three days.

The Treatment of Chronic Affections of the Tonsils, with Demonstration of Instruments.—Dr. J. W. Gleitsmann, of New York, read a paper with this title. With the exception of hypertrophy, there is probably no other chronic affection of the tonsil more frequent than the chronic inflammation of its follicles. The smooth surface of the organ disappears, it presents an irregular contour, its follicles undergo a process of destruction, and the lacunæ often become filled with white masses, the products of inflammation, which being retained become a fruitful source of different ailments. These masses are often overlooked, as they give rise to little trouble. For these cases Dr. Gleitsmann gives preference to a little palate hook (exhibited) which enables exposure of the upper part of the tonsil to be easily made. It is in the latter locality that we most often find these whitish masses. For the proper exposure of the crypts which contain leptothrix deposits he has used for the past two years Moritz Schmidt's instrument, which is a blunt hook, but which answers the purpose very well. The side of the instrument has been sharpened but its blunt tip retained. This instrument is also useful for the separation of adherent faucial pillars. Frequently the presence of a flap or fold of the tonsil, sometimes occupying its whole surface, prevents an inspection of its posterior surface. On a superficial examination this fold may seem to constitute a part of the anterior pillar, but when the latter is drawn aside with a suitable hook an intervening space between the two is easily seen containing a small amount of lymphoid tissue. The larger part of the tonsil will always be found behind this fold. The writer believes that this fold is the result of a previous attack of acute inflammation combined with the chronic follicular disease. This condition has been fully described by Harrison Allen.[1]

Dr. Gleitsmann had recently seen a case of this nature occurring in a lady who suffered from severe indigestion and nervous debility. Behind the anterior pillars on both sides was a moderately deep groove containing a minute amount of normal follicles: then came a broad, dense, thick fold extending the whole height of the tonsil, and covering the latter to such an extent that it could only be seen when the fold was forcibly drawn forward. The tonsil was in a state of complete destruction, nodulated, and countless white deposits were interspersed in its tissue. The fold had to be first destroyed. The galvano-cautery was deemed inexpedient on account of the size and density of the fold. As Heryng's laryngeal double curettes were difficult to handle, Ruault's punch was employed. The result was satisfactory, though there is this criticism to be made against this instrument, viz., that it is too large and its vertical action renders it difficult to grasp the fold between its cutting blades.

Dr. Gleitsmann exhibited a tonsil clipper which he had devised. It was a modification of Ruault's punch, the blades being reversed and cutting in a horizontal instead of in a vertical plane. It was also much smaller in size. In some patients the use of cocaine is advisable when the fold is removed. If the latter is very large, it is better to operate at several sittings. The hemorrhage is not severe and can easily be controlled by cracked ice. As to after-treatment some light styptic or caustic solution can be employed, but this is by no means always necessary.

Several varieties of tonsil hooks and forceps were shown by Dr. Farlow, who also exhibited photographs of nose and throat lesions made by Dr. Arthur Henning, of Koenigsberg, and anatomical models of the nasal passages made by Otto Betz, of Heilbronn.

Dr. Delavan showed a set of electrodes for intranasal electrolysis.

(To be Continued.)

To Plug the Posterior Nares.—Twist up from three to six loops of stout thread twelve inches or more in length, leaving one thread hanging, the rest being waxed so as to form a rigid mass, which can be inserted into the nasal cavity as far as the posterior wall of the pharynx. The extremity is seized by means of a forceps through the mouth, and brought outside of the lips. The thread is then separated and a cotton tampon attached to fill the posterior nasal orifice. This is placed in position by drawing upon the threads which project from the nostril with the aid of a finger in the mouth. Leave hanging in the pharynx an end of the thread with which to extract the tampon.—Stephan.

[1] See Medical News, July 3, 1882.

Therapeutic Hints.

Castor Oil is made tasteless and odorless by thoroughly shaking in a flask with warm milk.—*Arch. of Pediat.*

Warts.—

℞ Ac. salic. . . . . gr. xv.
Ac. lactic. . . . . ♏ xv.
Collod. flex. . . . . ad ℥ ij.
S. Apply twice daily.

—*Practitioner.*

Nitroglycerin in Angina Pectoris.—The most efficacious form of administering nitroglycerin in angina pectoris:

℞ Nitroglycerin. . . . . gr. iij.
Tinct. capsici . . . . . ♏ ss.
Spir. rectificat.,
Aq. menth. pip. . . . . āā ℥ iij.
S. Two to ten drops.

In one minute the action of the drug is manifest, and in scarcely three minutes the pain is entirely done away with. As the patient grows accustomed to the dose, it must be increased, and if this be done carefully there is no great danger to be anticipated.—Schott, *Wiener klin. Rundschau.*

Painless Vesicatory.—

℞ Menthol,
Chloral hydrat. . . . . āā 1
Spermaceti 4
Ol. theobrom. 2
M. S. Spread upon linen and apply.

—*Pharmac. Centralbl.*, No. 46, 1896.

Extemporaneous Cold Cream.—

℞ Lanolin. 10
White vaseline 40
Rose water. 60

Melt the lanolin and vaseline together with gentle heat, and add in small quantities the rose water, while beating with a spatula.—Maveur.

Pertussis.—The following formula is much employed in the service of Albert Robin, having been devised by Dr. Voisin, interne of the service:

℞ Bromoform. 1.75
Tr. aconit. rad. . . . . 1.
Tr. nuc. vom 0.75
Tr. grindeliæ robustæ. 0.75
Tr. bryoniæ 0.50
Syr. opii ext 50
Syr. aurant. cort. am. 105
Spt. vini rect. (90 per cent.). 25

Dissolve the bromoform in the alcohol and a mixture of the tinctures; pour this into a mixture of the syrups and shake. This makes a perfectly clear solution, of which a soupspoon contains six drops of bromoform, from three to five of the tinctures, and one centigram of opium extract. The dose for a child is a teaspoonful at the time of the access, mixed with twice its bulk of water. In bronchitis the adult dose is a dessertspoonful. *Bul. Gén. de Thérap.*, February 8th.

Tincture of Actæa Racemosa, made from the Canadian or North American plant, has given good results in acute articular rheumatism, beginning with a dose of four drops every two hours and increasing until forty or fifty drops are taken daily. It is cheap, easily taken, and in many instances effective. Hewelke, *Th. Woch.*, February 7th.

Chlorosis and Anæmia.—Dr. Angelo Casati (*Gaz. degli Osped.*, January 10th) believes he has found in phosphorus a valuable adjunct to the treatment of chlorosis, in which appetite so often fails and retards the cure. Gelatin capsules containing one milligram in oily solution offer the best mode of administration. After a time patients can take sufficient food containing iron to obviate the necessity of badly borne iron preparations. Fresh meat, eggs, lentils, red wine, etc., can be given in large quantities. Begin with one capsule daily, and increase by one capsule every two days until a daily dose of five capsules is reached. Then run down the scale in the same way.

In Giving Calomel avoid acid, salty, and richly albuminous food. The latter favors resorption and increase the irritative working of calomel. The idea that the drug becomes transformed in the intestinal canal into corrosive sublimate is wholly erroneous.—Ottolenghi, *Gaz. degli Osped.*, January 3d.

Tuberculous Adenopathies.—Country life, cod-liver oil, followed by one-fourth of a gram of amylaceous pepsin, and at the end of each principal meal a liqueur-glass of the following:

℞ Glycerin. neutr. . . . . 50 gm.
Sod. phos.,
Calc. phos . . . . . āā 10 gm.
Ext. aq. quinquinæ . . . . . 15 gm.
Vini Malagæ. . . . . to make 1 litre.

—Sebileau.

To Abort Coryza.—Ten grains each of Dover's powder and phenacetin are put into four capsules; two of these are given at once, and the patient remains for about ten minutes in a hot bath. He then takes a hot lemonade or rum punch and gets between several thicknesses of heated blankets. In half an hour the second two capsules are given, unless perspiration is already abundant. Such perspiration should continue for an hour, after which the skin is slowly dried, and the patient retires for the night to a comfortable bed. —H. B. Whitney.

Cancer of the Stomach.—To increase the appetite:

℞ Bark of white condurango 15
Water. 250

Reduce by boiling to one hundred and fifty grams, filter, and add syrup. A soupspoonful is to be taken a quarter of an hour before meals. To favor digestion:

℞ Muriate of ammonia . . . . . 0.15 cgm.
Bicarbonate of sodium. . . . . 0.26 "
Dover's powder. . . . . 0.10 "

To be taken ten minutes before meals. To diminish fermentation: Sublimated, washed, or precipitated sulphur, fifteen to twenty centigrams.—A. Robin, *Journ. de Méd. de Paris*, February 7th.

Iodates, with the exception of iodate of silver, being soluble, may be used subcutaneously. Ruhemann gives a number of formulæ in the *Gaz. Hebdomad.*, February 7th. Iodate of oxide of mercury being but slightly soluble, the iodide of potassium is combined with it. One centigram can be injected as an antisyphilitic every second day. It is but slightly painful and does not produce salivation.

℞ Iodate of oxide of mercury 0.115
Iodide of potassium 0.08
Distilled water . . . . . 10.
S. Inject one cubic centimetre.

℞ Iodate of quinine 1
Distilled water. 10
S. Inject two to five cubic centimetres.

Vertigo of Hemiplegia.—When, after an icterus, a subject of hemiplegia experiences vertigo on attempting to walk, apply hot compresses to the head, as hot as can be borne, and keep up for an hour twice daily.—Erben.

Clinical Department.

RESUSCITATION OF THE NEWBORN.

By W. C. McGEE, M.D.,

HOUCKTOWN, OHIO.

MEMBER OF THE OHIO STATE PEDIATRIC SOCIETY.

It is the physician's high privilege to assist nature in the restoration of impaired health, thereby giving new hopes and frequently new life to countless thousands who would meet death prematurely were no assistance rendered nature in her efforts at reconstruction. We all agree that this assistance must be timely, and often requires a high degree of skill. A most unswerving and holy regard for the value of human life is a most essential quality in the make-up of a true physician. This deep regard for the value of human life will accompany a highly sensitive conscience, and will urge its possessor to every effort possible to save the lives over which it is his high station to keep sacred guard. Would that all of our number might be imbued with the holiness of our calling. It is sad to believe that any one could engage in a life-work of such mighty responsibility without the most sacred regard for the value of life. But occurrences of recent date within my knowledge confirm my belief in the fact that many men aspire to the high calling of physician who do not hold the proper estimation of such value. In one respect I fear there may be a great many of us lacking, and that is in the matter of resuscitation of the newborn. It is my firm conviction that we have never done our duty unless we have done our whole duty. If we do not attempt resuscitation or do not use proper means to that end, we are utterly conscienceless and not deserving of the title of physician. I am convinced that many in our profession need to have their consciences quickened in this matter, for I would impress the fact that none can tell the possibilities that may unfold in the life of the little innocent babe, if timely assistance is given and its life is saved. We should therefore under no circumstances neglect an earnest effort at resuscitation in a child that is born intact. I have recent knowledge of several cases in which no effort was made, and yet no excuse could be offered for the failure. Yet for every failure the whole profession must suffer. The mere fact that it is easy to deceive some if not all of the people does not excuse, and in the mills of justice such an excuse should merit and receive only the severest penalties for criminal neglect. We do not wish to be understood as proclaiming against the righteous judgment of honest men in all cases, but we wish to impress the young members of the profession with the prime importance of timely and earnest work on this line. For no one of us can deny having some uneasiness in connection with our first few cases of confinement. Practice is the only thing that will teach young men coolheadedness while attending confinements. To this end we believe that no student should ever be graduated from any college of medicine who has not been in actual attendance under competent instructors on at least a dozen cases of labor.

Now, as to the method of resuscitating, it makes little difference, providing the attempt is successful and the means used does not injure the child. Familiarity with several methods, so as to adapt some to the immediate case, is sure to be of use to the young doctor. In this connection I will give the course I pursue, with the hope that it may be of value to some one. I have not been able to find an account of it in textbooks or in the literature, and yet I am not presumptuous enough to claim absolute priority. And I can only add that if there is any grave objection to its use, it has never become apparent to me in a record of sixty-eight subjects resuscitated, with never a failure to bring on lung expansion and life.

If the child does not show the usual signs of animation within two minutes after its birth, I catch the feet in one hand, arranging the fingers so as to hold it securely, and place the other hand over the shoulders from behind, and two fingers on each side of the neck for its protection. Then I take the child with head down and feet up, and begin upward and downward movements, slowly at first, but soon getting up to fifteen or twenty movements per minute. I keep this up until there are distinct signs of animation, and then more slowly until breathing is fully established, which will be within ten or fifteen minutes, unless the case is hopeless. But generally less than a dozen movements reward the prompt effort. The moves should be rhythmical and simulate respiratory movements. I have employed this method in several extreme cases of asphyxia pallida, and have been rewarded each time with renewal of life. The reasons I have for its employment are its simplicity and because we can begin early without loss of time. We can use all the available space for movements, but if the cord is not long enough to permit of some degree of motion, wait five minutes and quickly cut and tie the cord, and then at once attempt resuscitation. If the mother requires prompt attention, I hand the child to the nurse with directions for movements, and require her to keep it going, and am very careful to see she does as directed. The advantages are that no time is lost and the child is given the greatest chance for its life. As stated before, this method has never failed to bring me success.

WORMS IN THE NOSTRILS.

By H. M. FOLKES, M.D.,

PANZOS, GUATEMALA.

Robert S——, a negro aged twenty-four years, of rather limited mental capacity, came to me, complaining of nose bleed and pain in the head. An examination revealed slight fever, right side of face much swollen, very large nostrils, and in the right one a mass of screw worms as large as a pecan. As they were within easy reach, I removed forty-one with a pair of small forceps, after which I irrigated the nose with a thymol solution. In the evening, after another irrigation, I removed with the forceps thirty-seven more. At this time I became convinced, by the size of the swelling and the pain complained of, that there was a collection of the worms in the antrum. The question in mind was whether to open the sinus or not. So I decided to use a spray of an alcoholic solution of chloroform, which was administered with a bulb atomizer, and then to wait until the next day for further developments. The swelling had markedly gone down by the following morning, the boy in the mean time having blown out twenty-two worms since the atomization. The next morning most of the expelled worms were dead, thus showing the effects of the chloroform, for those removed by the forceps were all alive. The same evening irrigation and atomization removed fifteen or more. By this time the swelling had almost disappeared, so I gave up all idea of operating. To make a long story short, five days of this treatment brought to light one hundred and thirty-one worms, all of the screw-worm variety, and none under ten millimetres in length.

An interesting thing in this case is the length of time this negro went without discovering his trouble, which he could easily have done by inserting his finger into his nostril. Up to the time of the first removal he did not comprehend the nature of his trou-

ble, but when he saw the first worm brought out he exclaimed: "I blew four or five of those things out of my nose this morning." The patient had a slight nasal catarrh, which probably accounts for the deposit of eggs at that location.

INFANTILE SCURVY—REPORT OF CASE.

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Up to 1895 there had been, in the United States, only one hundred and fourteen cases of infantile scurvy reported; and of those, only in thirty-six had detailed histories been given. Nearly all, if not all, the cases so far reported have come from the larger cities in the eastern part of the continent (the stronghold of rachitis). It may be of interest to hear a report from the mountainous regions of Montana, at an elevation of forty-five hundred feet above sea level.

The child, an eight-months-old girl, was born of healthy and well-to-do parents, and was their first child. The sanitary surroundings of the child were all that could be desired, with the exception that the house might have been kept too tightly closed and the child too closely confined during the last month of its illness, owing to the suspicion that it might be rheumatism that affected the child. It had been artificially fed almost from birth. Three or four months previous to my visit the child had been ailing. She commenced to lose in flesh and strength. Eight or ten weeks previously she manifested an inability to use her lower extremities with their accustomed freedom, and cried if they were handled.

When I saw the child I found that she had been slobbering an undue amount for a couple of months. The gums were slightly swollen and bluish, with no teeth. The eyelids were of a dark bluish or purplish color. There was sweating of the head of a cold, clammy character, at times also a cool, clammy feeling of the extremities. The bowels were constipated, having been kept open by the use of aperients, which were beginning to lose their effect. Anæmia was not pronounced. The child would lie perfectly still when undisturbed. It was also quite somnolent, dropping off to sleep in the mother's arms just after my examination. Emaciation was not extreme, yet the joints had an appearance of enlargement, due to the falling away of the flesh about them. The muscular weakness was most marked in the back, where the spinal column exhibited a posterior curvature in the dorso-lumbar region when the child was sitting up. It did not lift its head off the pillow when lying down (as it had done previous to its sickness).

The most marked symptoms were in the lower extremities. The legs were drawn up at right angles to the body, with the toes flexed on the foot. On touching or moving the legs or attempting to straighten the toes, the child would cry and give evidences of great pain.

On stripping the child and laying it on its back on a flat surface, and pressing the knees down in a horizontal position, the child tried to roll over on the side and the spinal column exhibited an anterior curvature in the lumbar region. At the junction of the middle and upper thirds of the thigh was found a fusiform swelling of the femur. This was larger in the right than in the left femur.

A change in diet was made to cow's milk in the following well-known formula: Cream, three ounces; milk, two ounces; water, ten ounces; milk sugar, one drachm; lime water, one ounce. I had the mother mix together cream, milk, and milk sugar, and add the proper proportion of hot water and lime water at each feeding, thus raising the milk to the proper temperature when required, without the trouble of immersing the feeding-bottle into hot water, with the possibility of cracking it; and, in addition, the water was thus sterilized. The child was also allowed the juice of one large orange a day, although I see no objection to giving it *ad libitum*, provided it is given between feeding, to avoid curdling of the milk; also the juice from three-quarters of a pound of fresh beefsteak each day. A simple laxative was given for the bowels. No other treatment was given. The mother claimed to have noticed an improvement on the second day after this treatment was instituted. On the fourth day the legs moved with more freedom and the pain had considerably abated. By the eighth day the pain had entirely disappeared, and the limbs moved with perfect freedom. One month from that date the child was learning to creep.

UNUSUAL VOLUNTARY CONTROL OF THE CREMASTER MUSCLE.

By J. K. BOUDE, M.D.,

WASHINGTON, D. C.

The following is a copy of a medical examination of an applicant for a pension on account of a left inguinal hernia, which was alleged to have been incurred while he was serving in the regular army in 1895. The examination was made by a surgeon in the regular army at the request of the bureau of pensions, and shows the possession of a voluntary control over the cremaster muscles beyond anything I have ever seen reported. The examination was made on the 4th of January, and shows that the applicant was twenty years of age, was five feet ten and three-fourths inches in height, and weighed one hundred and seventy-two pounds.

"There is on the left side a small oblique inguinal hernia, just through the external abdominal ring, but not descending into the scrotum. The testicle is small and undeveloped, and also lies in the groin, the cord not being long enough to permit its descent into the scrotum. On the right side the testicle, also small, may remain within the abdomen or lie in the groin just outside the external ring at the will of the man, the cord not being long enough to allow its descent into the scrotum. When this (the right) testicle descends below the external ring, a small knuckle of intestine follows it into the internal ring. The scrotum is undeveloped and has never contained the testicles. On the right side the ring is a little larger than usual, and its pillars are yielding; on the left it is apparently about normal.

"The man has the power of retaining the hernia and both testicles in the abdomen at will, and these conditions are congenital. That he has this power is proven by the fact that he made application to be again enlisted in the army at this post on December 2, 1896, and I made a preliminary examination of him on December 5, 1896, as did also another medical officer. At that examination the testicle on the left side lay just above the internal ring, and not only was there no hernia, but it did not seem possible that the testicle even could pass through the ring. To-day he has not only the testicle, but also his hernia down below the external ring, as stated above. At the examination for enlistment, December 5th, the condition on the right side was as it is now found, but, while it was difficult for me to return the testicle into the abdomen, he could do it easily himself by a slight movement of the abdominal muscles, without touching it with his hands. From this I know that he can keep both testicles and hernias in the abdomen when he

wishes to. He certainly did it when he wanted to re-enlist, and there was no evidence of a hernia past or present on the left side. Now that he is being examined for a pension, the hernia is very much in evidence. The conditions existing are evidently congenital."

HYOSCINE IN ANGINA PECTORIS.

By W. W. BOSTWICK, M.D.,

SECOND ASSISTANT PHYSICIAN, HOME FOR INCURABLES, FORDHAM, N. Y.

THE patient, a Swedish woman, twenty-nine years old, came under my care six months ago. She was suffering from chronic endocarditis, resulting in extensive valvular lesions and accompanied by angina pectoris. The attacks first observed corresponded to the description given of true angina, were of moderate severity, and yielded to the usual remedies. Of late the attacks have become much more severe, until at present large doses of nitrite of amyl (six minims) repeated at short intervals by inhalation, and large doses of morphine (three-fourths of a grain) and of nitroglycerin (one-thirtieth of a grain) hypodermically, even when supplemented by the use of chloroform, did not give any relief. Nothing, in fact, short of narcosis, relieved the distress. Obviously something had to be done.

Acting upon a recently advanced theory, that angina pectoris was a neurosis of the sympathetic, an injection of one-seventy-fifth of a grain of hyoscine hydrobromate was given. The effect was magical; in fifteen minutes she was relieved, and in half an hour was sleeping quietly.

This dose of hyoscine, although rather larger than a safe dose as a beginning in one unaccustomed to the use of the drug, was not followed by any poisonous symptoms. The pulse was accelerated, reaching 90; the respirations were quickened to 20 per minute; and the pupils were dilated to a moderate extent. The temperature was not raised, and there was no dryness of the throat or loss of voice. The patient complained of slight dizziness, and there was a perceptible flushing of the face.

A CASE OF PHYSICAL ENDURANCE.

By FRANCIS CRESSON, M.D.,

SANTA FE, N. M.

AMBROSIO MADRIL, a Mexican, aged thirty years; height, five feet seven and one-half inches; weight, one hundred and seventy pounds; was brought to St. Vincent's Hospital, December 20th, at 4 P.M.

On December 17th, at 11 A.M., he fell into a well, forty-eight feet deep. One of his companions lowered himself into the well with an extra rope and a board, to which the injured man was spliced and hauled to the surface by a horse. He sustained a fracture of the lower end of the femur and of the patella, and the knee-joint was completely destroyed, the femur projecting several inches through an enormous laceration just above the knee-joint. He also had a fracture of the radius and ulna near the wrist, and, in addition, several lacerations and contusions of the face and head. He was brought sixty miles overland in a wagon, none of the injuries having received any attention whatever —not even a bandage placed on either leg or arm. His condition was such when he reached the hospital that rest and stimulation were urgently indicated. On the following afternoon, with the assistance of Drs. Harroun and Diaz, of this city, I amputated his leg high up near the hip-joint. He reacted nicely after the operation, took considerable food, slept well without narcotics, and in every way seemed to improve except in the matter of his temperature, which was 102° F. before the operation, and which did not fall at any time afterward. Local and constitutional means were vigorously employed in an attempt to control the septic process, but everything failed, the patient dying at the expiration of forty-two hours after the operation, with a temperature of 105.6° F. The lacerated tissues of the leg were in an advanced gangrenous condition when he reached the hospital, and the amputation was made for this condition, as well as on account of his splendid physical powers, as exhibited by his ability to "hold up" after such an accident and the subsequent long trip over a rough country, without his having shown very marked signs of physical exhaustion.

AN EXPEDIENT FOR PRESERVING SURGICAL INSTRUMENTS FROM RUST.

By ROBERT BOYD, M.D.,

ISLAND OF GRAND CAYMAN, BRITISH WEST INDIES.

I SHOULD like to make known to the profession a valuable and simple expedient to prevent surgical and scientific instruments from rusting.

I am practising in the West Indies, and have found to my displeasure and to the detriment of my surgical instruments that rust will collect in spite of care and cleanliness.

There is a great deal of dampness and moisture in the atmosphere of the West Indies at all times, and especially so after heavy rains, which rains are frequent and often of short duration.

Immediately after rains the sun shines and is very warm; this quickly frees the amosphere of a large percentage of the moisture, but leaves enough to occasion rust, and especially is it prone to occur indoors, where moisture lingers at all times.

I have resorted to the following: The doors of my instrument case are made to fit tight, and on each and every shelf I keep a wide-necked glass receptacle (the ordinary whiskey glass will do), in which I place two or three drachms of sulphuric acid (C. P.), leaving the receptacles open. As sulphuric acid has a great affinity for water, it absorbs all the moisture in the atmosphere of the case, thereby keeping instruments free from rust and in good condition.

The fact that it absorbs all dampness and moisture is easily demonstrated by the fact that it increases in quantity steadily, until it becomes so dilute that it will absorb no more moisture and its good effect is lost. It is essential, therefore, to renew the acid every four or five weeks to insure its action. I use it constantly, and find that my instruments are in excellent condition and always ready for immediate use.

Chloride of calcium has been used in a similar manner, but it becomes saturated in a much shorter time, necessitating drying by artificial heat, naturally two disadvantages to its use: and, moreover, it does not act so well, to say nothing of its disagreeable odor.

A medical friend practising in Jamaica, a fellow-passenger on my southern trip this winter, stated he had great trouble in keeping his instruments free from rust; and that he was anxious in regard to a new static machine for *x*-ray work he was importing. He had tried chloride of lime but with poor results, and was glad to get my suggestion and intends to follow it.

I would recommend all physicians located in tropical climates and those practising at the seashore during the summer months to give my scheme a trial, as I believe they will be satisfied it is a good expedient and indorse my statements.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE DUBLIN HALL SUCCESSFUL ON APPEAL — THE MUZZLING OF DOGS—OYSTER BEDS—ARMY SERVICE —LORD LISTER — GLYCERINIZED CALF LYMPH— COLLEGE OF PHYSICIANS—COLLEGE OF SURGEONS— ELECTIONS, ETC.

London, April 16, 1897.

THE Apothecaries' Hall of Dublin has defeated the General Medical Council. You will remember the circumstances under which the latter body determined to disestablish the hall, as I have had to refer to the proceedings at the several stages. In November last, the hall by the advice of the Privy Council, to which appeal had been made, asked the Medical Council to appoint examiners. This request was rejected and the hall had no course open but to ask the Privy Council to intervene in pursuance of the provisions of the medical acts.

Having heard counsel on both sides, the Privy Council has now delivered judgment in favor of the hall and directed the Medical Council to appoint such examiners.

This is a decisive defeat, and members of the Medical Council may regret having invited it. No one doubts that the Dublin corporation ought not to have been included in the list of qualifying bodies in the act of 1858. But, having been so included, it set to work to fulfil its duties, and, although not particularly successful, clung to the privilege as an important dignity. The Irish College of Physicians was jealous, and eventually the sister college joined forces against the hall, which had practically no defenders. When the Medical Council had the matter before it there was a strong effort to get rid of the hall, by a side-wind, as I reported to you at the time, and the case was pushed to the bitter end with so little regard to judicial impartiality that no surprise can be felt at the result of the appeal to the highest tribunal. A patient hearing was given to both sides by the lords of the Privy Council, who have decided in favor of the hall. Let us hope after this that the authorities of the hall will use the privilege they have secured for the good of the profession and the public, and decline to make a profit out of their dignity.

Medical questions are being thrust into the background by the excitement of the dog-muzzling order. The papers are full of indignant letters from owners of dogs on the cruelty of muzzling and the wickedness of the authorities, who are accused of selecting the most cruel pattern and enforcing its use. It seems to have been a mistake to adopt a regulation pattern, and any muzzle which would prevent biting might have been accepted. At the same time, it is idle to assert that all dogs are naturally disinclined to bite a human being, or that the fear of hydrophobia is baseless. Still less can I sympathize with those who represent that disease as a slight ailment and of great rarity. These ravings about the cruelties of muzzles would all be silenced by watching a case of hydrophobia. In this country, too, we ought to stamp out this terrible disease, but we muddle the matter by leaving it to local authorities, so that dogs may be muzzled in one district and not in the next, and a mad dog cannot be expected to observe the boundaries. We ought to enforce the muzzle for a year in every district at once, and carefully examine every dog imported. These islands are well adapted for such action, and there is little doubt that the country would be delivered from the scourge. But the law must apply in every district at once, and members of Parliament, who are being threatened very freely by their constituents, should reply by rushing through a simple act in this sense; any efficient muzzle should be recognized, and the grievance of dog owners would be largely discounted, as each could use the one he thought the least inconvenient to his pet.

Sir William Priestley, M.D., has signified his appearance in Parliament by a question as to what steps will be taken in view of last year's report on oyster culture, to protect the public from disease arising from contaminated oyster beds. I regret to say he obtained little satisfaction, for the government gave no assurance, though admitting the importance of the matter.

Further questions have been asked about the army medical service, and it is evident the government does not know how to make it efficient without putting down the offensive insolence of its "military advisers." Sooner or later this will have to be done, even though the commander-in-chief have to be informed that he must behave as a gentleman to those who are as well educated and as well born as himself, or, if he cannot do so, he had better make room for some one who can.

Lord Lister must be getting rather tired of compliments and congratulations. However, he will probably appreciate that which is to be offered by his former dressers and house surgeons of Glasgow, Edinburgh, and London. These gentlemen are combining to entertain his lordship at a dinner. Many of them must be scattered over the world, but it is hoped they will send their present addresses, as it is also intended to prepare a chronological list of these officers. It is therefore requested that names (with date of office) be forwarded to the honorable secretary, Dr. Thomson, 28 Queen Anne Street, London, in order that the list may be made as complete as possible.

The information obtained by Dr. Thorne and Dr. Copeman on their recent tour through continental vaccination establishments proved so satisfactory as to the use of glycerinized calf lymph, that I am informed the local government board will introduce the use of this lymph as soon as arrangements for its preparation can be completed.

Dr. Wilks has been re-elected president of the College of Physicians by 79 votes out of 87 present at the meeting.

The late Sir H. Halford bequeathed to the college the portrait of his grandfather, the distinguished court physician who was president from 1820 to 1844, and to whom the college owes its house and other benefits. The portrait is by Sir T. Lawrence.

The College of Surgeons has awarded the Jacksonian prize for this year to Mr. Robert C. Bailey; the subject of the essay is "Diseases of the Prostate." The dental prize in honor of the late Sir J. Tomes goes to Mr. Charles L. Tomes for original scientific work relating to dental surgery.

The honorary medal of this college has been conferred on Sir James Paget and Lord Lister. This is the first time the medal has been given to two persons simultaneously. It is indeed rarely conferred at all — only ten times since the year 1800 until this month.

A curious case has been before the law courts. The Rev. T. W. Belcher, who was formerly a censor of the Dublin College of Physicians, but left the profession for the church, sued Colonel Knollys for a libel contained in his life of Sir Hope Grant. The colonel gave currency in the book to a scandal which he seems to have heard, that the reverend doctor on one occasion preached an "immodest" sermon. The colonel was let off with an humble apology and the costs incurred.

OUR PARIS LETTER.

(From our Special Correspondent.)

MODERN FRENCH THERAPEUTICS—A NEW WAY TO APPLY OLD REMEDIES—NEW REMEDIES—FRENCH IDEAS OF PRACTICE—METHODS OF PROFESSORS ALBERT ROBIN AND HAYEM—TRIONAL AND TETRONAL—UREA IN ASCITES, ETC.—THIOFORM POSSESSES ALL THE ADVANTAGES OF IODOFORM AND IS INODOROUS.

PARIS, April 15, 1897

FRENCH methods of therapeutics do not, after all, differ so much from American. There is, however, this difference, that empiricism, although not entirely wanting in the former, is nevertheless present in a much less degree than in the latter. At one time the reproach was made that the French school was too theoretical, too scientific, and too apt to give less importance to therapeutics than to finer pathological, pathological-anatomical, and bacteriological work. This might, with some truth, have been said regarding the German school, but it is entirely without foundation, in so far as France is concerned, certainly the France of to-day. In no country have such rapid and important strides in therapeutics been made, and in no European country are investigations and experiments going on with greater zeal and constancy.

Among those who have labored most in the field of therapeutics in Paris, and to whose efforts we owe the highly valuable and efficient methods of treatment of disease now at the disposal of the profession, are Prof. Albert Robin, Professor Hayem, and Professor Dujardin-Beaumetz. And it is the former who is the most advanced and active in this department of science, and who has written very voluminously. It was Dr. Albert Robin who first discovered and introduced into practice the subcutaneous injections of the glycerophosphates of calcium and sodium, which may be given in the convalescent stage of almost any disease, in non-febrile conditions generally; also in anæmia and chlorosis. We shall refer to them again presently.

Professor Hayem is another distinguished man who has devoted most of his medical career to the study of applied therapeutics. His principal writings are "Memoirs on the Blood; its Pathological Alterations and How to Treat Them." It is to his initiative that we owe the injections of artificial serum and large quantities of salt and water in the treatment of Asiatic cholera.

One of his chief studies has been upon the different preparations of iron and the results obtained from their exhibition, based upon a long experience in hospital as well as in private practice. Professor Hayem prefers of all preparations of iron the protoxalate. This preparation of iron, in combination with oxalic acid, is administered in the same dose as other preparations of iron. It is claimed that owing to the oxalic acid the protoxalate of iron is more soothing and cooling to the blood than are other preparations of that base, and possesses in addition all their tonic properties. It has been objected by opponents of this preparation that oxalic acid is set free in the stomach. Oxalic acid being set free in the stomach would undergo exactly the same chemical changes as oxalic acid given by the mouth in ordinary medicinal doses, and so far from being an objection would be a decided advantage, for we all know the calming and refreshing action of oxalic acid when administered by itself in the form of lemonade or in the form of pastils to allay thirst; or, again, in combination with cerium, mercury, and potash.

Another favorite remedy of Professor Hayem's is lactic acid, which he prescribes freely in cases of green diarrhœa in children, in quantities of from two to four grams in a mixture of one-hundred grams.

A preparation of iron much in vogue among French practitioners is the lactate. The sulphate is quite obsolete, and even the carbonate is less prescribed than with American physicians. The proto-carbonate is exhibited to some extent but less than the lactate. The tartrate and arseniate are much used, the latter more especially in chlorosis, the dose of the arseniate being obviously much smaller.

Gallic ideas regarding the treatment of fevers have undergone a change during the last few years. For instance, considering fever as a symptom rather than as a disease, even in certain specific fevers, French practitioners "respect" it, as they say. That is, they regard it as a kind of pathological compensation, an effort of nature to throw off morbid process, and hence to be looked upon as benign, and if not actually encouraged at least left to itself. But it should not be treated actively. We might go through the whole of pathology and fill a large volume were we to note even the more important changes that have been made in modern therapeutics, and by that we mean recent therapeutics. The treatment of neurasthenia is typical in this regard. Static electricity and douches to the spine are the remedies now advocated. The combination of iron, quinine, and strychnine is a thing of the past. The bromides, however, are prescribed, usually the bromide of sodium. Take the salicylate of sodium as an example of the onward movement in French therapeutics. Salicylate of sodium, like other specific remedies, is now used in a variety of diseases; in fact, it has become a general remedy, except in cases in which the kidneys are affected. No longer the great specific for acute general articular rheumatism, it is frequently prescribed in chronic articular rheumatism affecting a single articulation, in muscular rheumatism, in neuritis, in neuralgia, gout, grippe, also in certain eruptive fevers. Its application to so large a category of diseases is based upon more recent experiments, principally those made by the late Prof. Germain Sée, in his wards at the Hôtel Dieu, and which have demonstrated beyond doubt that salicylate of sodium possesses three primordial qualities, viz.: antiseptic, analgesic, and antipyretic. It is therefore indicated in a still wider range of diseases than those in which it is already employed. The same generalization is likewise taking place with reference to the therapeutical applications of iodide of potassium.

Two hypnotics much used in French practice are hypnone and trional. Hypnone is a méthyl-benzoile, and is administered in form of gelatinous capsules or pearls, in doses of ten grains (maximum), the pearls containing each one grain. Hypnone is also prescribed in the form of syrup, as follows: *a* hypnone, twenty drops; syrup of orange flowers, twenty-five grams; from one to three teaspoonfuls. Trional is sulfonal in which an atom of méthyle is replaced by an atom of éthyle. The ordinary doses, fifteen to twenty grains, are best given in wafers or capsules, that quickly produce sleep. Trional is rapidly superseding sulfonal which is much preferred by the French school to hydrate of chloral and chloralose. Trional has these advantages over all three: it acts in much smaller doses and the effect is more rapid: often sleep is produced in from fifteen to twenty minutes. Moreover, it succeeds when sulfonal, hydrate of chloral, and chloralose fail, and the sleep induced by trional is generally deeper and more lasting.

Tetronal is another hypnotic of the same class and given in the same way and the same dose, the only chemical difference between them being that in tetronal two atoms of méthyle are replaced by éthyle. But the remedy that has stood the test of time and is the remedy par excellence in, perhaps, a wider pathologi-

cal range than any other is that introduced by Prof. Albert Robin, the distinguished academician and editor of the "Traité de Thérapeutique Appliquée". It was only after long experience in his hospital practice that Professor Robin presented the report upon his method to the Academy of Medicine and introduced it into general practice. His discovery was briefly this: that the waste in very many diseases, such as rheumatism, gout, diabetes, tuberculosis, albuminuria, neurasthenia, and others, including convalescence from grippe, was due, if not to an actual phosphaturia, at least to a phosphatic leakage. Instead, therefore, of acting upon the antiquated principle of trying to stop the leak, he conceived the idea of supplying the material (phosphorus) of which the organism, more especially the brain and nervous system, was being drained. The glycero-phosphates of calcium and sodium fulfil this indication; besides being of simple and easy composition, they are readily assimilated. The glycerophosphate of calcium is more generally used. They are given chiefly in five different forms: hypodermic injections, in wafers, in an elixir, in syrup, and in effervescing granules. From twenty to thirty centigrams twice and sometimes at the beginning three times a day are sufficient. One injection a day is, however, all that is usually required, if that method, which seems to be most in favor, be chosen. These injections may, at first, produce a little erythema, but that and the slight feeling of soreness caused generally pass off after a few days. The glycerophosphates may be given in all cases in which it is desirable to promote nutrition and increase strength.

For disinfecting the intestinal tract and in cases of typhoid fever, diarrhœa, and dysentery, salol is much prescribed in powder form, and in doses of from twenty five to fifty centigrams, or from five to ten grains. Dr Bressard, however, has just reported a case of intestinal calculus of considerable size due to the repeated ingestion of salol. This was undoubtedly an idiosyncrasy, and cannot be used as an argument against its ordinary administration. Urea is now finding application in French therapeutics in this formula: Urea, pure, ten grams, distilled water, two hundred grams. A tablespoonful every hour. It is used as a mild diuretic, although non-irritating, it is contraindicated in affections of the kidneys. Dropsy and ascites of non-renal origin, those more especially due to cirrhosis of the liver, are the conditions in which it does most good. If the diuresis is not augmented in five days after its administration is begun, which would represent about fifty grams, it should be stopped. In France, as elsewhere, physicians are given to trying new remedies, among which we note the following: Pental, or amylene, pure, administered in inhalations; aseptol, in wafers or solution; urethane, in mixture; and thioform, used instead of iodoform. The latter is non-toxic and inodorous, and is given in doses of six grains, two or three times a day, as an intestinal antiseptic.

Dujardin-Beaumetz's "Formulaire Pratique de Thérapeutique et de Pharmacologie" is a volume of convenient size, containing some thousands of prescriptions, besides being a condensed and exhaustive treatise on materia medica and therapeutics.

It was he who made a special study of the art of prescribing, the formulating being of as much importance, in his opinion, as the ingredients, and it is largely owing to his labors that antiseptics, both internal and external, have been made, as it were, the keynote in modern medical and surgical therapeutics. The tendency to abolish altogether the ingestion of medicines by the mouth is becoming every year more marked, and therapeutics may, ere long, be reduced to prophylactic and curative subcutaneous injections.

OUR VIENNA LETTER.

(From our Special Correspondent.)

THE FIRST WOMAN DOCTOR RECEIVES HER DEGREE FROM THE UNIVERSITY OF VIENNA—GREAT SCHOOLS AND MASTERS AND PRACTICAL ADVANCE IN MEDICINE—SOME HINTS AS TO REVELATIONS AT THE INTERNATIONAL MEDICAL CONGRESS AT MOSCOW—PSEUDO-LEUKÆMIA AND NUCLEO-ALBUMIN IN THE URINE.

VIENNA, April 20, 1897

THE question of the higher education of women in Austria has just received an impetus here that was as unexpected generally as it must be eminently agreeable to the advocates of woman's educational rights. On April 2d twenty-three candidates were "promoted" (as they say in Vienna) to the degree of doctor in medicine. Among the number was the Baroness Gabrielle Possanner von Ehrenthal, the first woman upon whom a doctor's degree from any faculty, or, for that matter, any other university degree, has ever been conferred by the Royal Imperial University of Vienna.

The rector magnificus of the university, Professor Reinisch, noted the "promotion" as of very special significance, and complimented very highly the praiseworthy energy and intelligence which had enabled the baroness to overcome the obstacles that lay in her path. He added some words that, coming from the official representative of one of the oldest and most conservative educational institutions in the world, will be read everywhere with interest by the many who are occupied with the questions of the day. "Men may think as they will," said he, "of the higher education of women, but this much every judicious and unprejudiced mind must admit—that the broadening of woman's intellectual circle of vision cannot but elevate the whole people to a higher intellectual level. To limit any longer the circle of woman's activity to the kitchen and the nursery is to sin grievously against progress."

This event does not as yet open the Austrian university freely to women, for this "promotion" is a particular favor, due, it seems, to a special rescript from the emperor; but it is surely the entering wedge that will soon inevitably force open the doors so long closed to women. The rector's words and the reception of the diploma were greeted by the students, who were present in large numbers, with loud acclamations and prolonged cheers, and these were repeated after the exercises were over when the newly promoted doctor was leaving the hall. This is not exactly what one has been led somehow to expect from faculty or students in Europe, and is not the less interesting for that.

So would seem to go another relic of conservatism, but they have them at Vienna to spare and can afford to let one go occasionally. While an American cannot but admire their practical thoroughness in "diagnostics" and their eminently careful pathological anatomy, he cannot but be surprised at the tenacity with which medical men cling to certain ideas that, to say the least, have been outgrown in the advance of scientific medicine. Of what use is it for a great master to advance beyond his times if his disciples are going to cling tenaciously to his opinions till the rest of the world has passed them? It is amusing to find the Vienna school still teaching that varicella is a very mild form of variola, due to a modified and attenuated virus, it is true, but one that is essentially the same. Another favorite dogma here is that secondary syphilis may develop without there ever having been a primary sore; not that this may not have been discoverable, but that it may even never have existed.

Some hints as to the interesting disclosures that the International Medical Congress at Moscow is expected to bring out are occasionally heard. Two of

the questions that French physiologists will introduce are to be (it is said) very strikingly illustrated from the clinical side by the Viennese school.

The discussion of the physiological significance of thyroids and parathyroids in the etiology of myxœdema will be supplemented by the tracing of many other congenital deformities and anomalies, besides the serious condition so well known, to the influence of these ductless glands in the neck. The different forms of diabetes, after their physiology to date has been thoroughly reviewed, will be distinguished clinically by certain modifications in existing tests for sugar and accompanying morbid products in the urine that will practically revolutionize the question as we now know it.

At the Wiener Medizinisches Doctoren Collegium, on April 5th, Dr. Adolf Jolles demonstrated the presence of nucleo-histon in considerable amount in the urine of a patient suffering from pseudo-leukæmia. The process is a somewhat complicated one, and will need modification before it can be applied clinically; but the demonstration seems chemically faultless. The presence of this important constituent of white blood cells in pseudo-leukæmic urine cannot but serve to throw light on a disease that has been thus far so much of a mystery in its etiology and evolution, while it may add to our knowledge of the functional importance of that physiological element that is just now attracting so much attention—the leucocyte.

EXPENSIVE SANITATION.

To the Editor of the Medical Record.

Sir: Some time since the board of health condemned a large number of tenement houses and caused them to be torn down. Presumably this was done under color of law and with the expectation that the city would have to foot the bill for damage. I see by this morning's paper that the amount required to settle the damages of this sort is estimated at $10,000,000, which the city will have to issue bonds for.

Referring to sections 1,315 and 1,316 of the charter of Greater New York, you will find the law governing the case in the event of the governor signing the new charter. It confirms the power of the board of health to institute condemnation proceedings, and makes the city liable for loss and damage to the property owner.

As I understand it, the board of health has not yet caused damage to the amount above mentioned; but a continuance of its present policy will, it is estimated, obligate the city to that extent. Surely sanitation under present auspices is an expensive luxury.

A. B. C.

New York, April 24, 1897.

Infectious Nature of Acute Rheumatism.—The infectious nature of rheumatism is shown, according to Jaccoud, by the case of an infant born while the mother was suffering from rheumatism. Twelve hours after birth the child was attacked by a fever and swelling of the joints. These signs disappeared under salicylate of sodium at the end of eight days. In a second case the mother was delivered on the fifth day of her polyarticular rheumatism. Three days later the infant became affected.—*Journ. de Méd. et de Chir. Prat.*, February 10th.

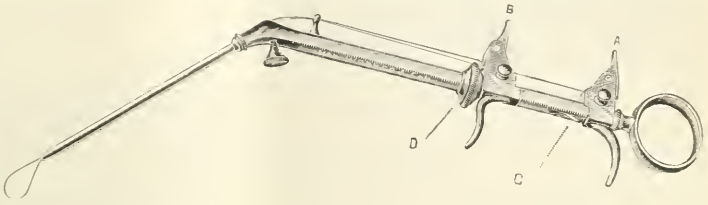
New Instruments.

THE MECHANICAL PRINCIPLES OF THE ÉCRASEUR, AND DESCRIPTION OF A MODIFIED BOSWORTH SNARE.

By THOMAS HUBBARD, M.D.,

TOLEDO, OHIO.

The late Prof. William Goodell called the attention of his classes to an important mechanical principle involved in the use of the écraseur. He stated that he always fastened the ends of the wire independent of each other, so that one could be released and made fast to the main shaft in case the tension became too great. With one end fixed as the other is drawn home,



the cutting action of the wire is more of a saw-like character and much less tension and strain of wire and instrument are required to accomplish the same result. Having been several times forced to do this in nasal operations, I devised an instrument based upon the general lines of the Bosworth snare, in which one or both wires can be drawn home. The simplicity of the wire fastener commends itself, but I have found such diversity of practice as to the size of wire used that it is impracticable to adapt the eccentric-lever principle to all operators, and hence the belaying-pin fasteners on each side of the riders.

When the wires are in place, but not fastened, and the operator is seeking to get the loop over the body to be removed, it is a very useful procedure to take the free ends in the fingers and manipulate by pushing out and drawing in until the tumor is properly engaged—that is, until one feels that the wire loop is near the point of origin of the growth. Then the wires can be refastened by pressure on the levers and the loop tightened by drawing both together. Should the tissue resist to the point of severe strain of the wire, the screw nut is run down and holds the upper rider in place, while the rear one can be drawn home by the fingers unaided. Should there still be some wire out, the rear rider being caught by a small spring ratchet on the shaft, the other can be drawn or screwed down until the loop is all in.

As a general principle, as small wire as possible should be used, since it cuts more easily and with less pain. In a snare of this kind a very fine wire (No. 3 "German music wire") will do for all nasal and throat operations in as far as tensile strength is concerned. I always heat the loop over the lamp to render sterile, and by drawing the temper of the ends the wire is more pliable to fasten.

The question of angle of cannula and shaft is not so important, since an instrument constructed on this principle is never subjected to very severe strain; still all friction at the angle should be reduced as much as possible. All operators will appreciate the statement that the less the force used the more delicately can the tactile sense determine the progress of the operation and nature of the tissue involved. The use of a heavy instrument, with heavy wire and powerful lever force, confuses tactile impressions and is not without danger. The application of this principle, in some

such manner as I have devised, would be an improvement on all kinds of écraseurs.

Description of snare: The riders are independent of each other, one end of the wire being fastened to each. *A* and *B* are eccentric-lever wire fasteners, one wire passing through a groove in *B* to *A*. *C* is a spring catch holding the rear rider. *D* is an ordinary screw nut. The eccentric lever grips the wire, and the harder the pressure on it the tighter the grip. The extra pin fasteners on each side of each rider are used in case heavy wire is preferred. The instrument is made by Max Wocher & Son, Cincinnati, Ohio.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 1, 1897:

	Cases.	Deaths.
Tuberculosis	156	124
Typhoid fever	3	2
Scarlet fever	223	11
Cerebro-spinal meningitis	8	11
Measles	210	5
Diphtheria	255	20
Laryngeal diphtheria (croup)	11	0
Small-pox	6	4
Chicken-pox	32	0

Distinctions between Human and Animal Blood.—On mixing the blood in question with a little bile, there are formed crystals not exceeding 0.003 metre in size. Those of man are right rectangular prisms; those of the horse, cubes; of the ox, rhombohedrons; of the sheep, rhombohedric tablets; of the dog, rectangular prisms; of the rabbit, tetrahedrons; of the squirrel, hexagonal tables; of the mouse, octahedrons; of common poultry, cubes modified at their angles; etc.—*Scientific American.*

The Tanret and Esbach Tests for Albumin.—According to Boureau (*Gaz. Méd. du Centre*, No. 1), the reagent known by the name of Tanret, acetic solution of iodide of potassium and bichloride of mercury, is not trustworthy, because it precipitates at the same time the peptones and alkaloids. Thus the urine of an individual taking sulphate of quinine would show an abundant precipitate, causing a belief in the presence of albumin. In the same way, one taking antipyrin would have a reaction take place in testing with the Esbach solution. The author, therefore, believes these two tests should cease to be employed. He gives as a sure test for serin and globulin, the two pathologic albumins: Mix equal parts of urine and sulphate of sodium and add a few drops of acetic acid. If heat produces a precipitate, serin or globulin is surely present.

Starchy Foods.—Dr. Drinkwater, in some recent lectures on the chemistry of the kitchen, asserts that by modern processes of milling most of the nitrogen is eliminated from the flour. This fact is generally conceded, but he also maintains that the excess of nitrogen contained in the flour milled by the old methods is not in a form assimilable in the body, and that a large portion is not used, so that there is more waste in whole-wheat bread than in fine white bread. Starch itself is not a food. There is no doubt that hundreds of children are starved to death by this kind of alimentation. It is a carbohydrate pure and simple. Cornmeal is not a food. There is no difference chemically between starch used in the laundry and that found in the potato. Cornmeal and sago contain eighty-three per cent. of starch and rice and pearl barley seventy-six per cent. It order to render starchy foods digestible they must be well boiled. Dr. Drinkwater considers it no less than a crime to feed young children on starchy foods, as at this age the salivary glands do not act. He shows how the drawback to starchy food may be overcome in cooking, as, for example, in toasting bread, starch is transformed into dextrin. He would apply the same method to tapioca, putting it in the oven and baking it dry for ten minutes before using. He recommends the use of malt flour, since it contains something which has the power to turn starch into sugar.—*Sun*, April 11th.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

FORMULAIRE DES MEDICAMENTS NOUVEAUX POUR 1897. By Dr. H. Bocquillon-Limousin. Introduction by Dr. Henri Huchard. 16mo, 308 pages. J. B. Baillière & Sons, Paris, France.

FIRST AID IN ILLNESS AND INJURY. By Dr. James E. Pilcher. Fourth Edition. 12mo, 322 pages. Illustrated. Charles Scribner's Sons, New York. Price, $2.00.

THE TREATMENT OF FIBROID TUMORS OF THE UTERUS. By Dr. Franklin H. Martin. 12mo, 174 pages. Illustrated. The W. T. Keener Company, Chicago, Ill. Price, $1.00.

HIGH ALTITUDES FOR CONSUMPTIVES. By Dr. A. Edgar Tussey. 8vo, 144 pages. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $1.50.

CLINICAL LESSONS ON NERVOUS DISEASES. By Dr. S. Weir Mitchell. 8vo, 305 pages. Lea Brothers & Co., New York.

WOOD'S MEDICAL HAND ATLASES. ESSENTIALS OF GYNECOLOGY. By Dr. Oscar Schaeffer. 12mo, 288 pages. Illustrated. William Wood and Company, New York.

DISEASES OF THE EYE AND OPHTHALMOSCOPY. By Dr. A. Eugen Fick. Translated by Dr. Albert B. Hale. 8vo, 455 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price $4.50.

PRACTICAL PATHOLOGY FOR STUDENTS AND PHYSICIANS. By Dr. A. S. Warthin. 8vo, 134 pages. George Wahr, Ann Arbor, Mich. Price, $1.50.

VITA MEDICA. By Dr. B. W. Richardson. 8vo, 406 pages. Longmans, Green & Co., New York. Price, $4.00.

RETINOSCOPY. By Dr. James Thorington. 12mo, 63 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $1.00.

FRACTURE OF THE RADIUS. By Dr. John B. Roberts. 12mo, 70 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $1.00.

INTERNATIONAL CLINICS. By various authors. Edited by Dr. J. Daland. 8vo, 361 pages. J. B. Lippincott Company, Philadelphia, Pa.

TWENTIETH CENTURY PRACTICE OF MEDICINE. Vol. IX. Diseases of the Digestive Organs. Edited by Dr. Thomas L. Stedman. 8vo, 820 pages. Illustrated. William Wood and Company, New York.

ATLAS UND GRUNDRISS DER LEHRE VOM GEBURTSAKT UND DER OPERATIVEN GEBURTSHILFE. By Dr. Oscar Schaeffer. 12mo. Illustrated. J. F. Lehmann, Munich, Germany. Price 5 marks.

SYRINGOMYELIA. By Dr. Guy Hinsdale. 8vo, 72 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $1.00.

HISTORY OF THE RESURRECTION OF MAN. By Dr. Wm. Marcet. 8vo, 116 pages. Illustrated. J. & A. Churchill, London. Price, $4.20.

DISEASES OF THE EAR, NOSE, AND THROAT. By Dr. S. S. Bishop. 12mo, 490 pages. Illustrated. F. A. Davis Company.

Medical Record

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Original Articles.

REMOVAL OF PART OF A SUBCORTICAL CEREBELLAR TUMOR. DEATH TWO AND ONE-HALF MONTHS LATER.[1]

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THE following case is recorded because we believe it demonstrates that a subcortical cerebellar tumor can be removed without sacrificing the patient.

Michael Delaney, twenty-six years old, single, by occupation a laborer. There is nothing in the patient's family history bearing directly or indirectly upon his illness. He denies syphilitic infection, and the only illness that he remembers is an attack of rheumatism and bronchitis about two years ago, after which the hair fell out. His present illness dates from October 20, 1896. He is very positive that the headache which was the prominent symptom developed suddenly on that day. The pain was principally in the back part of the head. It was of a boring, agonizing character and so severe that he had to forego work within a few days after its first occurrence. He did not, however, take to his bed. Soon after the beginning of the headache, dizziness occurred, and this symptom was always aggravated by exertion and by sudden movements. Within a few weeks after the beginning of the present illness he and others noticed that his gait was rather uncertain. According to his own picturesque phraseology, "he could not keep out of the gutter." He is not so positive about the date when vomiting first occurred. It may have been a month, or even longer, after the first occurrence of headache, but he is sure that when it did occur the headache was more continuous and severe, and that his sight began to fail. At this period the headache was no longer confined to the back of the head, but was sometimes of the frontal region; oftener it had no localization. From this time until he was admitted to the hospital, in the wards of Dr. C. C. Ransom, the vomiting occurred several times daily, and he became progressively emaciated and weak. Examination at this time showed normal condition of the lungs and heart, though the sounds of the latter were very weak. The pupils were equal, responded to light and in accommodation; the urine was normal. Muscular strength was fairly well preserved, there was no alteration of the special senses; no cranial-nerve palsy. The patient was put upon iodide of potassium, administered per rectum, and the dose rapidly increased. The patient vomited several times a day, retained very little food, and complained bitterly of severe pain in the front and the back of the head. He remained in bed and manifested no inclination to talk.

[1] Read before the surgical section of the New York Academy of Medicine, on April 12, 1897.

On January 16, 1897, the patient was examined, and the following notes were made:

"The patient is found lying in bed, the face and head half buried in the pillow, and the eyes closed. In response to the question in regard to his complaint, he says that his head is sore, that he has a great deal of dizziness, which is nearly as severe when he is lying as on sitting or standing, and that he cannot retain food. The patient gets up when he is requested, and walks across the ward. It is noticed that his gait, though by no means a staggering one, or one suggestive of cerebellar disease, is rather uncertain, and he has a tendency to go toward the left side, giving the impression of having forcibly to restrain himself from falling toward the left. He is able to stand with the feet together as with them apart, even with the eyes closed, but it requires a good deal of voluntary effort, shown by the rigid condition of the flexor muscles of the feet and legs. There is slight ataxia, or rather uncertainty of movement of the upper extremities. There is no paralysis or spasm of any of the cranial nerves. The pupils are moderately dilated; they respond slowly to light, more promptly in accommodation. The special senses are not altered. There is no tremor of the extremities, nor of the face and tongue. The right knee jerk is lively, and is not increased on reinforcement; the left knee jerk is diminished, and is slightly increased on reinforcement. There is no impairment of articulation and he swallows without difficulty. The palatal and pharyngeal reflexes are present, but they respond sluggishly. The patient does not hear so acutely in the right ear as in the left, but there is by no means deafness of the right ear. The pulse is weak, and beats sixty-eight times per minute.

"There is no difference in the strength of the two sides of the body. Repeated tests for the sense of touch and sense of position fails to reveal the slightest anomaly of disturbance of sensation.

"The only psychical alteration that can be made out is a hesitancy on the part of the patient to indulge in voluntary conversation. Memory and associative faculties are practically undisturbed.

"Repeated inquiry fails to elicit any history of spasm or tetanic contraction in any of the muscles of the body or of the extremities. There are no stiffness of the neck and no increased tension in the musculature supplied by the trigeminus."

The eyes were examined ophthalmoscopically, and a moderate degree of choked disc was plainly evident in both eyes, but more marked on the left side. The patient's condition remained practically unchanged for the next month, except that in addition to the headache, dizziness, and vomiting, the patient now complained of sleeplessness.

An examination made on February 10th shows no particular change from the status obtained before, except that the knee jerks are now very much diminished on both sides, but they are still elicitable, and the disturbance of gait is more manifest. Still, it is remarked that the gait is by no means a typical cerebellar gait, and it is specifically noted that it is the gait of asthenia. Patient apparently has to guard himself from walking toward the left. This

asthenia is likewise very apparent in standing; whereas three weeks previously he was able to stand without particular difficulty, now standing alone is almost impossible. With the exception of slight difficulty of hearing in the right ear, there is no involvement of the special senses. There is no cranial-nerve palsy or spasms, and it is particularly noted that the trigeminal nerves on both sides are intact. There is slight uncertainty of movement in the upper extremities, but it is not sufficient to be considered ataxia, and when the patient is lying there is no hesitation or uncertainty in putting the finger or toe upon any part of the body. The patient still complains bitterly of the headache and of the vertigo, and the former he now localizes in the middle of the occipital region. It is noted at this time that the patient can scarcely see across the ward, but that the pupils still respond somewhat to light.

On February 13th, it is noted that the patient's condition is practically unchanged, except that his knee jerks are absent, and that he is getting weaker, more

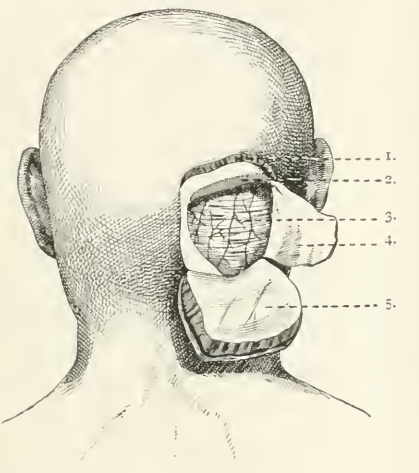

FIG. 1.—Showing line of incision and exposure of cerebellum, head in extreme flexion. 1, Cut edge of bone; 2, under surface of tentorium; 3, exposed inferior surface of cerebellum; 4, reflected flap of dura; 5, bone flap, with soft parts adherent.

restless, and more sleepless. His intellectual faculties are apparently unimpaired, and he avers that he does not care to live and suffer as he is now suffering. Since the beginning of the illness he has lost about fifty pounds in weight. The dangers of operation for his relief and the very slight prospects for recovery which can be held out to him if he submits to the operation are explained to him. He is not only willing to take the slight chance, but he is very anxious that the operation be undertaken at once, as it has not been possible to give him any relief by medication. Ophthalmoscopic examination at this time shows well-marked double neuroretinitis. All alimentation is stopped except bovinine, and the patient is prepared for operation.

On account of the absence of localizing symptoms, such as tumefaction of the conjunctiva, impairment of function of the fifth nerve or of any of the other cranial nerves below this, of tetanic contraction or localized spasm, of nuchal rigidity, or, in short, the absence of any symptoms other than the classical ones of cerebellar tumor, Dr. Collins was unwilling to say where the tumor was probably situated, but was willing to hazard the guess that it was subcortical in the substance of the right cerebellar hemisphere.

Operation.—After thorough disinfection of the patient's head, the position of the sinuses was indicated by needle scratches upon the scalp. Ether was given to complete surgical anæsthesia, and the patient placed face downward upon the table. An omega-shaped incision was then made with a convexity upward, beginning in the median line opposite the rudimentary spine of the first cervical vertebra, extending upward and to the left, then arching over toward the right mastoid process, then downward to a point about two inches to the right of the point of the original incision. The soft tissues were divided to the bone, and the bleeding point was secured. The bone was then carefully chiselled through in the line of the cutaneous incision. This part of the operation was unusually prolonged, owing to the care taken to avoid wounding the sinuses, three of which (the superior longitudinal and the two lateral) were crossed by the incision. The bone flap, with the soft parts adherent, was then raised, and the dura exposed over the lower portion of the occipital lobe, the right and a smaller portion of the left cerebellar hemispheres. At this stage of the operation, the assistant who had administered the anæsthetic reported that the patient was pulseless. The bone flap was quickly replaced, the head wrapped about with a sterilized towel, and the patient placed upon his back. Four ounces of hot whiskey and water were given by enema and about twenty-four ounces of hot sterilized salt solution introduced into the right median cephalic vein. As the reaction was prompt and satisfactory, the patient was again placed in the original position, and a triangular incision made in the dura covering the right half of the cerebellum. This gave an excellent exposure of the part, and allowed complete inspection and palpation of all of the exposed portion of the right hemisphere. Nothing abnormal was seen or felt. An incision was then made into the cerebellar tissue, half an inch in depth, parallel to the upper border of its inferior surface. The structures at the bottom of this incision were carefully palpated. This procedure, although carried on with the greatest care, resulted in a very considerable laceration of the tissues and free hemorrhage. The entirely negative result of this examination led to the making of another and deeper incision near the median lobe and at a right angle to the first. This region was likewise palpated with the forefinger, at first without result; but later, when the tip of the finger reached a point about one and one-half inches from the surface, a very distinct nodule was felt, about three-fourths of an inch in diameter, somewhat lobulated in outline, and decidedly harder than the surrounding tissue. As it was recognized now that the tumor occupied a position but little removed from the roof of the fourth ventricle, considerable care had to be exercised in its removal. This, however, was finally accomplished in three stages, by means of a Volkmann's spoon and the forefinger. As the patient's condition had become extremely critical, the lacerated and protruding mass of cerebellar tissue was quickly removed with the scissors and the parts were thoroughly irrigated with a sterilized normal salt solution. A gauze drain was then placed over the exposed cerebellum and carried outward through a fenestra cut in the bone flap. The bone was next replaced as accurately as possible, and the skin sutured with silkworm gut. A large gauze and cotton dressing was applied and the patient placed in bed. His pulse at this time was so rapid and weak that another twenty-four ounces of hot salt solution were introduced into the left median cephalic vein, a pint of hot coffee was injected into the rectum, and several hypodermics of whiskey were administered, one of which included a twentieth of a grain of strychnine nitrate. Reaction followed, slowly at

first, but improved during the next six hours. Food was administered by the rectum only for thirty six hours, then gradually was taken by the mouth.

His progress was uninterrupted by a single untoward symptom. The gauze drain was removed on the third day, and the wound was united and all stitches were removed on the tenth day. He has not vomited since he left the operating-table, nor has he complained of headache. His eyesight is now (two months after the operation) nearly normal and he has gained about thirty pounds in flesh.

There are a few points in the clinical history which this patient presented that are worthy of remark in relation to the attributable symptomatology of cerebellar tumor. The important symptoms which the patient presented were headache, vomiting, and dizziness. These were well marked and continuous. With the exception of the optic neuritis, which was a late manifestation, and the slight disturbance of gait, which, until the last two weeks of his illness, is better characterized as an asthenic rather than a staggering gait, there were practically no physical accompaniments. The fact that impressed itself more strongly than anything else upon those who were in attendance upon him was the total absence of any subjective or objective symptom that could be taken to point to compression or irritation of any neighboring structures such as the pons, the quadrigeminal bodies, the oblongata, or the cranial nerves at the base. It was the absence of symptoms that would result from such encroachment that led to the diagnosis of a subcortical neoplasm. There was very little in the patient's history or in the results of examinations to incline one to make a more localizing diagnosis than this.

The fact that disturbance of equilibration in both standing and moving was slight, taken in connection with the fact that such has been noted with tumor of the posterior segment of the worm, led to the suspicion that the lesion was closer to this than far removed in the hemisphere. The fact, also, that the patient in walking had an inclination to stagger toward the left, or rather to favor that side, was given due weight in suggesting that the right half of the cerebellum was the seat of the lesion.

It is worthy of note that optic neuritis was not an early nor a very profound symptom, as it is frequently in tumor of the cerebellum, and, although it had reached an advanced degree before the patient was operated upon, about four months had then elapsed since the first symptoms of the disease.

Although it has been shown a number of times that

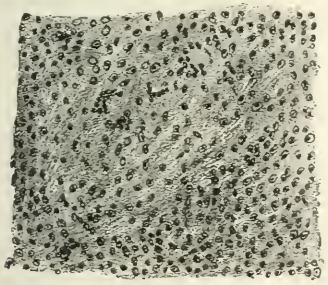

Fig. 2.

the seat of the pain of greatest intensity in the head has but little significance in suggesting the situation of an intracranial tumor, this case is in evidence that sometimes cerebellar tumor produces pain of the back part of the head predominantly, although late in the disease our patient did not admit he had a headache so much as a soreness of the head, and this was so universal that he could not localize it. Moreover the headache was not associated with stiffness of the neck, as it is in many cases. Other symptoms that have been noted with cerebellar tumor, with sufficient frequency to make them an integral part of the disease, such as tetanic contraction of the neck and back

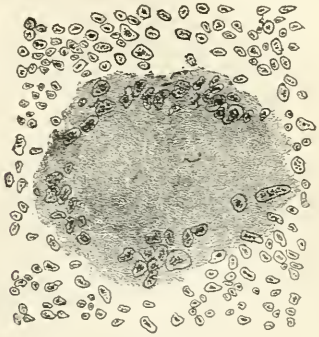

Fig 3.

muscles, general or unilateral convulsions with preservation of consciousness, ocular palsies, involvement of some of the lower cranial nerves, etc., were in this instance absent.

Microscopic report: Portions of the tissue which was removed from the cerebellum were hardened in alcohol, and embedded in celloidin, according to the methods usually employed. Sections were cut and stained with hæmatoxylin and eosin. Upon microscopic examination the sections showed numerous areas of necrosis throughout and largely replacing the normal cerebellar tissue. The areas consisted of disintegrated cells which had lost their nuclei, or they had failed to stain in the ordinary way and the cell bodies had been changed into homogeneous masses of detritus (Fig. 2). In various parts of the sections were large giant cells containing numerous nuclei and surrounded by epitheloid cells, and these in turn were enclosed by numerous lymphoid cells. Other sections were stained for tubercle bacilli, in the ordinary way, and on examination a few bacilli could be seen in the tissues surrounding the degenerated area, and also in and around the large giant cells (Fig. 3)[1].

Two interesting facts were observed during his convalescence, one being that he complained of a continuous salty taste in the mouth for three or four weeks; the other, that the secretion of the kidneys was markedly increased. During the first month following the operation on only one occasion did the patient pass less than one hundred ounces of urine in twenty-four hours, and the amount one day reached one hundred and ninety-six ounces. An effusion was discovered in the right pleural cavity two or three weeks after the operation and after the complete healing of the wound. Its presence was indicated only by a slight rise of temperature for three or four days. There was no pain, cough, or embarrassment of respiration. A specimen of the clear fluid was withdrawn and examined for micro-organisms, with negative result.

It is not our intention to discuss in any detailed manner the subject of the operability of cerebellar tumors. It has been the consensus of opinion of surgeons and neurologists, based upon the experience up to date, that the great majority of cerebellar tumors are not amenable to operative measures. This unanimity of opinion has not been reached without abundant trial of the efficacy of surgery. And, although a few instances of successful removal of neo-

[1] We are indebted to Dr. R. E. Peck, of New Haven, for these drawings, as well as for aid in section preparation.

plasms of the cerebellum have been recorded, they are very few indeed compared with the great number that have been subjected to operation. Moreover, they have in some of the instances been cases of cysts situated near the occipital surface of the cerebellum, in which evacuation of the contents has been followed by temporary relief, as in the case reported by Maunsell. This case cannot be reckoned, however, as one of removal, nor can the one reported by Herminidas, as the only surgical procedure after exposing the cerebellum was puncture of a cyst, in the first instance a hydatid, in the second a simple cyst. The other cases that have been reported as cases of successful removal of a tumor by no means positively indicate that the operation is a justifiable one, even though they have been recorded as successful. In most of these cases, the operation has been successful only in so far as it shows the possibility of exposing the cerebellum and extracting a portion of a tumor. But unfortunately, in the cases in which it has been done successfully, the operation has not contributed to the patient's life nor to his comfort. This is particularly true of a case recently reported in *The Lancet* by Murri, of Bologna, who describes in great detail a case operated upon by Bendani. The tumor was a fibro-sarcoma situated in the cortex. The patient was alive three weeks after the operation, and was reported as "rather better than worse." The same is true of the three cases of tuberculous growth reported by MacEwen, in which a palliative operation was performed to remove pressure. Although this was followed by a very marked amelioration of the painful symptoms for a period of several weeks, all three patients had hernia cerebelli and died within a few months. The only case which we have been able to find in which a subcortical tumor of the cerebellum has been removed, with any prospect of recovery, is the one reported by Stewart and Annandale. In this instance, the patient was reported two months after the operation as being free from the return of active symptoms, although the tumor was of the nature of a sarcoma.

Addendum.—May 1, 1897: Such was the report presented to the surgical section of the Academy of Medicine on the 12th of April, when the patient was shown, apparently quite well. Shortly after that date the patient sickened and publication of the report was delayed. Although it was recognized, because of the tuberculous nature of the cerebellar growth and the occurrence of a silent pleurisy, that the patient's life was in imminent jeopardy, no immediate disastrous developments were anticipated. We were led particularly to such a conclusion from consideration of the fact that the patient had gained no less than thirty pounds in weight in the nine weeks following the operation. Three days after the patient was exhibited at the Academy of Medicine it was remarked that his appetite was more ravenous than usual. The next day he complained of feeling ill and refused food, saying that if he partook he was sure that he would vomit.

The tongue was flabby, covered with a foul, whitish-yellow coating; the breath was very offensive; the bowels were constipated. He complained of pain in the hypogastrium, felt indisposed, and went to bed. Repeated small doses of calomel, succeeded by a saline purge, were followed by improvement in his general condition, and on the next day he felt quite well again.

A day or two later he had a second attack, similar to the first, but now he vomited three times within twenty-four hours. The symptoms were typically those of a "bilious" attack associated with slight elevation of temperature, 99°–101° F. The symptoms did not subside after calomel and salines had been given. A week after the first recurrence of the symptoms the patient's condition was such that the advisability of again laying bare the cerebellum was considered. At this time the gastro-intestinal symptoms continued. The patient complained of pain in the abdomen; the temperature, of a vacillating character, fluctuated between normal and 101° F., sometimes higher in the morning than in the evening and *vice versa;* while formerly (since the operation) the patient had been sociable and garrulous, he now became very reticent, non-attentive, and resentful of attempts to engage him in conversation, although when he talked and answered questions he was quite rational. The most striking feature of his mental state at this time were non-attentiveness and insistence on lying on his front. If he were placed on the back he resented and squirmed until he again got his face in the pillow. Aside from these there were absolutely no symptoms referable to the intracranial contents. The pupils were equal and responded promptly; the knee-jerks were present; there was no impairment of sensory or motor conductivity; vision alone was apparently less acute than normal. The eyes were not at this time examined ophthalmoscopically. The patient had no cough, expectoration, or sweats. He retained fluid food in generous quantities. On the following day there was general amelioration of all these indefinite symptoms and marked general improvement.

The improvement was only transitory, for a day or two later it was again thought advisable to consider the question of entering the cranial cavity. It was decided that first lumbar puncture should be tried, as the symptoms, if they suggested anything intracranial, pointed to increased intraventricular pressure. A meeting was arranged for the following day, April 27th. There was nothing urgent or alarming in the patient's condition on the 26th. Indeed there had been no haste to make a lumbar puncture, so indifferent had been the symptoms, pain in the abdomen, anorexia, coated flabby tongue, mental sluggishness. It came, therefore, as a surprise on entering the ward, to hear that the patient was dying; that about two hours previously he had without the slightest warning developed Cheyne-Stokes breathing. He was then apparently in the death agony. Restoratives were at once applied externally, intravenously, and rectally, and as soon as they began to revive the patient the needle was introduced between the third and fourth lumbar vertebræ and two and one-half ounces of clear fluid flowed out. As this was not followed by any beneficial effect, and as perversion of the rhythm of respiration was soon manifested again, it was decided to reopen the skull. The patient was given another injection of hot coffee through the rectum and alcoholic stimulant hypodermatically, and prepared rapidly for the operation. No anæsthetic was used.

An incision was made in the line of union of the soft parts and a few blows of the mallet on the chisel served to lay open the union of the bony parts. On removal of the segment of bone that had previously been the flap, the cerebellum presented an entirely normal appearance. There was not the slightest bulging or tumefaction or evidence of pressure in any form. The finger was carried into the substance of the cerebellum from which the tumor had been previously removed, and after it had passed for a short distance into the hemispherical tissue it impinged upon a large hard mass, fixed and of irregular outline. A gentle effort was made to get the finger beneath it: instantly the patient stopped breathing and was dead in a shorter time than it requires to state it. The tumor was not removed immediately post mortem, although the possibility of doing so was demonstrated.

An autopsical examination was made twenty-four hours post mortem. On removal of the calvarium the brain bulged: the veins of the diploe and the sinuses were congested: the dura was slightly congested and non-adherent; the pia was slightly cloudy over the

convexities and at the base, but its appearance did not suggest an inflammatory state. The interpial fluid was considerably increased. The cerebellum showed that the right hemisphere was about one-fourth smaller than the left, corresponding to the amount that had been cut away. In the substance of the right hemisphere and in close proximity to the ventral surface, approximating the superior vermis internally, lay the hard irregular mass that had been felt while the patient was on the operating-table. It was easily removed, and measured, after it was taken out, 4.5 cm. in length (which extended cross-wise in the hemisphere), 3.5 cm. in width, and 2.5 cm. in thickness. Of irregular shape, it was firm, non-yielding, almost fibroid to the touch. Externally of reddish-white color, on being laid open no doubt of its true nature could exist. Save for a reddish streak that ran across the middle of the mass, and for a similar streak toward one side, it was a pale yellowish, caseous-looking mass, of consistency diminishing as the finger approached the centre. In every respect it was a typical caseous tuberculoma.

On opening the cerebral hemisphere the ventricles and all their orifices and aqueduct communications were distended and enlarged, and correspondingly filled with fluid—a moderate degree of internal hydrocephalus.

On opening the thoracic cavity it was seen that the right lung was pressed upward so that it occupied less than one-half of its customary space, and that from the fifth to the ninth intercostal spaces was shut off by a sac whose walls, upward of half an inch in thickness, appeared as if constituted of compressed tallow or wax. These walls enclosed a cavity that contained more than a pint of clear limpid fluid. The right lung itself had no resemblance in size or shape or appearance to the normal lung. It appeared as a mass of finely hashed, closely pressed, and hardened dark red tissue; in short, it was one solid mass of small tubercles, from the apex to the base. No cavities existed in the lung; the finer bronchial tubes were effaced, the larger tubes compressed. The retro-pulmonary and post-mediastinal glands were enlarged. The left lung showed tuberculous infiltration at the apex; otherwise it seemed normal. The kidneys macroscopically showed evidence of chronic parenchymatous nephritis. The other visceral organs and their covering seemed normal to the naked eye. Microscopical examination has not yet been made of any of the tissues, save the tumor. The description of the part removed at the operation applies to this.

The interpretation which we put on the post-operative developments of the case are as follows: Only a part of the tumor, possibly an outgrowth or a detached isolated tuberculoma, was removed on operation. The operation sufficed to efface all symptoms of increased intracranial pressure, and with it the conditions that were causative of the patient's emaciation. The most patent consequences of this, aside from the disappearance of the intracranial symptoms, was the increase of the patient's weight, stupendous as it was. The only symptom that persisted was what may be termed, for sake of convenience, a fourth-ventricle symptom—polyuria, polydipsia. Soon after the operation a tuberculous pleurisy, almost symptomless, developed: it denoted general tuberculous infection. The serous exudate which accompanied it became circumscribed by a fibrinous exudate, which became a culture ground for the bacilli. Coincidently with or subsequently to the pleural infection, there was general pulmonary infection, which spent itself to the complete usurpation of the right lung and then extended to the left lung. Simultaneous with this general tuberculous invasion, or in part consequent upon it, a solitary tubercle in the right cerebellar hemisphere, part of which or a companion of which had been successfully removed, took on increase in size and in decay. The former, manifesting itself almost exclusively on the Sylvian aqueduct and the fourth ventricle, caused the internal hydrocephalus and its symptomatic entailments; the latter caused Cheyne-Stokes respiration and death.

THE STATE OF THE REFLEXES IN SUPRALUMBAR LESION OF THE CORD.

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Mr. President and Gentlemen: The unconditional acceptation of the results of experimental physiology in their application to human pathology has often been the source of clinical fallacies and errors. This is true for the pathology of the vegetative organs, and to a certain extent it is true for the pathology of the nervous system, which in spite of its similar anatomy has a materially different physiology in the human and animal being. When the spinal cord of an animal is severed, the immediate loss of the reflex capacity of the centres situated below the seat of severance is followed sooner or later by a marked increase of the reflexes. This is a well-established dogma of experimental physiology, and is the basis of the clinical rule that an interference with the function of conduction of the spinal cord leads to an exaggeration of the reflex activities of the centres situated below the lesion.

Accordingly, most text-books teach this, and all observers seem to agree to the correctness of it, notwithstanding occasional reports of cases that contradict such teachings. It is now nearly forty years since cases were first reported in which a supralumbar lesion of the spinal cord produced flaccid and not spastic paraplegia. Several cases of this type passed unremarked into the annals of medical literature. Even a case of Kahler and Pick, published in 1880, in which the attention of the faculty is called to the discrepancy existing between the teachings of physiology and the clinical findings of the case, had a similar undeserved fate. How universal this belief of an exaggeration of the reflexes in lesion of the motor conducting tracts of the cord is, is shown by the fact that not later than three months ago it was remarked in this society that the only way to account for the statement of one of the members—that the knee jerks were not always exaggerated in compression paraplegia, that on the contrary they were sometimes absent—was to assume that the observations were defective.

To Bastian is due the credit for having pointed out the necessity of reviewing the physiology and pathology of the reflexes, especially of the reflex manifest at the knee. Bastian's first publication was in 1890, and since that time numerous contributions to the subject have appeared. The most important of these are the articles of Bruns, Thorburn, Bowlby, Jackson, Babinski, Herter, Stieglitz, Gerhard, Habel, Bischof, Hoche, and Kocher. In addition to these, the state of the reflexes in high lesions of the spinal cord is to-day attracting a modicum of neurological discussion.

The paramount diagnostic and prognostic importance of the reflex activity of the nervous system for neuropathology induces me to report to you to-night several cases bearing on this question, and to ask your opinion concerning the advisability of an attempt to reconcile the clinical findings with consecrated physiological teachings. I shall report the cases as briefly as possible.

Case I.—This case was reported by Dr. Dana and

[1] Read before the New York Neurological Society, April 1, 1894.

myself in "Neurological Reports" from the Post-Graduate Clinic, being the July number of the *Post-Graduate Journal*. W. S——, sixty years old, a cigar maker, entered the Montefiore Home, on January 2, 1894, fourteen months after the beginning of his disease. His previous history is uninteresting. The attributable cause of his illness was exposure. During the first six months he complained of sharp darting pains in the lower extremities, and he was treated for rheumatism. Paralytic symptoms appeared rather abruptly, the initial paraparesis soon developing into a total motor and sensory paraplegia. This was accompanied by a disturbance of the sphincters. Extensive bedsores developed during the last four months of life. Pain was the predominant subjective symptom.

Examination of the patient was incomplete, on account of his profoundly asthenic condition. It was, however, determined positively that there was total motor and sensory paraplegia, with loss of the deep and superficial reflexes. The spinal column showed no abnormality, nor was there any tenderness over the spinous processes. There was no localized atrophy, but marked emaciation.

On the third day after admission the patient developed high fever and soon became unconscious. This unconsciousness terminated in death after a few days. The post-mortem examination revealed caries of the bodies of the eighth and ninth dorsal vertebræ. The dura at this level was greatly thickened, especially on the anterior surface. For about three inches it was firmly adherent to the vertebra. The cord was compressed and softened at this level, and on transection there was profound softening. On microscopical examination at the level of the carious vertebræ the cord showed very extensive changes, mainly of the nature of myelomalacia, the left half of the cord being more profoundly affected. Above the lesion there was secondary degeneration of the columns of Goll, and of an area in the lateral columns lying in front of the pyramidal tracts and separated from the periphery by a zone of normal axones. This area occupied therefore that allotted to the ascending lateral bundle. Below the lesion there was secondary degeneration of the pyramidal tracts. Examination of the area of meningitis made the tuberculous nature of the lesion highly probable.

Case II.—F. S——, twenty-one years old, Russian, by occupation a machine operator, entered the Montefiore Home on account of transverse myelitis. The patient's history was that she was well until nine months before coming to the hospital. The disease developed apparently without cause. The first symptom was severe shooting pain in the legs, but on account of its transitoriness she did not seek medical aid for its relief. It was not until disturbance of the function of the bladder aroused her to the serious nature of her malady that she consulted a physician. In a short time there developed heaviness of the legs and a feeling of numbness. Within six months from the appearance of the first symptom she was completely paraplegic and confined to the bed. Two weeks before death bedsores and absolute paralysis of the sphincters developed. On entrance she complained of severe pain in the right side of the chest.

Examination shows a well-built and fairly well-nourished but anæmic individual. The anæmia is more evident on the skin than on the mucous membrane. Temperature, 102° F.; pulse, 104; respiration, 24. The skin is smooth, soft, and pale, and shows no scars. Over the sacrum there is a very extensive bedsore. There is no atrophy. The lower extremities are very tender to superficial as well as to deep-seated pressure, but the tenderness is regularly distributed and not over the course of individual nerves. The spinal column is of normal configuration, though somewhat sensitive to percussion in the dorsal region. The lower extremities are flexed at the hip-joints and knee-joints. Attempts to extend the legs are met with elastic resistance, which, however, is not very difficult to overcome. The right thorax is bulging, the intercostal spaces are distended, and the respiratory excursions on this side are materially diminished. Percussion of the right side reveals a slightly tympanitic note over the first two intercostal spaces, and flatness below this. On the posterior and axillary surfaces the flat note is elicited at a higher level. The respiratory murmur is exaggerated above and absent below. There is compensatory emphysema of the left side. Exploratory tapping of the right thorax brings forth a ichoro-sanguinolent fluid. The cranial nerves and the upper extremities show no departure from normal. There is total motor and sensory paralysis of the lower extremities. The line of anæsthetic delimitation extends around the body about two inches below the mammillæ. All reflex activity to the lower extremities is lost, yet even when the soles of the feet are slightly tickled the legs are quickly drawn up. The quadriceps muscles were examined electrically on two occasions, and the only abnormality was a quantitative diminution of excitability. There were no polar changes.

On account of the offensiveness of the discharge from the bedsores, the patient was kept continuously in a bath. She died two weeks after admission, and after death there was found an ichoro-sanguinolent exudate in the right pleural cavity. At the level of the ninth dorsal vertebra there was a fistula, bordered by roughened bony walls, which led into the spinal canal. On the cord there was found a tumor the size of a small cherry, loosely attached to the meninges. This tumor was very vascular and soft, and had compressed and softened the tenth dorsal segments. On microscopical examination of the cord at the level of the lesion, it was seen that some healthy fibres kept up the continuity of the cord. The tumor was a sarcoma.

Case III.—J. W——, forty years old, Russian, a photographer, entered the Montefiore Home on September 17, 1894, on account of pulmonary tuberculosis. The patient had a good family record, was the father of healthy children, and stated that his wife had never miscarried. He had been moderate and regular in his habits; he denied infections and intoxications. His health was good until two years before, when he began to lose strength, which he attributed to constant work in dark and ill-ventilated rooms, and to the inhalation of brominized vapors which he used in his work. In spite of occasional pain in his side and progressive emaciation, he kept at his work until exhaustive night sweats and repeated pulmonary hemorrhages compelled him to forego it. During this time and up to two weeks before admission to the hospital, the disease showed the familiar symptoms of chronic pulmonary tuberculosis. At this time, however, he began to complain of pain around the thorax, and of darting pains in the extremities, which indicated the invasion of the spinal cord by the tuberculous process. On admission he complained of general weakness, cough, occasional hæmoptysis, girdle sensation, sharp shooting pains in the lower extremities, giving way of the knees, obstinate anorexia, and constipation.

On examination the temperature is 101° F.; pulse, 96; respiration, 24. Physical examination of the thorax reveals extensive tuberculous lesions of both lungs. The spinal column is of normal configuration, but it is tender from the lower dorsal region downward, and he resents jarring movements communicated through the head and through the feet. His skin is pale and dry, and shows no scars. The patient is

greatly emaciated, but there is no localized muscular atrophy. The feet show marked excavation of the plantar surfaces (Friedreich's foot). There is slight but distinct Romberg symptom; the gait is uncertain, and of a paretico-ataxic type. One is for a time in doubt whether the disturbance of locomotion is due simply to the extreme emaciation of the patient or to deficient co-ordination. The presence of the Friedreich's foot speaks rather in favor of the second hypothesis. The cephalic and upper extremities and the trunk as far as the level of the tenth rib show no departures from normal. The muscles of the abdominal walls are weak, and this probably accounts for the bulging of the lower abdomen. The position of the lower extremities, aside from the deformity of the feet, is a natural one. Testing for the superficial and deep sensibility of the lower extremity is painful, but this hyperæsthesia does not follow the course of the nerves. On the contrary, pressure on Valleix points is less painful. The extreme laxity of the reflectory tonus of the muscles of the lower extremities is somewhat surprising. When the legs are lifted they rest their full weight on the examiner's hand, indicating the absence of any reflectory tonus to take up a part of the weight. Motor weakness of the lower extremities and distinct ataxia are present. Scattered all through the lower extremities and trunk up to about two fingers below the mammillæ, but without evident topographical regularity, there are areas of anæsthesia, analgesia, and thermal anæsthesia; kinæsthetic and postural sensibility are disturbed in the toe-joints and the ankle-joints, less so in the hip-joints and knee-joints. All the superficial reflexes are present, but rather diminished. The plantar reflex is very much exaggerated. When the soles of the feet are tickled there is often only a vigorous dorso-flexion of the foot, and sometimes a drawing up of the whole leg. On tapping the patella tendon, a fairly good contraction of the tendon is felt by the tapping finger, and a contraction of the quadriceps is visible, but no locomotion ensues. When the left tendon is tapped there is often a contraction of the adductor muscles of the opposite side. There is double-sided ankle clonus of slight intensity, and the clonus soon exhausts itself. The bowels are constipated, but the patient experiences no difficulty in voiding urine. The urine is turbid, of alkaline reaction, without abnormal constituents. The alkalinity of the urine indicates probably a lessened sensibility of the mucous membrane of the bladder, which, together with the impaired expulsive power of the abdominal walls, allows residual urine and consequent alkaline fermentation.

Electrical examinations of the nerves and muscles of the lower extremities were made frequently, and at no time was there any evidence of degenerative reaction. Electrical excitabilty was diminished, particularly to the faradic current.

Examination on the 22d of September, five days after admission: The patient complains, in addition to what has been stated, of difficulty in urinating and of severe vesical tenesmus. Motor paralysis is more extensive and the sensory deviations are more profound. Disturbances of kinæsthetic and postural sensibility are now very marked. Superficial reflexes weak; no change in the plantar reflexes. The knee jerks are very much diminished. On tapping the quadriceps tendon, several bundles of the quadriceps muscle are seen to contract faintly. There is no cross-jerk in the adductors; there is no ankle clonus. Electrical reactions as before.

Examination on the 26th of September: Motor paralysis total. Sensibility somewhat improved. Deep sensibility gone. Knee jerks absent. Superficial reflexes very weak and easily exhausted. Plantar reflex as before. A bedsore is forming over the sacrum.

Examination, 28th of September: Bedsore getting larger. Paralysis of both sphincters. Motor paralysis of lower extremities complete. Superficial sensibility disturbed, but present. Deep sensibility gone; all reflex action has perished. Tickling of the soles is followed by drawing up of the whole lower extremity.

September 29th, *exitus letalis*.

On post-mortem examination, an advanced tuberculous condition is found in both lungs. On opening the spinal canal an area of purulent pachymeningitis, extending from the seventh to the tenth dorsal segments, is brought to view. On the cord there are numerous arachnoid plates. The cord is very much softened in the seventh and eighth dorsal segments. Microscopical examination of sections from these levels shows the presence of a number of healthy fibres. Aside from slight descending degeneration, the lumbar cord is normal.

Case IV.—L. S——, seventeen years old, a cutter, was admitted on July 1, 1896. His history was that he had been in perfect health until October 7, 1895, when he fell down a hatchway, striking the floor with the left side of the body. After the injury he was unable to move any of the extremities, but able to sit. He was taken to St. Vincent's Hospital, where he remained three days. While there he had retention of urine and painful priapism. The patient was transferred to Mt. Sinai Hospital, and after he had been there a time he regained a slight amount of power in the upper extremities, but a variety of other symptoms manifested themselves. He vomited incessantly for three days, and this ceased only when he was placed on a water bed. The bowels were very costive, and urination was difficult and painful. The bladder was frequently distended, and this condition was very painful. The priapism became permanent. Two months after the injury the patient began to swell up—as he termed it—and to complain of frequent, painful, involuntary contractions of the lower extremities, and from time to time of shooting pains in the legs. On admission to the Montefiore Home he had few complaints, except that he requested to be handled with care, as the slightest touch caused him a great deal of pain. A remarkable symptom was that when the bowels or bladder were expelling their contents, he had distressing vasomotor symptoms, such as sensations of heat throughout the body and sweating.

An examination of the patient shows him to be a well-built but slightly anæmic boy. No opinion can be formed as to the state of his nutrition, on account of the peculiar trophic disturbances in the skin and subcutaneous tissues. The patient looks somewhat gigantic. The extremities present a puffy, swollen appearance. The skin conveys an impression of resistance to the finger, very similar to that of scleroderma; only a slight indentation is left after severe pressure. There are numerous hypertrophic keloid scars. The hands and feet are found wrapped up in cotton, because the patient complains of the pressure of the bed clothes. There is a large bedsore over the sacrum. The sixth and seventh cervical spinous processes are prominent and tender, and there is slight scoliosis of the upper dorsal column. The temperature is 103° F.; pulse, 120; respiration, 24, and abdominal in type. Examination of the urine shows considerable albumin. Physical examination of the thorax reveals a moderate degree of pulmonary emphysema. Examination of the abdomen is unsatisfactory, on account of the tympanites. The head can be moved freely in every direction. The pupils are unequal, the right wider than the left, but the reaction to light is prompt on the right side. The left pupil is sluggish to light, but prompt in consensual and accommodative reaction. Pupillary pain reaction is

absent. Movements of the eyeballs are free, and the cranial nerves are normal. Respiratory excursions are superficial, and the patient has considerable dyspnœa. The abdominal muscles are very weak, and the abdominal cavity is extremely tympanitic. Examination of sensibility shows hyperæsthesia for all sensory qualities in the upper parts of the trunk, and total anæsthesia in the lower. The line of delimitation runs, in front, about two fingers above the mammillæ; behind, through the second dorsal vertebra.

Upper extremities: The left forearm is smaller than the right, and there is a hard osseous tumefaction of the left elbow-joint. There is a keloid on the flexor surface of the forearm. The whole extremity is swollen, but there is no indentation left after pressure. The swelling of the right extremity is most marked in the hands and fingers. On this side there are hyperextension of the wrists and atrophy of the thenar and hypothenar groups of muscles. There is well-marked motor paralysis of both upper extremities, involving principally the flexors and extensors of the wrists and the intrinsic muscles of the hand. Some motor power is still retained by the muscles of the shoulder and upper arm. So far as can be made out, there is no tremor or ataxia. The extreme hyperæsthesia to touch on the posterior surfaces of the upper extremity is very marked, though the pain sense is rather diminished when the reaction to painful stimuli is compared with the one to tactile stimuli. Temperature sense is perverted. Kinæsthetic and postural sense are very much disturbed. Electrical examination of the upper extremities shows no degenerative reactions, except in the thenar and hypothenar muscles of the right side and most of the intrinsic muscles of both hands. The reflexes of the upper extremities are lost.

The lower extremities show the same tapered appearance as the upper, and are the result of the same trophic changes. The feet show talipes equinus, and there is a bedsore on each heel. The muscles are seen to be in a state of complete flaccidity, although now and then a quiver of voluntary contractions is to be seen in them. There is no resistance to passive movements, except in the left knee, where passive flexion is reduced about one-third, and this is due to a keloid scar in the popliteal region. There is total motor and sensory paralysis. When the patellar tendon is tapped one can feel a contraction of the tendon; none is seen to occur in the muscle, and no locomotion results. The superficial reflexes have also perished. When the soles are tickled the legs are drawn up. The electrical irritability of the muscles is very much reduced, but there is no reaction of degeneration.

The sphincters are paralyzed, and there is extreme vasomotor irritability.

The patient remained *in statu quo* until death, which occurred from catarrhal pneumonia, the immediate cause of death being inability to expectorate.

Autopsical examination showed: The dura mater for a distance of eight to nine millimetres in the region corresponding between the sixth and seventh cervical segments is collapsed and narrow, so that both the anterior and posterior surfaces of the membrane are practically in contact. In dissecting this point in the dura mater at the crushed portion of the cord, the lower portion of the sixth cervical segment and the upper portion of the seventh cervical segment are absolutely destroyed. The cord at this region is reduced in volume to the thickness of a piece of tape, and absolutely none of the cord substances is apparent. Nothing is left of the cord except the anterior and posterior surfaces of the spinal pia mater, which lie in contact. While the cord is completely crushed at this level, however, the anterior spinal artery traverses the damaged region intact, so that the cord beneath the crushed places has been nourished and is perfectly normal, except for an ordinary descending degeneration. Above the crushed region there are the usual ascending degenerations in the column of Gowers, the direct cerebellar tract, and the column of Goll.

I have had occasion to observe four other cases, very similar to the cases reported herewith, during the last eighteen months, but I am not yet prepared to report them in detail. Suffice it to say that in one of these cases, probably one of tuberculous myelitis associated with solitary tubercle of the brain, which Dr. Sachs saw with me on several occasions, it was shown by repeated examination that the state of the reflexes depended on the condition of deep-seated sensibility. When there was clinical evidence that this variety of sensibility was interfered with, the knee jerks were always profoundly diminished.

The cases herewith reported are in evidence that occasionally lesions of the cord above the lumbar region produce flaccid paralysis. While it would seem to be wellnigh universally accepted that total severance of the cord above the lumbar region leads to abolition of the knee jerks, all the other points in connection with this subject—viz., 1, the occurrence of loss of the knee jerks with lesion of the cord which does not sever its continuity; 2, the relation between the clinical and anatomical evidence of the totality of the cord lesion; 3, the state of the superficial and visceral reflexes; and 4, the physio-pathology of the symptoms—are, one and all, still *sub judice*.

On looking over the literature of the subject, I find that about ninety-two cases have been reported, in varying degrees of completeness. Of this number there is not one case which will stand the test of criticism in which the knee jerks were preserved with complete interruption of continuity of the cord.

Before going further into the discussion of this subject, and before attempting to explain the phenomenon in question, it seems to me advisable, in the first place, to get all the information that we can from a review of the literature. Among the cases reported there is a variety of pathological conditions, and these are distributed in various parts of the cord. Tumors, fractures, dislocations, central hemorrhages, lesions of mechanical injuries, pachymeningitis caseosa, and tuberculosis have been found in almost every part of the cord above the lumbar region. It seems safe to assume that not much light can be thrown on the subject in question by a consideration of them. Whether the location, especially the horizontal, of the lesion stands in causal relationship to the abolition of the knee jerks in supralumbar lesions, I am not prepared to say. Some authors think that the localization may be in part responsible for the occurrence (Habel).

A consideration of the other clinical symptoms accompanying loss of the reflexes in supralumbar lesions and their temporal relation would seem to let some light in upon this question. In all cases there was absolute loss of motility. When the continuity of the cord is completely interrupted, this is easily understood; but when it is only partially destroyed, it is difficult to believe that a variety of pathological conditions which are not of a toxic order will cause unerringly affection of the motor axones, that it will select them alone for their malign influence. It seems reasonable to infer from abundant clinical experience that the motor fibres are always the first ones to suffer. This has its probable explanation in the fact that the more individualized the function of a fibre is, the greater is the necessity for its integrity, *i.e.*, for its perfect insulation.

Sensibility was absolutely lost in all cases in which the transection of the cord was complete. In every one of the eight cases of partial interruption of continuity, and in three of the cases reported to-night, sen-

sibility was only partly lost in six cases. I have not been able to gather from these cases any definite information concerning the extent and kind of sensibility that was perverted. In the third case reported by me, and in the last one casually referred to, the state of the reflexes seemed to have some dependency upon the kinæsthetic and postural sense. At one examination the reflexes were absent when the general sensibility improved and the kinæsthetic and postural sensibilities were lost. In view of the obscurity in which many of the physiological problems of the nervous system are enshrouded, speculation concerning these anomalous states of the reflexes would seem somewhat hazardous. Nevertheless, I cannot resist the temptation to attempt an explanation of the phenomenon. The fibres that serve the conduction of so-called deep sensibility seem to have, in contrast with those that conduct the general sensory stimuli—such as pain, touch, temperature—a more specialized function, and are probably the ones most prone to suffer, next to the motor fibres, when the cord is subject to increasing pressure.

In eleven cases reported by Bowlby, the state of the superficial reflexes is reported to have been variable, and this same statement is made by Thorburn in a report of nineteen cases. In one case the epigastric reflex, and in two cases the cremasteric reflex, could be elicited. With great uniformity the plantar reflex has been stated to be present and exaggerated, and almost invariably the statement is met with that on tickling the soles the whole extremity is drawn up. It seems to me that this is not the expression of a reflex act, in the usual interpretation of the term. It ought rather to be considered as a "pathological spinal reflex," after Jendrassik, a reflex without interference of the brain or higher centres. Concerning visceral reflexes, in nearly every case it is stated that the sphincters are derelict and paralyzed. Priapism has frequently been noted when the lesion has been in the cervical region.

Occasionally statements in the clinical histories could be interpreted as indicative of disease of the lumbar cord or the peripheral nerves—such as when wasting and flaccidity of the muscles of the lower extremities are spoken of; but consideration of other symptoms—such as the absence of reaction of degeneration in cases in which the electrical examinations were made—militates against such a view.

Trophic cutaneous disturbances have been noted in every instance, and of my cases the fourth one presented rather unusual cutaneous and subcutaneous trophic disturbances.

All the cases that I have considered have been of long standing, so that the element of shock and its influence on the reflexes can be eliminated from the discussion.

Turning to the pathological anatomy, we find that in fifty-one cases, and in one of my own, there is a report of a total transverse lesion of the cord. In eight cases and in three of mine there was partial destruction of the cord; and, in general, in every instance there have been found conditions bound to do serious injury to the cord.

Histologically in most of the cases there have been found the customary ascending and descending degenerations. The lumbar cord, every time that it has been examined, has been found normal. A few times reduction of the number of the anterior-horn cells and a paleness of the white matter has been mentioned. In one case of Bastian, and in a case of Dr. Dana and myself, ascending degeneration in the lateral tracts, corresponding to the tracts of Gowers, were found. In two cases of Hoche, in which the secondary degenerations were carefully studied by means of the Marchi method, ascending degeneration of Gowers' tract was very striking, and in this case the tracts of Gowers were followed for the first time to their termination in the cerebellum.

The peripheral muscles and nerves have been examined once (case of Bruns), and slight incidental changes only were found, and Bruns adduces the statement of Oppenheim to show the absence of grave lesion that could account for the absence of the reflexes, the knee jerks particularly.

Various theories have been advanced to explain this absence of the jerks in these cases. Of all these, the theory of Jackson and Bastian seems to have met with widest acceptance, and, indeed, it seems the most rational one. This theory posits the causal influence of the cerebellum, and a consideration of the physiological, pathological, and clinical facts bearing on the reflexes, and especially the knee jerk, seems to me to lend support to their hypothesis.

The exact nature of the knee phenomena is not yet definitely known. Whether the contraction of the quadriceps muscle following the stimulation of its tendon is the result of a true reflex act or is simply the result of mechanical stimulation, cannot yet be said positively, although the first hypothesis is the one usually accepted.

I remarked in the fourth case that often a distinct contraction could be felt in the tendon on tapping, although there was no appreciable contraction in the muscle, and I have often made a similar observation in cases of peripheral neuritis. Furthermore, it has been shown that the time from the stimulus causing the contraction to the appearance of the motion is four-one-hundredths of a second. From a consideration of these two facts it seems probable that both elements, the mechanical and the reflectory, go to make up the knee phenomenon. We all know that the knee jerk is dependent upon the integrity of the reflex arc, and we know positively that some superior influence exerted by a higher centre may control the reflex, or inhibit it, I might better say. The nature of this influence is difficult to interpret. According to Helmholtz, the nerve impulse travels at the rate of 33.9 metres per second; in four-one-hundredths of a second the sensory stimulus applied to the tendon ought to travel one hundred and thirty-six centimetres; considering the length that it must travel and the intraspinal breaks, this distance is almost exact, and there is certainly no time for the stimulus to travel much farther up. This superior influence spoken of must therefore be looked upon as a constant physiological nerve stream flowing in the intraspinal pathways. One of these pathways, the pyramidal tracts, we have recognized as being connected with the function of the reflex. Contrary, though, to the symmetry of the architecture of the nervous system, we have considered only a centrifugal pathway, and have endeavored to explain the difficulties that arise by positing an inhibitory impulse which runs in these pathways, and assuming at one time an irritation and at another a paralysis of this inhibition. It seems reasonable and more conformable with the structure and functions of the nervous system to have the superior influence run in an arc too, and in an arc with a centrifugal and centripetal leg as well as an intraspinal connection. Concerning the latter, it seems to me that we are not in a position to speculate. The centripetal branch of this arc is positively in some of the ascending columns of the cord to which has not as yet been allotted a definite function. Whether the fibres of Gowers' tract perform this function, I do not attempt to say, but the aforementioned clinical and pathological evidence is very suggestive and prompts me to call your attention to it, that a closer study of this tract may be made in future cases. This view would seem to get further corroboration from an analysis of the familiar procedure of eliciting the knee jerk. In such a case we apply the

sensory stimulus through the peripheral sensory part; this is transformed in the intraspinal gray matter into a motor effect, which we then see manifest. Occasionally we make use of Jendrassik's or some similar aid, by which we remove some inhibitory influences running in the centrifugal leg of the supposed arch. Every time we put the leg in a certain position, and by this probably stabilize the influence running in the centripetal branch of the arch, thus putting the muscle concerned into a state best fitted for the execution of an additional contraction. Whether this latter function is conveyed along Gowers' tracts, the future will decide.

One word on the practical side of the question. The loss of the knee jerk in supralumbar lesion of the cord is not always an omen *prognosis infaustissime*, and not necessarily indicative of total anatomical destruction of the cord, that is, beyond improvement or outside of any consideration of surgical interference.

In conclusion, I desire to express my sincere appreciation of the valuable assistance accorded me by Drs. Dana, Elliott, Van Gieson, and Sachs.

THE LOCALIZATION OF FOREIGN BODIES IN THE EYE BY MEANS OF THE *X*-RAY.[1]

By PERCY FRIDENBERG, M.D.,
NEW YORK.

But little more than a year has elapsed since the report of Roentgen's brilliant experiments first attracted attention to a new form of radiant energy, whose practical importance for medical science was soon demonstrated by the successful application of the *x*-ray to a variety of diagnostic purposes.

Increased familiarity with established methods, independent research, and improved appliances have in turn opened new fields for practical radiography in the wide domain of clinical medicine, so that to-day that method has established itself as a valuable diagnostic aid in surgery as well as in many other branches of our science.

In sharp contrast to these excellent results, ophthalmology has, almost without an exception, so far derived no benefits from the use of the Roentgen rays. It is just in this field, however, that positive results would be most welcome. In many cases of ocular traumatism, especially in penetrating wounds and gunshot injuries, ophthalmoscopic examination is rendered impossible by reactive changes in the superficial tissues, or, more frequently, by effusion of blood into the interior of the eye; while, even when clear media are found, a foreign body which lies buried in the coats of the eye, at the bottom of the vitreous, or free in its extreme periphery on or near the ciliary processes, may easily escape detection. At such a time the question as to whether the affected organ harbors a foreign body, one of great importance for treatment and prognosis, cannot be decided. For, although the history of the case, subjective symptoms, and theoretical considerations may at times lead to a positive conclusion as to the presence of a foreign body, its exact position in the eye will remain undetermined as before. The same indecision must follow the diagnostic use of the electromagnet (Hirschberg) and the compass-needle sideroscope of Asmus,[2] which, by causation of intra-ocular pain and by deflection of the astatic needle respectively indicate the presence of a body in the eye which is magnetically attracted or attractive. Even extraction with the magnet is difficult, except in those cases in which its manipulation can be controlled by the ophthalmoscope, while its application is excluded, *a priori*, in the large number of accidents due to penetration of the eye by copper, lead, or glass particles. A practical substitute for the magnet in these cases, as well as a more accurate method of localizing steel or iron bodies, has been sought, with but small success so far, in the use of the Roentgen ray. It is remarkable that theoretical views and considerations, based on the negative results of experiments which in no way conformed to the circumstances of actual practice, were able to discourage investigation in this direction. It was argued by some that the low degree of permeability of the eye by the *x*-ray, as shown by the experiments of Dariex,[3] would effectually prevent the production of a skiagram. For others the thickness of the cranial and orbital wall seemed so insurmountable an obstacle that they suggested a variety of procedures, more ingenious than practical, to avoid the necessity of having the rays traverse bony structures. Lewkowitch,[4] in London, for instance, placed the sensitive plate along the side of the nose and the Crookes tube at the temple. His radiographs show only the lids and the summit of the cornea, yet this author claims valuable results for his experiment, as he was able to get a shadow picture of a gilt spangle which he had introduced, not into the interior, but into the conjunctival sac of his own eye. Besides the limited field exposed to the rays, this method is unsatisfactory on account of its complexity. The author took two views after having the eye abducted and then adducted *ad maximum*. The three principal meridians were to be marked by a wire bent in three corresponding angles and brought into immediate contact with the surface of the globe. The position of the sensitive plate was determined by a special "north-pole indicator." All these factors were made the basis of an elaborate calculation, by which the position of a foreign body could be determined. It need hardly be said that such a body, situated so near the surface of the globe as to be included in the pictures produced in the above manner, could be detected more easily in other ways, while one in the vitreous would not appear on the plate at all. Van Duyse,[5] who had also come to the conclusion that only the anterior portion of the globe was capable of being skiagraphed, went a step further in his attempts to get a more extensive picture, and suggested producing an artificial protrusion of the globe by forcible injection of salt solution under Tenon's capsule; while Clark[1] surpassed all previous efforts by inserting a sensitized film into the nasal passage along the septum, until its point touched the lower surface of the cribriform plate of the ethmoid. Although this manipulation was performed on the cadaver, or rather on a skull, this author expresses his conviction that its application to the conditions during life would be quite feasible.

In the case reported by this author a chip of steel in the iris angle was extracted, after being located, after one unsuccessful effort, not in the manner he describes, but by direct skiagraphy and exposure for eight minutes. The details of the process are not reported, and the skiagraphs were not shown.

One other case of successful location and extraction

[1] Read before the section on ophthalmology, New York Academy of Medicine, March 22, 1897.

[2] Graefe's Archiv, vol. xi, p. 280. The author's instrument is a modification of Guerard's, made more sensitive and portable, improved by the addition of a telescope for reading off the amount of deviation of the needle on a scale. The first application of the compass needle to the diagnosis of magnetic bodies in the eye was made by Dr. Thomas Pooley, of this city, whose interesting and novel experiments were reported at length in vol. ix., p. 219, of Knapp's Archives. The deflection of the astatic needle was, with great ingenuity, assisted by rendering the foreign body magnetic by induction. The above-mentioned methods are simply an elaboration of Pooley's original idea.

[1] Annales d'Oculistique, t. 115, p. 218.

[2] Lancet, 1896, ii., p. 452, and Centralbl. f. prakt. Augenheilk., January, 1897.

[3] Archives d'Ophthalmologie, Févr., 1896.

[4] Transactions Am. Ophth. Soc., vol. vii., p. 711.

of a piece of copper cartridge shell was reported by Dr. C. H. Williams,[1] of Boston. The patient was laid on the table, with his injured eye close to the plateholder, while the Crookes tube was placed so that the rays passed partly across the bridge of the nose and partly through the thin nasal and orbital bones to the injured eye, and so on to the plate. After ten minutes' exposure the developed plate showed what appeared to be a foreign body a little back of the centre of the eyeball. A second radiograph with the tube in a different position showed no foreign body, but this was accounted for by the fact that the metal when found was a thin strip; therefore the rays in the first case may have struck it on the flat and given a picture, and in the second case have struck edgewise, with no effect.

About three months ago, Mr. B. H——, aged twenty-six, of Freehold, N. J., was brought to me suffering from the results of a gunshot injury, which had at once destroyed his sight. While out quail shooting with a party of ten or more, on the day before, he was unfortunate enough to receive a charge of small shot (No. 9) in the left shoulder, the face, and both eyes. On examination, after separating the tense and swollen lids, the point of entrance of a shot was found a little above the cornea in either eye, and, corresponding to this, a penetrating wound of the right and left upper lids. The cornea and lens had escaped injury, but the vitreous was filled with blood and vision reduced to perception of light only. The patient was admitted to the New York Eye and Ear Infirmary, where, under appropriate treatment, the inflammatory reaction subsided, without any signs of a purulent process in the eye. The vitreous, however, was still opaque, from the hemorrhagic exudation, and ophthalmoscopic examination was impossible. To decide the question as to whether the shot were in the interior of the globe, I determined to make an attempt with Roentgen photography.

It was evident that definite results could be reached only by obtaining a shadow picture of the entire orbit to a distance in depth at least equal to the antero-posterior diameter of the eye. To accomplish this it was necessary to have the rays from the Crookes tube pass directly through the bones of the skull, and to place the sensitive plate close in front of the eye. I succeeded in doing this in the following manner:

Two narrow Carbutt plates, about three and one-half inches long, were cut out and trimmed roughly, so that they would fit into the inner margin of the orbit. The eyes were covered with some absorbent cotton, and the plates bandaged on in such a manner that they were at right angles to the line of the orbit. These plates were covered with black paper, into which pins had been stuck, one on the right, two on the left side, points down, to distinguish the plates after developing and printing, and to serve as a standard of density for any shadow pictures which might appear. In this way close approximation of the sensitive plate to the eye was obtained, and all motions of the patient's head, which could hardly have been prevented during the necessarily prolonged sitting, were completely neutralized. For now the plate itself would move in a like direction and to the same extent, and prevent any distortion or clouding of the impression. Eye motions were practically excluded by the bandage.

The Crookes tube was placed back of the head, about fourteen inches from and parallel to the plate, which was exposed to the rays for nearly forty minutes. It was my intention to produce an overexposure, so as to reduce as far as possible the disturbing influence of the cranial bones.

In this way a front-face view was secured, which I take pleasure in submitting to you herewith. The success of this experiment is due in great measure to the complete apparatus and technical skill of Mr. M. F. Martin, in whose *x*-ray studio, at 110 East Twenty-sixth Street, the work was begun and finished. I wish to express again my sense of obligation for his interest in the case.

Holding the radiographs side by side and in contact, the wall of the orbit is seen as a narrow shadowy outline. The soft parts and the globe appear very much lighter. On the left side a number of small, approximately round, and denser spots appear—the shot-pellets themselves. It will be seen that all of them are apparently close to or in contact with the wall of the orbit. None is seen in the light space corresponding to the globe. On the right side, however, this is not the case. Here we find two foreign bodies, one near the floor of the orbit, the other on a line with the middle of the eye and possibly in its interior. To decide this it was necessary to determine the depth of penetration and locate each shot in its relation to the anterior surface of the globe. A view at right angles to the first, a profile view, was wanted. It was obtained by having the patient lie on his side, with his right cheek resting on a large photographic plate. The Crookes tube was placed opposite the left temple, under the same conditions as before. The exposure lasted thirty-five minutes, and produced a picture of remarkable clearness. It will be seen on comparing this with the front view, that the two foreign bodies in the soft parts of the right orbit are located back of the eye, which here appears as a grayish-white disc. In addition, we see the shot (five in number) which entered the left side of the face at different levels, one in the lower and one in the upper jaw, and two in the brow. We must bear in mind that the *x*-rays penetrated the structures of the skull from the left side, projecting shadows from this as well as from the right side upon the plate. We have, as it were, one picture superimposed on the other.

The nearer a body is to the plate, the smaller and denser the shadow. This enables us to say definitely on which side of the head each and every shot pellet lies, and, by comparison with the first view, to locate it quite accurately. It appears that both eyes were traversed by shot with such force that the posterior wall of the globe was perforated and the missiles lodged in the depths of the orbit. Unfortunately, the extensive laceration and intra-ocular hemorrhage have so nearly destroyed the eye that little can be done to restore sight. The patient can make out motions of the hand at three feet in the right eye; the left has only perception of light.

To sum up the principal points in which this method modified and improved upon the older ones, and which are of importance if radiography is to be of any practical use in this branch of clinical diagnosis, the following facts are evident: The whole extent of the eye and of the orbit is included in the skiagraph. Two views at right angles to one another are taken for purposes of combination. In the one, the closest possible approximation to the eye is effected by having two plates bandaged to the eye. The shadows thrown by the bones of the skull are eliminated as much as possible by extreme overexposure. When for any reason we cannot obtain two views, we may be able to dispense with the profile picture and to compute the distance of the foreign body from the plate by a calculation, in which the known factors are the diameter of the body itself, that of its shadow picture, and the distance from the sensitive plate to the Crookes tube. The *x*-rays diverge from the focal point of origin and produce a central projection of shadows, as do light rays coming from a finite distance. The same optical law holds good for both.

[1] Transactions Am. Ophth. Soc., vol. vii., p. 703.

However unavailing our therapeutic efforts may have been in this particular case, these skiagraphs show, I think, that we have in Roentgen photography, modified in the manner above described, a simple and accurate method for determining the presence and, what may be even more important, the exact position of foreign bodies in the eye, and that, under more favorable circumstances, their removal may be rendered possible by its application.

66 West Seventy-Sixth Street.

THE FUNDAMENTAL PRINCIPLES OF THE GALVANO-CAUTERY.[1]

By HORACE CLARK, (Harv.) A.B., M.D.,

BUFFALO

The galvano-cautery is an instrument of precision to a greater extent than is commonly supposed. Along with a spray-producing apparatus it is frequently found as a part of a general office outfit. The text-books are largely responsible for this misinformation. They advise the cautery as a remedial or curative measure, without specifying how to use it. Granted that each operator must learn by experience the refinements of cautery technique, there are certain gross principles applicable to the proper use of the instrument which should be more generally understood.

(1) First, as to the degree of heat to be used. Every storage battery is provided with a rheostat—an apparatus to regulate the degree of heat to be carried

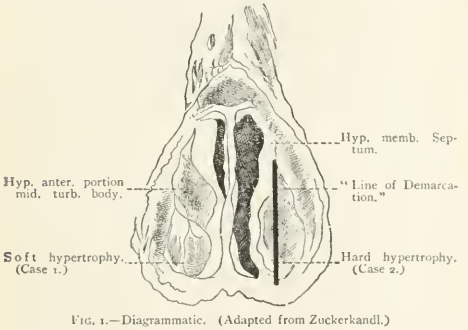

Fig. 1.—Diagrammatic. (Adapted from Zuckerkandl.)

to an electrode; but how many times has the rheostat been handled to-day simply as a means of making the cautery work, the operator not having the remotest idea whether a dull red, bright red, or white heat was required for the result he had in mind?

Case I.—A man about to take the stump in the recent campaign desired to be relieved of a disagreeable odor which came from one of his nostrils. The nostril indicated was patent, the other nearly closed. The latter fact had not been observed. The odor came from pent up secretion on the occluded side, and found its way out through the open one. The anterior end of the offending lower turbinated body was found to be in a condition of soft hypertrophy—red, smooth surface, secretion pretty clear. This condition is approximately understood by the term hyperplasia. This was reduced with the cautery at a red heat. The result was practically the same as will be indicated in the next case, although considerably more swelling and exudation were present. (The urgency of the case led me to more liberal use of the cautery than is generally advisable.) The course of a case like this is about equal to that of an ordinary head cold. This measure is also prophylactic to head cold; for the turbinated tissue becomes firm and capable of resisting further engorgement to the extent of occlusion, as by excessive nutritive activity from irritation of miscellaneous nature. If a white heat had been used in this instance, in any but a superficial way, an enormous blister would have resulted. Very probably the pressure of contained serum upon the underlying sensory nerve filaments would have caused severe local or reflex pain.

Case II.—A woman who was too poor to bear the expense of repeated visits from a distant town came to me to have her nose opened, as she said. The occlusion was due principally to the inferior turbinated bodies, which were in a condition of hard hypertrophy. Their color was grayish-pink, without lustre. The surface was not quite smooth. In drawing the probe the tissue rose slowly in the track of the indentation and was covered with a gray, pasty secretion. I decided to use the cautery, the idea being to destroy the tissue to a depth sufficient to render the nostrils patent. A white heat was used. The patient was sent home with the information that her nose would probably not close up again completely; that after a few days a "scab," as she would understand it, would come away, probably followed by a tinge of bleeding; and that thereafter she would have no further trouble. She was instructed to report a week later. The case had gone on as stated, and both nostrils were found to be free and clear. The point here is that a dull red heat would only have given the patient a sore nose, and a moderately red heat would have had so little effect as to render subjection to operation and subsequent inconvenience positively bad practice.

I mentioned destruction of tissue to a sufficient depth. How is information as to that matter to be stated? If a case like the one just mentioned is watched, "a line of demarcation"—if I may be permitted to use that term—will be seen after the first two or three days, approximately indicative of the extent to which the destructive process has gone. By noting this depth, remembering the character of the tissue, and comparing the same with that of other cases of the same or similar nature, a fairly good estimate can be made of what to expect and how to go about it. The harder and grayer the tissue, the less the resultant disturbance to the patient from burning; also the more marked this "line of demarcation." In general, as to the degree of heat to be used, the proposition holds good to decrease the amount of heat as the tissue is softer. There are, of course, exceptions to this rule, but it holds fairly good.

(I would not be understood to mean that the conditions described always require the use of the cautery. The cold snare, scissors, knife, etc., are sometimes preferably to be chosen. Chromic or glacial acetic acid, "London paste," so-called, or other destructive agents, have their use, along with or independent of the actual cautery; but these are matters beyond descriptive effort. They relate alone to the experience and judgment of the special surgeon.)

(2) In cautery work it is always best to do but one side at a time. The reasons are obvious. But both nostrils should be opened, and without undue interval. The idea to be borne in mind is the principle of division of labor. An excessive amount of air taken in through one nostril, no matter how large the opening may be, is a source of irritation and excites overnutritive activity. Both nostrils should be open, in order to present as large a surface as possible to warm, moisten, and cleanse the inspired air. For reasons relating to the ear, they should both be open. When there is a mixed condition it often happens that a soft hypertrophy, for example, of the posterior portion of one of the turbinated bodies, will take care of itself after the reduc-

[1] Read before the surgical section, Buffalo Academy of Medicine, February 2, 1897.

tion of the hard hypertrophy. (This section is meant to be simply diagrammatic.)

(3) The preparation of the part is a matter of importance. After being properly cleansed on general surgical principles, it should be dried before the local anæsthetic is used (cocaine or eucaine) and afterward dried again. It is usually unnecessary to use a cocaine spray for anterior cautery surgery, nor is a great wad of saturated cotton required for topical application. A thin piece, wrung nearly dry, nicely adjusted to the part with a probe, is sufficient. The length of time for the cotton to remain is a variable quantity. Ten to fifteen minutes for a ten-per-cent. solution of cocaine, and two or three minutes less for a eucaine solution of the same strength, is usually sufficient. Sometimes insensibility to pain is all that is required or desired. That, too, is a variable quantity according to the character of the tissue. Too much shrinking may be an actual hindrance to operation, and leaves the operator at a loss how far to go; for example, in cases of polypoid thickening, when the cautery is chosen as against the snare or other instrument. But the point I want to make is that in the majority of cases the part should be made bloodless, or as nearly so as possible. Ischæmia and insensibility to pain are not necessarily required to be coexistent. I believe this matter is of great importance. If it were not that it does not produce ischæmia, the new preparation for local anæsthesia could happily replace cocaine entirely. I refer to eucaine. It is equally good for anæsthesia and solutions are more stable. It is entirely soluble in "crystal-water" solutions; faucet water should be boiled. In many operations, when extreme shrinkage is not desirable and the tissue is practically bloodless, eucaine is even more desirable than cocaine. The desideratum is to combine with it some substance which will produce an ischæmia in addition to its own anæsthetic property.

(4) As to repetition of the use of the cautery, it is always well to hedge a little in answering that question. Not that it is an uncertain instrument, but the tissue upon which it is used is uncertain. Given a lower turbinated body in practically a uniform condition throughout, so far as can be ascertained. The cautery is applied equally. The result may be a face as firm and flat as if a piece of putty had been cut through with a sharp knife. Or it may present elevations here and there. (One of the latter may be just opposite to a protuberance or hypertrophied portion from the septum, harmless perhaps in this particular case if not in contact. Therefore the destructive agent has been sufficient for the most part, and would have been carried too far in such a case had it been pushed in the first instance, so that no elevation opposite the protuberance had resulted.) These elevations, or others, are to be met separately at another sitting.

(5) The cautery should be sparingly and cautiously used upon the septum. Incised wounds of the septum heal with surprising rapidity; but I have seen many cases of obstinate erosion caused by the ill-advised use of the cautery on this part. If there is undue bleeding from a cutting operation upon the septum, it is better to stop it in some other way than with the cautery. An operator will take great pains to grease or otherwise protect the face of an acid applicator which might touch the septum, and yet he will force the cautery electrode into a space so narrow as to burn the septum as well, thereby producing an agglutination between the parts, only aggravating the condition he sought to reduce.

(6) It is well to avoid using the cautery in the presence of a tuberculous or syphilitic diathesis. I recently saw a case in which a simple erosion upon the cartilaginous septum was transformed, by excessive irritation with the cautery, into a syphilitic ulcer; that is to say, the disease, having a predilection for the septum, manifested itself at a weakened portion. The erosion was caused by picking with the finger, crusts having adhered in the hollow of a slight undulation. The cautery had been used in the hope of forming scar tissue.

(7) As to the choice of an electrode for a given piece of work, much might be said which does not fall within the scope of this paper. The medium size flat knife is the one most generally used. The right and left curette and the point are useful instruments. I would deprecate the use of the cautery in inexperienced hands upon the middle turbinated bodies with the same freedom as may be permitted upon the lower; for the former are much more delicate, and require careful handling also, on account of their anatomical relations. The anterior ends of the middle bodies are more often the site of disease than other areas, and the curette in careful hands may be used in the reduction of these parts. The point should be used in destroying the elevations and in interrupting the blood-vessels supplying their nutrition, in the condition known as follicular pharyngitis.

(8) The cautery electrode should be quickly removed from its point of application before the heat is

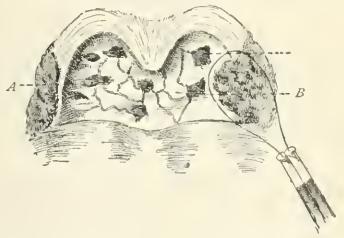

FIG. 2.—Follicular Pharyngitis. (H. C.) *A*, Pharyngitis lateralis usually accompanies this condition; *B*, Enlarged follicles with connecting arteries.

turned off, otherwise it will adhere and the tissue will be torn. This applies more particularly to the lesser degrees of heat. It is also one of the uses of the cautery, as will be presently mentioned.

(9) Aside from precautions to be taken in the subsequent care of a cauterized surface within the nose, the appearance of excessive dryness, especially upon the throat, should be considered as a contraindication to the further use of the cautery.

(10) The use of the cautery in the nasopharynx or larynx should never be attempted by untrained hands. An effort to reduce enlargements of the posterior ends of the inferior turbinated bodies by introducing an electrode anteriorly is to be interdicted as a step in the dark. I have seen many instances of damage to the cushion of the Eustachian tube as a result. The tip of an electrode must always be kept in plain sight. The hand holding the instrument must not be required to balance it, or be otherwise than perfectly free. For the latter reason the Shech handle is superior to any other with which I am familiar. It does not interrupt the line of light, as the straight handles do.

(11) Referring to the subsequent treatment of cauterized surfaces within the nose, it may be laid down as a general principle that such tissue should be allowed to take care of itself as far as possible. Accumulated secretion should be cleared away, as well for surgical reasons as for the patient's comfort; but rest is an essential factor in cautery results. When a crust has nearly separated, or is acting as a flap to obstruct free drainage, it is best removed with the electrode. The flat surface of the cold electrode is firmly laid against the crust, a dull red heat is turned on and

shut off at once. The crust is thus made adherent to the electrode and will come away with it. There is thus rarely any damage done to the underlying tissue, which is frequently the case in consequence of forcible removal with the forceps. This is also the proper way to apply the platinum wire to the tonsils. It is operated as a cold snare until a firm pedicle has been obtained. A white heat is then turned on.

(12) When a cauterized part is in close proximity to another part, the two should be mechanically separated to avoid union by adhesion. As a wedge in the lower nares I use a section of a thick rubber strap, single or double, as required. For the space between the middle turbinated bodies and the septum I insert a section of suitable length of the rubber band used upon ordinary preserve jars, with the convexity upward. These bands should be kept in strong carbolic solution. They should be washed in sterilized (or "crystal" water) and dipped in an antiseptic oily preparation before being inserted.

846 Ellicott Square.

THE AMERICAN PÆDIATRIC SOCIETY'S REPORT ON THE COLLECTIVE INVESTIGATION OF THE ANTITOXIN TREATMENT OF LARYNGEAL DIPHTHERIA IN PRIVATE PRACTICE, 1896–1897.

In this second and supplementary investigation, the aim has been to ascertain: (1) What percentage of cases of laryngeal diphtheria recovers without operation under antitoxin treatment. (2) What percentage of operated cases recovers. The report now submitted may properly be limited to answering these two inquiries.

Since the beginning of the general use of intubation, no disease has been more thoroughly observed and more fully reported than laryngeal diphtheria. Operative cases especially, whether ending fatally or favorably, have been fully and promptly put on record. The result has been a collection and tabulation of cases available for control, such as few diseases offer. There are thousands of intubation cases before the days of antitoxin, and thousands since, available for comparison. It is, then, to cases of laryngeal diphtheria, especially those requiring operative interference, that we may apply the crucial test of the value of the antitoxin treatment.

Sixty thousand circulars containing the following questions have been distributed:

Age of patient?
Diagnosis confirmed by:
- (1) Presence of other cases in the family?
- (2) Appearance of membrane elsewhere?
- (3) Bacteriological cultures?

How many days and parts of a day after the first appearance of the disease was antitoxin first administered?
- How many doses of antitoxin were administered?
- Dose of each injection in antitoxin units?
- Whose antitoxin used?

Non-operative cases—evidence of disease:
- Hoarseness?
- Aphonia?
- Stenosis?

Operative cases:
- (1) Intubation? On what day?
- (2) Tracheotomy? On what day?
- How long, in days and fraction of a day, was tube in the larynx or trachea?

Sequelæ (in recoveries):
- (1) Broncho-pneumonia?
- (2) Paralysis?
- (3) Nephritis?

Death, cause of, and on what day?
- (1) Broncho-pneumonia?
- (2) Extension of membrane to the bronchi?
- (3) Sudden heart paralysis?
- (4) Nephritis?
- (5) Sepsis?
- (6) Accidents of operation?

Recovery?
Remarks, especially on fatal cases?

These circulars were distributed throughout the United States and Canada, the following means being employed: contributors to first report, members of the society acting as agents for their respective localities, boards of health, local medical societies, and antitoxin manufacturers. At the outset, in this connection, it is a pleasure to acknowledge that the labors of the committee have been much lightened by the uniform good will of all addressed, more aid coming spontaneously than in the previous investigation. It is also a pleasure especially to acknowledge the society's indebtedness for efficient aid in distributing circulars and securing returns, to H. K. Mulford Company, Parke, Davis & Co., Lehn & Fink (Gibier's), the health departments of Chicago, St. Louis, New Orleans, Denver, San Francisco, Boston, Washington, Buffalo, Providence, Ann Arbor, Newark, Montreal, Toronto, and others.

To the New York health department are due the thanks of the society for every possible courtesy in distributing blanks and, through their inspectors, of securing returns of operative cases.

In order to reduce sources of error it was desirable to bring together a large number of cases, from widely distributed localities, from many different observers and operators, and from a period of time including all seasons of the year. All returns have been examined by the committee and only such cases accepted as bore satisfactory evidence that they were, first of all, diphtheria, and secondly, that the lesion had invaded the larynx.

A total of 1,704 cases of laryngeal diphtheria are ours for present study. A few cases (228) had not satisfactory evidence that there was laryngeal involvement; indeed some were reported through a misunderstanding of the fact that only laryngeal cases were wanted, and a few were reported in which there was no mention that antitoxin was used. These cases are of course not included in the number referred to above. Of the 228 cases, 218 recovered and 10 died.

In a total of 1,704 antitoxin-treated cases of laryngeal diphtheria, there was a mortality of 21.12 per cent. (360 deaths).

Table of All Cases, Showing Age and Result of Treatment.

Age.	Fatal Cases.	Recoveries.	Totals.	Mortality, Per Cent.
1 year and under	25	35	60	41.66
1 to 2 years	77	219	296	26.01
2 to 3 years	81	260	341	23.75
3 to 4 years	42	216	258	16.27
4 to 5 years	47	160	207	22.70
5 to 10 years	72	345	417	17.26
10 to 15 years	9	64	73	12.32
15 to 20 years	2	24	26	7.65
Over 20 years	5	17	22	22.72
Unknown	0	4	4	
	360	1,344	1,704	21.12

Cases Not Operated On.—The first inquiry of the circular was what percentage of cases of laryngeal diphtheria recovers without operation under antitoxin treatment.

Of 1,704 total cases, 1,036 were not operated upon (60.79 per cent.). Of these most did not require oper-

ative interference; a few cases were thought to require it, but operation was refused. All cases are included and it will be noted there are no eliminations.

Among the 1,036 cases not operated on, there was a mortality of 17.18 per cent. (deaths 178), or, to answer the inquiry of the circular exactly, of 1,036 cases not operated on, 82.82 per cent. recovered (or 858 cases).

As good as is this percentage of recovery in so large a number of cases of diphtheria of the severest type, it is believed it is not so good as it ought to be. Cases of laryngeal diphtheria not requiring operation, according to the testimony of consulting intubationists, are seldom heard from a second time, and less often find their way into reports. It was formerly estimated that about 10 per cent. of cases of laryngeal diphtheria recovered without operation. The present report shows that in 1,036 cases 82.82 per cent. recovered.

Cases Operated Upon.—In analyzing this class of cases, it is believed a more exact conclusion as to the value of the antitoxin treatment can be arrived at than in the non-operative.

There will be entire harmony of opinion as to the severity of laryngeal diphtheria which requires operative interference. In the early days of intubation it was customary to speak of the percentage of recoveries, and 25 per cent. and 27 per cent. were considered good results. In the last report the recoveries had crept up so high in the one hundred cases, that it seemed more natural to speak of the percentage of mortality.

In this connection it is interesting to inquire what were the best reliable statistics of intubation, taking cases as they occurred, without selection, in pre-antitoxin days. In 5,546 intubation cases collected by McNaughton and Maddren in 1892, the mortality was 69.5 per cent., or, to bring the facts into line, 30.5 per cent. recovered.

O'Dwyer's personal experience, in private consultation, brings us more nearly face to face with the old-time experience with diphtheria. Note that the following 500 cases came under the observation and care of one practitioner, a skilled operator, extended over a dozen years of time, and therefore included all types of the disease.

Exclusive of the first 100 cases of intubation, which he (O'Dwyer) regards as experimental, the results stand as follows:

2d	100 intubations—	recoveries,	27	per cent.
3d	100	"	30	"
4th	100	"	26	"
5th . . 70 on the	100	"	27	"

Total percentage of recoveries, 27.56 per cent. When he had reached 70 on the fifth hundred something occurred which carried the phraseology up over the divide, so that it was appropriate to speak of percentage of mortality. At this point in history, antitoxin arrived and interrupted forever the old series. In O'Dwyer's next 59 cases the mortality was 14 deaths, or 23.7 per cent.

In a total of 1,704 laryngeal cases there were 668 cases operated upon. In the 668 there were 182 deaths, or a mortality of 27.24 per cent. In the former report, in 553 intubated cases the mortality was 25.9 per cent. In approximate figures there is a difference between 27.25 per cent. and 26 per cent.

Summary.—Sixty thousand (60,000) circulars were distributed throughout the United States and Canada.

Time allowance, the eleven months ending April 1, 1897.

Whole number of cases in this report, 1,704; mortality, 21.12 per cent. (360 deaths).

The cases occurred in the practice of 422 physicians in the United States and Canada.

Operations employed:

(*a*) Intubation in 637 cases; mortality, 26.05 per cent. (166 deaths).

(*b*) Tracheotomy in 20 cases; mortality, 45 per cent. (9 deaths).

(*c*) Intubation and tracheotomy in 11 cases; mortality, 63.63 per cent. (7 deaths).

Number of States represented, twenty-two, the District of Columbia, and Canada.

Non-operated cases, 1,036, 60.79 per cent. of all cases; mortality, 17.18 per cent. (178 deaths).

Operated cases, 668, or 39.21 per cent. of all cases; mortality, 27.24 per cent. (182 deaths). Two facts may be recalled in connection with this paragraph. First, that before the use of antitoxin it was estimated that 90 per cent. of laryngeal diphtheria cases required operation, whereas now, with the use of antitoxin, 39.21 per cent. require it. Second, that the percentage figures have been reversed, formerly 27 per cent. approximately representing the recoveries, while now, under antitoxin treatment, 27 represents the mortality. To put it in other words, before the use of antitoxin 27 per cent. recovered; now 73 per cent. recover, and this in the severest type of diphtheria.

The present report will strike many members of the society as revealing a mortality a little too large in each of the two classes. The mortality is large, larger than the personal experience in private practice of many would expect.

The reasons for this are (1) that antitoxin is still used too late, either from procrastination on the part of the physician, or objection on the part of the friends; or (2) in a half-hearted way, which shows itself in doses from one-tenth to one-fourth as large as they should be. In truth, both the physicians and the friends of the patient are timid.

This report, it must be admitted, shows too large a mortality. In the opinion of the committee it is a larger mortality than will ever be shown again. Antitoxin is gradually being used earlier in the disease, and it will soon be used in sufficient doses.

To the society, the committee desires to say that it has sought to carry out its wishes in putting antitoxin on trial, to accept no testimony that did not bear the stamp of reliability, that it has employed the methods approved in the case of the first investigation and report, and that it has confined its work to definitely answering the main questions which the society and profession now have in mind. Points that were settled in the first report, and have since been corroborated by general medical literature, are not again taken up.

If the committee is asked to put forth the three most valuable points established in this eleven months' work, they are:

First. The mortality of laryngeal diphtheria at present rests at 21.12 per cent.

Second. That 60 per cent. approximately have not required intubation.

Third. That the mortality of operated cases is at present 27.24 per cent.

(Signed) W. P. Northrup, M.D.,
Joseph O'Dwyer, M.D.,
L. Emmett Holt, M.D.,
Samuel S. Adams, M.D.,
Committee.

The Committee Recommends: Antitoxin should be given at the earliest possible moment in all cases of suspected diphtheria.

Quality: Of the products on the market some have, by test, been found to contain one-half to one-third the antitoxin units stated on the label. Select the most concentrated strength of an absolutely reliable preparation.

Dosage: All cases of laryngeal diphtheria, the pa-

tient being two years of age or over, should receive as follows:

First dose—2,000 units at the earliest possible moment.

Second dose—2,000 units, twelve to eighteen hours after the first dose, if there is no improvement in symptoms.

Third dose—2,000 units, twenty-four hours after the second dose, if there is still no improvement in symptoms.

Patients under two years of age should receive 1,000 to 1,500 units, the doses to be repeated as above.

Progress of Medical Science.

The Relation of Hysteria to Insanity.—Neff (*Physician and Surgeon*, March, 1897, p. 103) concludes a paper on the relation of hysteria to insanity with the following summary: 1. Hysteria is the result of degeneracy, presenting mentally and physically one or more of the stigmata of degeneration. 2. It conforms to a type of psychosis. Any form of insanity may be engrafted upon hysteria, producing the so-called hysterical insanity. 3. The primary delirium of hysteria may be independent of any sensory or motor complication. More often the emotional storm follows a distinct hysterical attack. 4. Hysteria may complicate insanity, showing an analogy to its occurrence in other diseases.

Placenta Prævia.—Dr. Füth (*Centralblatt für Gynäkologie*) has collected statistics of fifty cases, showing a mortality of thirty-eight per cent. He regards it as necessary to produce premature labor as soon as the diagnosis is made. He advises some method which allows a quick stoppage of hemorrhage, while permitting dilatation of the cervix. Such means must produce prompt dilatation and be sufficient to terminate the labor. Dr. Füth advises putting a colpeurynter into the uterus and using continuous traction on the instrument; the membranes must of course be ruptured at the beginning. He does not believe in expectant methods or in tamponing, because the expectant method exposes the patient to hemorrhage and the tampon exposes to infection. Frequently the tamponing does not stop hemorrhage. This method is also best for the child, as it does not suffer from the mother's frequent hemorrhages. The colpeurynter can be applied as soon as it is possible to introduce one finger into the cervix.

Flooding at Puberty.—Dr. Bécigneul (*Journal d'Accouchements*, January 3d) reports a case of a girl of thirteen years, attacked with profuse uterine hemorrhage. The first period began with the usual phenomena, but the flow continued for a fortnight; then, after an interval of a week, it reappeared and again lasted for a fortnight. Rest, cold drinks, and ergotin were of no avail. Upon examination the uterus and ovaries appeared to be thoroughly well developed. An intra-uterine injection of water at the temperature of 113° F. stopped the flooding. Five days later, when the patient got up, the bleeding recurred, and the injection was repeated with the same result as before, though not so quickly as in the first instance. For a month the patient was kept in bed and daily injections were given. Menstruation was definitely established. This patient showed no signs of hæmophilia besides the bleeding, no cachexia of any kind, and no heart or liver disease. Diabetes, albuminuria, and inherited syphilis were excluded; there was no evidence of poisonous diet and the subject had never been attacked by any infectious disease. The uterus showed no signs of pathologic process. A negative history, such as this, appears to be the rule in "metrorrhagia of adolescence." Dr. Bécigneul thinks that the theory of reflex irritation explains nothing.

Cardiac Failure.—At a meeting of the *British Medical Association*, September 19, 1896, Dr. Grainger Stewart discussed this subject. He considers rest most important, especially rest from manual labor. The element of hope ranks next, then diet. The quantity and quality of food should be carefully adjusted to the needs of the body, and there should be great moderation in the use of liquids. Any excess in the use of alcohol should be strongly deprecated. The use of tobacco should be discontinued, and tea and coffee should be used sparingly. Massage, in the great majority of cardiac cases, diminishes the area of cardiac dulness. Repeated applications bring about a permanent diminution of the area of dulness. The saline bath (three pounds of sodium chloride with eight ounces of calcium chloride in forty gallons of water), in which carbon dioxide is liberated, produces a most striking diminution of cardiac dulness. Dr. Stewart considers digitalis as the most valuable heart tonic. It possesses greater power of contracting the arterioles than any other medicine of the group to which it belongs. Any gastro-intestinal disturbance caused by this drug may be obviated by giving it in another form. Next to digitalis he places strophanthus, which seems to act directly upon the muscular tissue of the heart, increasing contraction. It has little influence on the muscular fibres of the arterioles. Strophanthus is of greater service in an emergency than digitalis, as it acts more quickly. With other heart tonics, Dr. Stewart has had less experience. Caffeine has sometimes been serviceable, though it acts more directly upon the kidney than upon the heart. The author finds nux vomica and strychnine of great benefit when the other remedies are not well borne, and in all instances they may be given as adjuvants. Another group of cardiac remedies acts by dilating the arterioles, and this implies easier circulation, and less work for the cardiac muscles. For rapid action nitrite of amyl is valuable, while for prolonged effect the author gives the first place to sodium nitrite and nitroglycerin. These drugs give the best results in sclerosis of the blood-vessels and diseases of the aorta and aortic valves. If diuretics fail to relieve dropsy, it must be done by mechanical means. The safest and easiest way is by tapping the pleura. The author never drains the skin of the legs and scrotum by means of Southey's tubes unless it is absolutely necessary. Attention should be directed to functional or structural changes in other organs. The alimentary system, the liver, the hæmo-portal system may require special treatment. The lungs should be watched carefully for indications of œdema. We should endeavor to overcome this by rubefacients, and sometimes by stronger measures. The urinary system should be watched for albuminuria due to backward pressure, and in case it appears one should use diuretics which are non-irritating, rush cardiac treatment, and counter-irritate over the kidneys. The nervous system often requires attention. In administering hypnotics the main point is to avoid remedies which depress the heart, such as chloral and large doses of bromide of potassium. Opium, morphine, paraldehyde, sulphonal, and trional have given the writer the best results. In advancing inflammatory conditions Dr. Stewart prefers to avoid tonics and exercise entirely, and prescribes arsenic and the iodide of potassium, often with the carbonate of ammonium. In the degenerative changes he employs tonics and exercises with the most scrupulous watchfulness.

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"THE FAITH WHICH HEALS."

UNDER this title ("*La Foi qui Guérit*"), one of the last of Charcot's essays has recently been republished by the *Progrès Médical*. In it the question of faith healing as a legitimate therapeutic measure is discussed calmly and judicially. The aim of the physician being the cure of disease, anything by means of which this end can be reached is worthy of scientific study. The fact, which admits of no doubt, that many persons, condemned by competent physicians to a life of incurable suffering, have been cured by means of prayer, led Charcot to investigate the subject, with the view of determining if possible the extent and limitations of the therapeutic miracle. He does not pretend that science is yet in position to explain all the puzzling facts embraced under the general term miraculous, but he holds that the frontiers of the supernatural in the therapeutic miracle are steadily receding, and he doubts not that eventually the complete solution of what but a few years ago was one unfathomable mystery will be reached.

As a fair sample of the whole, he takes the well-known case of the Demoiselle Coirin, who was cured miraculously after fifteen years of suffering. Her troubles began in 1716, following a fall from a horse, in which she struck her left side against a heap of stones. She began soon after to have vomiting of blood, and three months later the left breast became hard, swollen, and purplish in color. This became gradually worse and finally opened, giving exit to blood and other discharges. It was looked upon as a cancer, and the surgeons advised that the breast be amputated, but the mother would not give her consent to the operation. Two years after this a paralysis appeared in the left side, and this with the "cancer" persisted without any remission until the year 1731. In the summer of this year a pious woman made a nine-days' prayer for her at the tomb of the blessed Pâris, and brought her some earth from the tomb and also a garment which had been laid upon it. After putting on this garment the paralytic was able to turn herself in bed; the next day the earth was applied to the "cancerous" ulcer, and the secretions dried up; and the night after this the circulation was suddenly restored in the paralyzed limbs. The *restitutio ad integrum* was not, however, instantaneous, for the cicatrization was not complete until the expiration of eighteen days; six weeks elapsed before the atrophied legs had acquired sufficient strength to enable the woman to go out of doors, and another week before she was able to mount into a carriage.

Even fifteen years ago, Charcot says, the interpretation of all the elements of this curious observation would have offered many difficulties. The hysterical nature of the vomiting of blood and of the paralysis was then recognized, but it had not then been so clearly demonstrated that hysterical contractures or paralysis may be accompanied by muscular atrophy. The mammary affection was evidently an instance of the hysterical breast, and "cancerous" ulcers of the skin are a not so very rare form of dermato-neurosis.

The interesting cases reported by Dr. Fowler in the MEDICAL RECORD of February 15, 1890, in which mammary tumors were cured by psychical measures, are also referred to as illustrative of this method of therapy, with the religious element excluded. The more we investigate the facts of faith healing, says the writer, the more evident is it that this mode of cure obeys natural laws. For example, a study of the reported cases of the alleged miraculous cure of organic lesions, such as ulcers, shows that the suddenness of the cure is more apparent than real. Thus, in the case of the Demoiselle Coirin, the purely hysterical manifestations, that is, the circulatory disturbances and the paralysis, disappeared instantaneously, but the complete cicatrization of the ulcerated surface occurred only after a considerable interval, and the atrophy resulting from the long disuse of the paralyzed limbs required a normal time for its repair.

As the result of his studies, Charcot believed that not all persons are proper subjects for miraculous healing, but only those whose maladies are capable of being influenced by the action of the mind on the body—that is to say, the hysterical. Suggestion, either from outside or of autochthonous origin, is the therapeutic agent. And in suitable subjects—that is, the hysterical of either sex—the influence of the mind on the body is sufficiently powerful to bring about recovery from maladies which, but a short time ago, owing to our ignorance of their nature, were regarded as incurable. But even though we are unable to accept a supernatural explanation of such cures, we must acknowledge their existence, and ought, as conscientious physicians, to avail ourselves of them when the other resources of our art fail us.

SECOND ANTITOXIN REPORT.

THE American Pædiatric Society's supplementary report on the use of antitoxin in laryngeal diphtheria, to be found in the columns of this issue of the MEDICAL RECORD, is worthy of close study.

Laryngeal diphtheria requiring operative interference furnishes the best test of the methods of treatment. There is entire harmony of opinion as to its severity, and its statistics before and after the advent of the antitoxin are more reliable than those of most other well-observed diseases. The report contains an

analysis of 668 cases operated upon, with a mortality of 27.24 per cent. As the report mentions, early statistics of intubation, in pre-antitoxin days, could show only 27 per cent. recovery. Other factors remaining constant, the use of antitoxin has carried the percentage from 27 per cent. recovery up over the divide till it now reads 27 per cent. mortality.

The next point of importance is the percentage of cases escaping operation under antitoxin treatment. It was formerly believed that 90 per cent. of laryngeal cases required operation; now, with the use of antitoxin, 39 per cent. require it.

The returns from physicians show, for the most part, an earlier use of antitoxin in diphtheria treatment and an increasing confidence. There exists, however, a certain amount of timidity. Doses from one-tenth to one-fourth the amount required have been administered, in some cases 200, 400, and 500 antitoxin units being used, whereas the dose required is from 2,000 to 2,500.

It is believed that the percentage of mortality will gradually decrease. This decrease will depend upon three factors:

First, a better quality of strong antitoxin will be found in the market.

Second, the serum will be administered earlier.

Third, appropriate doses (2,000 units in laryngeal cases) will be employed.

The report bears the impress of painstaking labor, and constitutes an addition to the literature of the subject. The American Pædiatric Society has developed collective investigation to a high state of usefulness.

THE MORPHINE HABIT WITH MEDICAL MEN.

In a work on the morphine habit, lately published in Paris, much interesting information is given concerning morphinism and morphinomania, some of which will be new to American readers. It is stated that Germany, France, and the United States are the countries in which the vice is most widespread, but that it has its victims in Russia, Sweden, and Turkey, and that even in the extreme East morphine as a narcotic is said to be supplanting opium. Statistics are furnished of one thousand cases, collected from all parts of the world—six hundred and fifty men and three hundred and fifty women. These statistics show that of the male morphinists the medical profession supplies the largest number, forty per cent. Men of leisure come next, with fifteen per cent.; then merchants, eight per cent.; while peasants, clergymen, and politicians occupy the lowest positions on the list. Women of means are the most numerous class among the females, forty-three per cent.; followed by wives of medical men, ten per cent. In Germany there are entire villages whose inhabitants are all addicted to the use of the drug, but the general belief that the morphine habit is more extensively practised in Paris than in any other city is contradicted. Morphinomania is said to occur with the greatest frequency between the ages of twenty-five and forty.

The direct action that morphine exerts on the organs of generation in both sexes, producing impotence in the male and amenorrhœa in the female, is too well attested to need argument.

The prognosis of morphinomania is stated to be favorable, although relapses are frequent.

MEDICAL RANK IN THE ENGLISH ARMY.

For some time past great dissatisfaction has existed among the medical men of the English army, and the controversy on the subject has reached so far that the national press has taken it up. This discontent shows no signs of abatement, but is rather becoming more bitter, and so much is this the case that at the present time it is found to be almost impossible to obtain the requisite number of candidates to fill vacancies. In the event of a large war matters would be still more serious, as the army service staff and corps are much below their proper strength. This trouble does not arise from a question of money; the pay of the army medical officer is relatively good; his position, too, as defined by the army authorities, is fairly satisfactory, with the exception that he dislikes the title surgeon placed after his military rank. This objection, however, can be but a trivial one, and it has been suggested that in order to remove that stumbling-block the United States mode of styling army medical officers should be adopted. The real cause of grievance "lies in a nutshell"—it is simply a matter of social status. The medical officers think and think rightly that they should be placed on precisely the same footing as the combatant officers. The combatant officers imagine that the medical officers are not their equals in social position, and snub them. As a rule, it may be said that almost without exception a man to be an officer in the English army must possess a good private fortune. So he is brought up luxuriously, educated expensively, and mixes with men of means. On the other hand, the medical man, though probably more talented and better educated, has not been brought up in the same way. He is often a poor man, who has risen by his brains and energy, and has not had the opportunity to acquire much polish. The sooner this ungenerous prejudice passes away, the more satisfactory will it be for the wellbeing of the English army.

THE REGULATION OF VACCINATION.

At the session of the Paris Academy of Medicine, held at Paris on the 30th of March, a paper on the measures to be taken in the absence of a compulsory vaccination law was read by M. Hervieux. It is a fact worthy of notice, and to which it may not be out of place to refer here, that England, the land in which the discovery of vaccination originated, is one of the few civilized countries of the world where the regulations as to vaccination have been allowed to fall into a somewhat lax state. In Germany, for instance, the laws relating to vaccination are most stringent and more strictly adhered to than in England. As a consequence, death from small-pox is almost unknown in that empire, and is yet another striking proof of the

efficacy of vaccination. It appears from a perusal of M. Hervieux's paper that in France the laws regulating vaccination are not thoroughly and simultaneously applied, hence small-pox is more or less rife. However, if the suggestions of M. Hervieux are adopted and the regulations revised according to his ideas of what should be, the reproach of not paying sufficient attention to the vaccination laws will be removed from France.

News of the Week.

The Tsar of Russia has most graciously consented to allow his name to be placed at the head of the list of patrons of the Twelfth International Medical Congress.

Congress of American Physicians and Surgeons.—The following is a list of officers chosen by the component societies of this congress:

Pædiatric—President, L. Emmet Holt, New York; first vice-president, Henry Koplik, New York; second vice-president, C. G. Jennings, Detroit, Mich.; secretary, S. S. Adams, Washington; treasurer, F. A. Packard, Philadelphia.

Association of American Physicians—President, F. C. Shattuck, Boston; vice-president, G. Baumgarten, St. Louis; recorder, I. Minnis Hays, Philadelphia; secretary, Henry Hun, Albany; treasurer, W. W. Johnston, Washington.

Physiological—President, Prof. Russell H. Chittenden, New Haven, Conn.; secretary and treasurer, F. S. Lee, New York.

Surgical—President, T. F. Prewitt, St. Louis; vice-presidents, J. McF. Gaston, Atlanta; M. H. Richardson, Boston; secretary, Herbert L. Burrell, Boston; treasurer, George R. Fowler, Brooklyn; recorder, De Forrest Willard, Philadelphia.

Neurological—President, G. M. Hammond, New York; vice-presidents, Philip Zenner, Cincinnati, and J. J. Putnam, Boston; secretary and treasurer, F. L. Durenn, Philadelphia.

Laryngological—President, Thomas R. French, Brooklyn; vice-presidents, T. Morris Murray, Washington, and H. S. Birkett, Montreal; secretary and treasurer, Henry L. Swain, New Haven; librarian, J. H. Bryan, Washington.

Dermatological—President, J. Nevins Hyde, Chicago; vice-president, E. B. Brown, New York; secretary and treasurer, J. T. Bowen, Boston.

Ophthalmological — President, George C. Harlan, Philadelphia; vice-president, O. F. Wadsworth, Boston; corresponding secretary, J S. Prout, Brooklyn; recording secretary, S. B. St. John, Hartford.

Genito-urinary surgeons—President, A. W. White, Philadelphia; vice-president, J. C. Bell, Montreal; secretary, W. K. Otis, New York.

Otological—President, Arthur Mathewson, Brooklyn; vice-president, H. G. Miller, Providence, R. I.; secretary and treasurer, J. J. B. Vermyne, New Bedford, Mass.

Climatological—President, E. Fletcher Ingals, Chicago; vice-presidents, Samuel A. Fish, Denver, and John C. Munro, Boston; secretary and treasurer, Guy Hinsdale, Philadelphia.

Koch's Fine Commercial Instinct.—In an editorial notice of the new tuberculin, the *Boston Medical and Surgical Journal* says that "in Koch's article, as originally published in the Berlin journal, mention is made of the commercial house charged with preparing and selling the new products. In short, the new tuberculin has become a proprietary preparation, with exclusive rights conferred on a certain firm. Koch's article, in a true commercial spirit, was withheld from publication five months, till this pharmaceutical house was ready to supply the market; then the new discovery was trumpeted through the secular press some time before the publication of the article and telegraphed abroad with the name of the firm favored with the sale of the new product. The Berlin medical press and some of the Paris medical journals have very properly denounced the whole transaction as unworthy of a man of Koch's scientific eminence." But this is apparently not the worst of the business, if the charge made by Dr. Hans Buchner is true. He asserts that the commercial house which is making Koch's remedy was told by Eduard Buchner all about a similar process for extracting the active principle from yeast. He says also that he published an article in the *Münchener medicinische Wochenschrift*, March 23d, in which he spoke of Edward Buchner's discovery, and that immediately the daily press announced Koch's alleged discovery and the article in the *Deutsche medicinische Wochenschrift* came out the following week, but dated back four and one-half months. Koch has gone to Bombay to study the plague, but when he returns he may profitably spend a day or two in clearing himself of these ugly charges, if perchance he can.

Dr. Thomas Addis Emmet has received the Lætare medal from the University of Notre Dame in Indiana.

A Medical-Practice Act has recently been passed by the Texas senate.

The Society of the Alumni of St. Luke's Hospital.—The annual dinner of this flourishing society was given at the Hotel Savoy on May 12th. Dr. Carmalt, of New Haven, is the president of the society.

The American Medical Association. — We have received a communication from Dr. H. A. Hare, calling attention to the necessity for all who wish to take part in the deliberations of the association in Philadelphia to provide themselves with proofs of good standing. No person, he says, who does not come armed with a certificate of membership in his State or county medical society will be permitted to register in Philadelphia. Yet the treasurer of the association has issued postal-card receipts to men unprovided with such certificates, saying that Dr. ——, of ——, member of the American Medical Association, has paid his dues and is entitled to register at the June, 1897, meeting. Does the treasurer of the association obtain money under false pretences, or is Dr. Hare mistaken?

Obituary Notes.—Dr. Charles R. Nellden, of Stanhope, N. J., died on May 2d, at the age of fifty-five years. He was a graduate of the Bellevue Hospital Medical College in 1864.—Dr. Cornelius Olcott died at his home in Williamsburg, on May 2d, of pneumonia. He was sixty-eight years old, and was graduated from the University of the City of New York in 1849.—Dr. Billings Farnsworth, of Norwich, Conn., shot himself in that city on May 5th. He had become despondent through the loss of some property.

The Osteopaths got a bill for their benefit through the Colorado legislature recently, but it was vetoed by Governor Adams. A new medical-practice bill which passed the lower house was strangled in the senate, so the State will have to get along with its old law for the present.

Philadelphia Neurological Society.—A stated meeting of the Philadelphia Neurological Society was held on April 26th, the president, Dr. C. W. Burr, occupying the chair. Dr. Judson reported a case of dysphagia and dysphasia resulting from a lesion of the internal capsule. Dr. A. Ferree Witmer exhibited a case of acute chorea in a woman of thirty-eight, developing in the sequence of a traumatism three years ago. Dr. Wharton Sinkler exhibited a case of trophoneurosis in a woman of about thirty-five, in whom following a burn of the left hand, five or six years ago, destructive changes took place, first and in slight degree upon that member, and subsequently upon the right hand, with loss of portions of the fingers. Dr. J. H. W. Rhein exhibited a case of ataxic paraplegia and one of spastic paraplegia following exposure to the vapor of benzin. Dr. J. K. Mitchell reported an interesting case of headache with visual hallucinations. The attacks recurred periodically during the warmer half of the year, and began with the apparition of a small figure, which gradually increased in size to the proportions of a giant, who struck the patient a severe blow upon the head, with the development of intense headache and the occurrence of an epileptiform convulsion. Dr. A. A. Eshner read a paper entitled "A Contribution to the Statistics of the Muscular Dystrophies." Among other things he pointed out the rarity of this group of disorders in colored persons. Dr. F. S. Pearce reported three cases of traumatic anæsthesia.

The National Association and the Local Society.—On March 27th the secretary of the Cleveland Medical Society received notice from Dr. W. B. Atkinson, secretary of the American Medical Association, that by reason of the action of the judicial council still standing against the local society none of its members would be permitted to register as delegates at that meeting or to take part in the proceedings of the sections. And so the double game of the association goes merrily on. Having for three years received and retained the annual dues of the Cleveland delegates, in spite of the judicial council's orders that they be refunded, and having at the same time refused them those membership privileges which their dues entitled them to, the association has established a habit. Right in the face of this notice from the secretary the treasurer for the association is now receiving the 1897 dues of the Cleveland men and giving them receipts which read on their face that the holder is entitled to all privileges of the coming meeting! And, as an additional indication of consistency, the editor of the *Journal of the American Medical Association* continues at the same time to solicit new members from among our society. Did ever before any medical organization engage in such a 'bunco game' and can it expect to retain the respect of the profession while pursuing such questionable methods? And the association deliberately shoulders all this disgrace and ignominy merely to pursue the private grudge of one of its members, who has no professional standing in his own city, who can belong to no local medical organization, and who has been repudiated very plainly by the Ohio State Medical Society. Truly the ways of the association are devious and strange.—*Cleveland Journal of Medicine.*

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending May 1, 1897: April 29th.—Surgeon A. G. Cabell, ordered to the *Monongahela*, May 15th; Surgeon D. H. Morgan has been detached from the Naval Academy and ordered to the *Monongahela*, May 15th. April 30th.—Assistant Surgeon R. G. Brodrick ordered to examination for promotion, May 3d. Assistant Surgeon F. C. Cook detached from the *Vermont*, May 8th, and ordered to the *Wilmington*, May 10th.

Disinfecting Steamer.—The disinfecting steamboat *James W. Wadsworth* will be ready for inspection on Tuesday next (May 18th), between 2:30 and 6 P.M., at the foot of West Forty-fourth Street. In addition to the steam apparatus, the boat has recently been supplied with an apparatus for disinfection by formaldehyde gas. The profession is invited to attend.

German Hospital, New York.—Dr. Otto G. T. Kiliani has been appointed attending surgeon to the German Hospital.

The Toxin Treatment of Malignant Disease.—In a recent letter to the *British Medical Journal* Dr. W. B. Coley sums up the results of his toxin treatment of malignant growths as follows: The different forms of sarcoma respond very differently to the toxin treatment. The melanotic variety is scarcely at all affected; round-celled sarcoma, especially of bony origin, seldom yields good results; the spindle-celled variety gives by far the best results. In eight out of fifteen cases treated the tumor entirely disappeared, and all of the remainder showed marked improvement. This disappearance may result in permanent cure, as is shown by the fact that four of the cases have passed the three-year limit. The results in carcinoma have been generally unsatisfactory, and it follows that this method of treatment should not be advocated except in inoperable sarcoma.

Society Reports.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FOURTH TRIENNIAL SESSION.

Held in Washington, D. C., May 4, 5, and 6, 1897.

WILLIAM H. WELCH, M.D., OF BALTIMORE, PRESIDENT.

(Continued from page 675.)

First Day—Tuesday, May 4th.

AMERICAN PÆDIATRIC SOCIETY.

President's Address.—DR. SAMUEL S. ADAMS, of Washington, took for his subject "The Evolution of Pædiatric Literature in the United States." He desired to put on record the works upon diseases of children written in this country during the past hundred years, and had therefore read every essay, pamphlet, and book to 1870. Revised foreign works are excluded as being exotic. Masterpieces devoted to diseases of women and children give too little space to children to be included.

Benjamin Rush in 1789 described faithfully influenza as it appeared in 1789, 1790, and 1791. The disease is ushered in with hoarseness, sore throat, chills, and fever; pain in the head and eyes is intense, sneezing incessant. Acute pains in the limbs are like rheumatism or breakbone fever of 1780. There are profuse sweating and quick pulse. Sometimes "the disease fell upon the bowels and went off in diarrhœa." There were recurrent attacks. During the prevalence of that epidemic he inoculated twenty children with small-pox and "never saw that disease exhibit a more favorable appearance."

Caldwell in 1796 was the first to write an inaugural monograph on pædiatrics. It was "an attempt to establish the original sameness of three phenomena of fever described by medical writers under the several names of hydrocephalus internus, cynanche trachealis, and diarrhœa infantum." He says: "I have called them phenomena or symptoms because I do not consider them as primary diseases. I shall treat them as the dependent effects, not as original cause of that febrile state of the system by which they never fail to be accompanied. Without the previous existence of general fever these phenomena cannot occur. They shall be considered as genuine and distinctive offspring of arterial action, morbid in its nature, excessive in its violence, and by causes of peculiar tendency determined to the encephalon, the trachea, or the intestines."

These diseases are the "immediate result of an evacuating process which never fails to diminish the impetuosity and tumult of febrile action." The arguments supporting the new theory were that the diseases are general, not local; that the topical affections are preceded by general fever; that the morbid processes are evacuant; that they are due to an impetus of the blood subjected to febrile action, and that the same remedies are efficacious in all three diseases. "These ideas of etiology and pathology were certainly original and his clinical pictures complete."

As Caldwell was America's first author on diseases of infancy and childhood, a few historical notes are given. When nine years old he knew only his alphabet, but began the study of classics at twelve years. He began his medical studies in the University of Pennsylvania in 1792, when in his twenty-first year. His scholarship was thorough and accurate. During the yellow-fever epidemic in Philadelphia in 1793 he was the only student to remain and was placed in charge of the Bush Hill Hospital. He opposed Rush and others as to the contagiousness of yellow fever.

Rush records that while in the army Caldwell was "overtaken by a shower, was wet to the skin while laboring under a high fever; the fever left him in consequence of the shower bath and never returned." Rush cited this as reduction of fever by unavoidable hydrotherapy.

In 1806 James Stuart, M.D., presented to this country the first recorded necropsy of "a case of cholera infantum, apparently benefited by the use of nitric acid." "The omentum had nearly disappeared, the stomach was distended, the pylorus contracted, large intestine contracted, mesenteric glands obstructed," etc.

In 1810 appeared the first book on management and feeding of infants. It was by a woman who concealed her identity. The title was "The Maternal Physician: A Treatise on the Nurture and Management of Infants. From the Birth until Two Years Old. Being the Result of Sixteen Years' Experience in the Nursery. Illustrated by Extracts from most Approved Medical Authors. By an American matron, Philadelphia, 1810."

The author was attracted by the great number of obituaries and felt that mismanagement was the cause. She advocated daily cold baths, advised cow's milk when mother's milk failed, and assailed "paps and other crudities." She cut the frænum of the tongue in all children, and advised cutting the gums with a razor. She believed in the contagiousness of dysentery and treated the disease with emetic doses of ipecac. She is entitled to the credit of being the first American pædiatric author.

In 1812 Jackson recorded a clear account of a necropsy in cholera infantum.

In 1814 Edward Miller wrote an article on "The Cholera, or Bilious Diarrhœa of Infants." In this is the first record of cold baths in the treatment of fever. He injected cold or iced water into the bowels as an "anodyne, sedative, and antispasmodic."

The second American book on diseases of children was by George Logan in 1825. He first refers to the use of splints for deformed feet. He advised healing excoriations behind the ear or at the navel, not leaving them alone as was the custom. He taught that a child must suck its food, not be spoon fed.

W. P. Dewees in 1825 published a treatise on medical and physical care of children. He decried the dress of the day, the torturing swaddling clothes that allowed no motion of limbs or body. Dewees had clear ideas of substitute feeding. He advised two-thirds milk, one-third water, and a small quantity of loaf sugar. He too proscribed all other mixtures, and insisted on small amounts at a time. Milk was to be heated but not boiled. He was not far from Pasteur. He gives the morbid anatomy of cholera infantum and recommends injections of warm water and salt. Scarlet fever he regarded as epidemic but not contagious, and treated it by cold sponging.

Flint in 1826 emphasized the idea that "physical culture is to the body what moral culture is to the mind."

Reynolds, of Massachusetts, in 1833 pointed out dangers of a studious life, overcrowding of rooms, cramped positions, excess of duties, etc. It was not until three years later that Germany presented a work on protection of health in schools.

Samuel Jackson in 1833 recorded a case of a girl, eleven years old, cured of scarlet fever by the ice-water treatment. The pulse fell from 160 per minute to 120 and all bad symptoms abated.

J. Forsyth Meigs in 1848 gave us "A Practical Treatise of Diseases of Children," with intelligent discussion of physical signs and treatment up to date.

Charles D. Meigs in 1850 published his lectures and proclaimed against undue drugging of children.

Dr. Arthur Meigs in 1885 gave us "Milk Analysis in Infant Feeding."

Surgical diseases of childhood and early life were first treated of by Dr. John Watson, of New York, in 1853. He discusses injuries to joints, atrophy of limbs, and especially atrophy of muscles.

Dr. A. Jacobi, the institutor of pædiatric lectures and clinics, the first professor of pædiatrics in this country, the recipient of the highest medical honors at home and abroad, has been writing from 1857 to 1897. His books and essays are numerous. "Catarrh of the Infantile Larynx," "Importance of Premature Closure of Fontanelles and Sutures," and other essays are familiar. He is not skeptical as to effects of drugs. Uncertain diagnosis is the real trouble.

Contemporaneous with Dr. Jacobi is Dr. J. Lewis Smith, whose reputation as an author has not waned during forty years. The first edition of his "Diseases of Children" appeared in 1869. Since that time radical changes have occurred in infant feeding, in the views of diphtheria *versus* croup and its treatment.

Sachs, of New York, in 1895 gave the first "Treatise of the Nervous Diseases of Children."

In the same year Dr. T. M. Rotch published "Pediatrics." To him must be accorded the honor of inaugurating an accurate method of feeding.

In 1896 Dr. L. E. Holt "emerged from the dead house with a real live book," "Diseases of Infancy and Childhood." He closes the century with a masterpiece.

A Case of Tic Convulsif.—Dr. J. C. Wilson narrated a case of the disease in a boy of fifteen years. He was a poorly nourished child, not well developed, son of a neurotic mother. The photographs showed the boy in the various stages of attack. The spasms occurred at intervals of ten minutes and continued fifteen seconds. Hyoscine and neurotics did little good. As masturbation was a factor in the case, circumcision was performed. There was some improvement afterward.

Diaphragmatic Hernia.—Dr. W. D. Booker presented specimens from a case of congenital diaphragmatic hernia, associated with recurrent attacks simulating asthma dyspepticum. The child had eight or ten undigested stools daily, though breast fed. The diet was changed to cow's milk with some improvement. Respiration was labored and forty or fifty to the minute, more if excited. A number of spasmodic attacks of asphyxia occurred and finally death resulted in such an attack. On autopsy all of the small intestine was found in the left pleural cavity, also a portion of the liver. In nearly all diaphragmatic herniæ the opening is upon the left side. The author suggested that the embryonic development of a pleural and pericardial sac from the abdominal cavity may explain this frequency.

Dr. O'Dwyer stated that he had seen a similar case, in which a diagnosis of empyema was made and the truth only discovered upon surgical opening.

Two Cases of Unilateral Tremor.—Dr. J. P. Crozier Griffith reported these cases. One case had slight shortening and atrophy of the left arm which might be thought to be post-hemiplegic. The tremor was always present. As there was no increase of reflexes, central lesions are ruled out. Treatment was unavailing. The second subject, eighteen months old, was of healthy parents. The child when one year old ceased crawling and trying to speak. Its tissues became flabby and it seemed to have no control over its movements. There was no nystagmus, no genuine paralysis. There was a question if this were due to tuberculous lesions.

Dr. Rotch said that faulty nutrition would account for most of these cases, and that when it was corrected recovery would result. One should be sure not to have a neurologist make the diagnosis, as he will hunt for a central lesion and overlook nutrition.

A Frequent Significance of Epistaxis.—Dr. J. Henry Fruitnight, the author, wished to recall the fact that frequent nose bleed in children commonly accompanies chronic valvular heart disease, mitral obstruction and aortic regurgitation being the common forms. One should always examine the heart and treat its lesions. This will cure the epistaxis.

Two Cases of Meningitis, Apparently Tuberculous, with Recovery.—Dr. George N. Acker reported these cases. They presented persistent vomiting, irregular respiration, and irregular pulse, classical signs of tuberculous meningitis. One had dulness at the apices of both lungs with small râles. There were also green undigested stools. The real diagnosis was enterocolitis. The second case, a mulatto boy of nine years, had shown scrofula and had chills and fever. His temperature was 103° F. There were delirium and retraction of the head. He had pneumonia.

Dr. Jacobi said that those who apparently recovered might die later, showing lesions of tuberculosis. He cited a recovery from tuberculous meningitis, but the man is now in an insane asylum.

Dr. Holt cited a case of death from simple meningitis, in which tubercles were found elsewhere than in the brain. He also mentioned a boy who had double hip-joint disease, but died six months later of amyloid disease and showed no tubercles.

Dr. Jacobi said lumbar puncture would help in the diagnosis.

Dr. Dillon Brown mentioned the use of tuberculin and ophthalmoscopic examination.

Congenital Laryngeal Stenosis.—Dr. Joseph O'Dwyer related a case in which the larynx was of the size of a crow quill. By dilating with sounds and later with the tip of his finger, the larynx was brought to normal size. He wished to emphasize the value of sense of touch to the surgeon, and call attention to dilatability of the young larynx.

AMERICAN ORTHOPÆDIC ASSOCIATION.

Address of the President.—Dr. Samuel Ketch, of New York, president of the association, delivered an address, taking for his title "The Work and Influence of the American Orthopædic Association." He called attention to the fact that just ten years ago the American Orthopædic Association was formed, and it was interesting and instructive to review the work which had been done. He stated that 323 papers had been read, including 35 on hip-joint disease, 19 on knee-joint disease, 2 on disease of the ankle-joint, 2 of the wrist-joint, 3 of the shoulder, 1 of the elbow, 49 on Pott's disease, 20 on lateral curvature, 2 on round shoulders, 6 on torticollis, 2 on sacro-iliac disease, 14 on congenital dislocation of the hip, 43 on club-foot, 6 on infantile paralysis, and 7 on spastic paraplegia, besides a large number on various other subjects embraced in orthopædic surgery. This was a record of which the association could justly be proud and its influence had been felt in the medical world. Ten years ago there were very few medical schools where any attempt was made to teach orthopædic surgery, and only three where there was a systematic course of instruction. To-day it had become a well recognized specialty in almost all schools, and through the work of this association the position of orthopædy had become assured, had been taken from the hands of the quack and the instrument-maker, and placed in the domain of scientific research. Through the influence of this association other societies devoted to the special study of orthopædics had been formed in

this country and abroad, and there was promise of the establishment of an orthopædic journal. He was glad to note also that more and more attention had been given to the study of the etiology and pathology of orthopædic diseases, and that the relations of orthopædy to general medicine and surgery were broader and more catholic in spirit; and felt that with the recent aids to diagnosis and research greater advances would be made in the future. He urged that the influence of the association be exerted against the work of ignorant instrument makers and venders of surgical appliances, and that efforts be made to secure if possible legislation to protect the unfortunate cripples who might fall into their hands—also that those members of the association who were teaching should impress more and more upon their students the importance of early recognition of symptoms in joint and spinal disease and other deforming conditions.

In conclusion a fitting tribute was paid to the memory of those members of the association who had died during the past year: Dr. Henry G. Davis, the pioneer in this country of the treatment by traction of joint diseases; Dr. George W. Ryan, of Cincinnati, Ohio; Mr. N. Grattan, F.R.C.S. Ed., of Cork; Dr. Harry Hodgen, of St. Louis, Mo.; and Dr. A. Sydney Roberts, of Philadelphia.

Erosion of the Knee-Joint with Conservation of the Epiphyseal Cartilage.—Dr. Harry M. Sherman, of San Francisco, stated that his paper was simply a report of three cases to illustrate a method of procedure which was somewhat experimental but not altogether new, viz., the removal of the epiphyses for knee-joint disease without disturbing the epiphyseal cartilages. The effect of the removal of these cartilages in the growing bones of children was well known. As Koenig has said that primary tuberculosis of the epiphysis rarely attacks the diaphysis, and as it was impossible to know how extensive the disease in the epiphysis might be, it was important to remove it entirely without disturbing the barrier between it and the diaphysis. Of the three cases two presented with the knees extremely flexed with contraction of the posterior tissues and dislocation of the tibiæ backward. The flexion was corrected by apparatus until the posterior tissues were lengthened sufficiently to allow the bones to be placed in line after removal of the epiphyses. The epiphyses were removed in both cases and the patellæ, but the cartilages left intact. Both subjects left the hospital with the limbs in a straight position, but flexion occurred while the children were under observation and in spite of plaster splints, in one case there being erosion of the skin anteriorly from pressure. This seemed to be due not to a return of contracture in the soft parts but an unequal growth of bone. Dr. Sherman presented skiagraphs showing the formation of new bone. The third case was different, as he saw it very early and treated the boy conservatively for two years. As there was no improvement and as the disease seemed to be located in the head of the tibia, he removed the epiphysis, leaving the cartilage. He then found that there was disease also in the diaphysis, which he removed, forming two cavities with the portion of cartilage between. A portion of this had sloughed, but sufficient had remained to form new bone and continue the growth, so that now the child was perfectly well with full function of the joint and only two and a half centimetres' shortening. He showed a skiagraph of this case also.

Dr. Charles L. Scudder thought the suggestions offered by Dr. Sherman were excellent, that in his opinion the long-continued use of apparatus was often detrimental, and that if by this means the early investigation of a local lesion was possible it was a great advance. As regards flexion after excision, he thought that a slight degree of flexion, say 5° or 10°, was preferable to having the limb perfectly straight, that the patient could sit easier and walked with less limp.

Dr. R. W. Lovett had been interested in the paper because he had had no experience in early excisions in knee-joint disease. He had had considerable experience in late excisions, and thought the results remarkably good. The conservative treatment had been very satisfactory in his hands. At the Children's Hospital the indications for operation were to open abscesses, and then if extensive bone disease was found to excise. Arthrectomy had not proved satisfactory.

Dr. W. R. Townsend said he thought excision of the knee in children was rarely necessary, as they usually did well under conservative treatment, while on the other hand in adults the rule was that an excision became necessary in a comparatively short time.

Dr. Blanchard remarked that his experience had been quite different, and that his adult patients did better than the children.

The President said that while theoretically it was desirable to remove early a local tuberculous focus, practically it had been found very difficult to do this, and the results obtained by the German surgeons, especially in the hip, had been far from satisfactory. He could bear testimony to the fact that flexion frequently returned after excision at the knee and many times to a degree equal to the original. He believed that the conservative treatment in children was very favorable and should be thoroughly tried before resorting to any operation.

Dr. Sherman in closing said that these cases were all late operations and that he had referred to the question of focal operations only incidentally. He would exclude the hip from these operations on account of the impossibility of knowing how far to go. He felt that the question of treating a tuberculous bone lesion conservatively or by operation depended upon the ability to estimate the vitality of the patient.

Report on Cases of Traumatic Spondylitis.—Dr. Arthur J. Gillette, of St. Paul, said that he used the term traumatic because the conditions described followed an injury immediately. The first case was that of a man in good health who slipped upon the sidewalk and shortly afterward became paraplegic with an area of anæsthesia extending almost to the nipple line. Five months later, when he first saw him, these conditions were still present, and in addition there was slight prominence of the spine in the dorsal and lumbar regions. There were rigidity and pain more severe than usual in chronic disease of the vertebræ. Treatment gave only partial relief. Later he developed tuberculosis of the lungs, which ran a rapid course. A post-mortem revealed a diseased condition of every vertebra, the crest of the ilia, the ribs, and sternum, in addition to the tuberculous lesions in the lungs. The second case was that of a very vigorous man of thirty-five who "sprained his back" severely by lifting, a few months previous to the examination. At that time there were inability to walk, exaggerated reflexes, and ankle clonus, slight prominence in the dorsal spine and rigidity of the muscles. In attempting to apply a plaster jacket the patient had an alarming attack of syncope, and following this attempt all the symptoms became worse and the paraplegia increased until the sphincters were involved. Symptoms of basilar meningitis also appeared. A few weeks later there was a sudden attack of coughing and dyspnœa and evidences of pleural effusion were found, while the head symptoms were relieved. It seemed to him that these symptoms could be produced only by the rupture of an abscess, which had been pressing on the cord, into the pleural cavity, and the autopsy a few weeks later showed that this was the case. There was also extensive disease of all the dorsal and lumbar vertebræ. The third case was

that of a woodsman who "sprained his back," but was not obliged to stop work at once. When he was seen a few weeks after the injury there was slight prominence of the first two lumbar vertebræ. He grew worse in spite of treatment, suffering great pain in the lower cervical and dorsal region, where a kyphos subsequently developed. Death occurred after a number of months and the autopsy showed extensive disease in a large number of vertebræ.

Dr. R. W. Lovett reported a case which he had seen September 5, 1896. A young man, on April 3, 1896, had been injured by having a wagon, weighing twenty-six hundred pounds, run over his pelvis. He was confined to bed only a week or two and had no medical attendance, then went about on crutches though suffering considerable pain. He presented the appearance of a man suffering from severe lumbar Pott's disease with lordosis and shortening of the trunk, but none of the usual symptoms of Pott's disease were present. The diagnosis of spondylolisthesis was made and a plaster jacket applied. The jacket was renewed every two months, and in April of this year the patient was discharged as all signs of irritation and pain had disappeared, although the deformity, as shown by the photographs submitted, was still very marked.

Dr. Lovett had been surprised at the good result obtained.

Dr. N. M. Shaffer was inclined to think that there had been no true dislocation in Dr. Lovett's case, and thought that probably the injury had produced an inflammation at the junction of the last lumbar vertebra and the sacrum, and that the deformity was due to the reflex muscular spasm.

The President stated that he had seen a case which had presented symptoms very similar to those of Dr. Gillette's cases, viz., prominence in the dorsal region of the spine, paraplegia, and severe local pain, when the autopsy showed no lesion of the vertebræ whatever.

Dr. Taylor, of Philadelphia, asked if a section of the cord was made, and suggested that it might have been a case of syringomyelia.

The President replied that there was no external evidence of that disease, but he had not been able to get a report upon the cord from the pathologist to whom he had sent it.

The Treatment of Torticollis.—Dr. E. G. Brackett, of Boston, read a paper with this title. He said that he desired in his paper to emphasize a part of the treatment of this affection which he thought had been rather neglected, viz., massage and manipulation after operation, to stretch the contracted muscles, exercise those which had become weakened from disuse, and to overcome the faulty habit of carrying the head. He thought there might be a few cases which could be cured by this treatment alone, though in one which he reported it was a failure, and he thought in almost every case an operation to overcome the obstruction was necessary first. But the use of massage and manipulations persistently would obviate the prolonged application of apparatus, as he showed by reports of two cases. A curious feature of one case, which he had never seen mentioned, was the occurrence of attacks of syncope whenever the head was overcorrected beyond a certain point. This took place at the time of the operation, and had persisted ever since. He could explain it only by the possibility of pressure on the vagus from the changed relations of the parts.

Dr. L. W. Hubbard spoke highly of exercises and manipulations after operation for torticollis, and reported a case in a woman of twenty-eight years, which showed the good effects of this plan of treatment.

Dr. Shaffer said some time ago he had made a thorough trial of treating these cases without operation, and had become convinced that success was rarely possible. He believed that the after-treatment by exercises was very important.

Dr. Steele found such exercises and manipulations as recommended by Dr. Brackett rather difficult to carry out, and he had been in the habit of employing suspension and with good results.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

President's Address.—Dr. E. Fletcher Ingals, of Chicago, after reciting briefly the history of the association since its organization in 1884, called attention to the great increase in our knowledge of the climatological possibilities in the United States, and urged the members to extend their studies to the effect of climate on various other diseases in addition to those of the respiratory and circulatory organs. The remainder of the paper was devoted to the antiseptic treatment and the limitation of climatic treatment of pulmonary tuberculosis. He briefly cited several cases illustrative of the benefits to be derived from the various antiseptics and from an antiseptic atmosphere, and urged upon the profession the inutility of sending patients at all advanced in the disease away from home, excepting under the most favorable circumstances. The paper closed with the following conclusions:

"In addition to tonics, supporting and anodyne remedies, various antiseptics appear to possess great value in relieving pulmonary tuberculosis, but in order to get good effects it is imperative that the system be as nearly saturated with them as possible. They should be given at first in small doses, but the amount should be steadily increased until the maximum dose is obtained, care being always taken not to disturb the digestive organs. For example, with the oil of cloves we may begin with five drops given in capsules from three to five times daily, after each meal and in the middle of the forenoon and middle of the afternoon, the medicine always to be followed by a glass of milk. The second day the dose should be six drops; the third, seven; and so on until a dose of twenty-five or thirty drops is given each time.

"Creosote can seldom be given in sufficient quantities to have any material effect, because of the disturbance of the digestive organs which it is liable to cause, and because of its coagulating effect upon all albuminoids. The same may be said of carbolic acid.

"The carbonate of creosote is much more bland, and may be given in doses of from five to sixty drops after each meal with the greatest benefit.

"Guaiacol may be given in much the same way as the oil of cloves, though in somewhat smaller doses, but it is usually less easily borne than the carbonate of creosote or oil of cloves, and often cannot be tolerated in sufficient quantities. The carbonate of guaiacol may be used in much the same way as guaiacol itself, but most patients seem unable to take it in sufficient doses. Oil of cloves and carbonate of creosote are the most satisfactory antiseptics for internal administration.

"Iodine may be used as recommended by Shurley with undoubted benefit, but it causes considerable pain and is open to the objection that it necessitates too constant attendance of the physician. It may also be used advantageously as an inhalant.

"Patients should not be sent from home unless their financial and social position is such as to render the journey and sojourn easy and agreeable.

"In the first stage of the disease, patients should as a rule go to a high altitude, where the atmosphere is as warm as practicable. In the second stage they should be sent to a medium altitude. In the third

stage, if sent anywhere, it should be to a low altitude, and in most instanes to a dry atmosphere.

"When sojourning in a favorable climate the patient should be out of doors as much as practicable during the pleasant portion of the day, but should avoid excessive heat, excessive cold, and unusual fatigue.

"Patients who have been improving under any course of medication should not discontinue it upon going to a different climate, but however valuable any remedy may appear it should not be continued if it becomes clear that it is deranging the digestion.

"Of anodynes to check cough, hyoscyamus, camphor, cannabis indica, stramonium, and conium are of most value, because they can generally be taken in sufficient quantities without disturbing the digestion, whereas opiates are usually deleterious in whatever form they may be employed.

"The majority of patients sent from home in the later stages of pulmonary tuberculosis are injured by the journey and their lives correspondingly shortened, though in a small percentage a very great benefit is obtained."

Dr. R. G. Curtin, in discussing the president's address, said that he was much interested in the study of the climate of the City of Mexico. He was a delegate to the Pan-American congress, and considered it one of the most unhealthy cities of the world. He stated that the city had a very high death rate, and gave as a cause the location of the city in a valley which received the sewage. Dr. Curtin's reason for speaking of this fact was to carry out the idea of Dr. Solly's remarks, that something besides elevation should be considered in the location for cases of tuberculosis.

Dr. J. B. Walker believed that the oil of cloves had not only an influence in modifying the general nutrition, but also that it was beneficial in cell nutrition.

Dr. Solly believed that the oil of cinnamon is perhaps a little better antiseptic, as the oil of cloves is not so well tolerated by the stomach.

Dr. Ingals, in closing the discussion, said he could not agree with Dr. Solly that the effects of change of location are purely mental; he believed also that the bicarbonate of creosote could be taken in large quantities if started in small doses. He had not used the oil of cloves as an inhalant, and stated that he did not expect to attack the bacillus locally by an inhalation. He was familiar with the views of some that the antiseptics were useful in benefiting the nutrition, and he thought they did benefit the blood by increasing the destructive qualities of the blood for microbes.

Choice of a Summer Residence.—Dr. F. I. Knight, in a paper with this title, compared the New England coast resorts, and said they presented differences of temperature, moisture, wind, and other climatic conditions. He said that to be cool in summer on the New England coast one must be where the south wind blows directly from the sea. As the general direction of the line of the east coast runs mostly northeast, the coast would have the south wind from the water if it were not for the interference of the two capes, Cape Ann and Cape Cod. North of Cape Ann as far as Hampton, N. H., and north of Cape Cod, especially between Cohasset and Boston, the south wind comes overland and is a hot wind; whereas north of Hampton, N. H., and south of Cape Ann toward Boston, on what is called the north shore (*i.e.*, of Massachusetts Bay), he said the south wind comes from the sea; therefore these places are cooler than the former. He spoke also of the island resorts, where the quality of sea air is experienced more constantly and the temperature is more equable, but which differ considerably one from another in average temperature. He stated that the Isle of Shoals was much cooler than Block Island or Nantucket.

Dr. Bowditch, in discussing Dr. Knight's paper, said that the curiously dry quality of the atmosphere on the Maine coast, in spite of the fact of its being on the sea, was so striking that he thought phthisical patients would do well there, and although he had never dared to recommend it for such patients because he had found that mountainous regions were better. still, if a patient wished to try it, he should not hesitate in telling them to do so.

Dr. Solly, in discussion, said he was very glad to hear Dr. Knight's remarks about these home climates; that in Colorado it was often necessary to send patients back East for the summer; that it was a question very important to know where to send them, and that he had been studying the New England climate in that regard. He wished it were possible to secure meteorological reports of these places.

Dr. Alton thought there had been too much generalizing in the matter of climate, and that it would be well to study minutely approximate localities.

Dr. Babcock, in discussing the paper, expressed his belief that the effect of climate in the treatment of tuberculosis is largely due to whether or not the patients are able to spend much time in the open air, and that if patients are to be sent away in the summer they should be sent to climates which are stimulating, and that they must go to localities where they can remain in the open air.

Dr. Taylor stated that the reason why tuberculosis was at one time so prevalent along the Maine coast was on account of the insufficiency of the food, its quality, and its preparation, and that since the improvement in these details tuberculosis is far less prevalent.

Dr. Bonney stated that inasmuch as he had lived in Maine for a number of years, he had observed that there was a considerable difference in the character of the soil in portions of Maine from that in New Hampshire or Massachusetts. He said there was much surface moisture after a rain storm, and that it took much longer for the moisture to dry than in Massachusetts. He spoke of the ready disappearance of the fogs, which came on after a delightful day and would entirely disappear in the morning.

Dr. Knight, in closing the discussion, remarked that the coast of New England was hardly to be recommended except in the summer and autumn. He said in regard to the prevalence of such a disease as tuberculosis that it should be borne constantly in mind that it does not exist until introduced, and that it is rather the propagation and development that are to be favored by climatic conditions.

Climate or Environment as a Factor in the Repair of Neurasthenia and Melancholia.—Dr. J. Madison Taylor, in a paper with this title, expressed his personal convictions, based upon cases in his own practice and elsewhere. The paper was designed to elicit comment as to the experience and conviction of other climatologists. The profession is dependent for statistics on this subject upon contributions from those physicians who reside in countries and situations valuable from a climatic point of view. The author's convictions were: 1. That change of climate is of relative insignificance in the treatment of neurasthenic states, although changes of situation quite frequently are of more or less importance. 2. The most important element of change has to do with environment, including not only change of place, but of persons and things. 3. It is important to outline what constitutes the essential points in this change of environment, so that the average practitioner may keep in mind such imperative conditions and modifications as the varying needs of the individual, his domestic and financial status, make necessary.

The paper made special reference to the undesirability of radical changes inconsistent with the customary life of the patient, and laid stress upon the distinct harm wrought upon a highly sensitive organization thrown out of balance by a prolonged residence on the seacoast or in high mountain regions. It called attention to the hurtfulness of rushing about from place to place in obedience to morbid impulses, the outcome of agitation due to disease.

Diseases of the Nervous System Affected by Climate; Climate Defined.—Dr. Sanger Brown, in a paper read by title, stated that benefits derived from change of climate are due: 1. To incidental influences, such as relief from responsibility, change of scene, an outdoor life, and regular habits. 2. To the influence of the climate in the promotion of the general health. 3. To the direct effect of the climate upon the disease itself as the healing influence upon the lungs popularly attributed to inhalation of the atmosphere of certain districts. The author briefly recapitulated: "In debilitated states of the nervous system, attended with such disturbances of function as simple melancholia, neurasthenia, neuralgia, insomnia, neuroses incident to the menopause and hysteria, a high altitude and the seashore are contraindicated, and while generally in such cases a clear cold climate is most beneficial, a few cases do better in a mild inland climate. After a certain degree of improvement has taken place, this may frequently be advanced by sea or even mountain air."

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

A Report of Post-Mortem Examination of Some Cases of Movable Kidney.—Dr. Francis S. Watson read the first paper. In thirty-eight subjects chosen at random in dissecting-room, he found eight cases of movable kidney, a large proportion. Four cases were of males, four of females. In four cases both kidneys were movable; in three cases the right; in one the left. The perirenal fat was much diminished in five of the eight. Hydronephrosis was found in none. Ptosis of other organs was found in four of the eight. In two cases rotation on the long axis was easily performed. In two others, in which the peritoneum was much relaxed, this rotation was impossible on account of transverse bands of peritoneum. These bands the writer had not found noticed in the literature of the subject and had not found them before himself, and did not know just how much, if any, significance was to be attached to their presence. The age of the subjects varied from forty to eighty-four years. In the subject eighty-four years old there was marked evidence of tight-lacing, and the kidney was very freely movable. The enlargement found in these cases the writer thought due to congestion and not to a hydronephrotic condition from backing up of urine from obstruction of the ureters. In only one case observed (and that not of these eight reported) was there hydronephrosis, and in that there was also a renal calculus, which was perhaps the cause of the hydronephrosis. Tying the ureter causes congestion but not hydronephrosis, and after tying and then releasing we get large quantities of urine passed, more than could be caused by the mere obstruction. In rotation of kidney we get twisting of the vessels and ureter. The blood-vessels can stand a greater degree of twisting without occlusion than the ureters. In downward displacements, if the peritoneum is much relaxed and the ureter is free, we get little or no kinking and occlusion of the ureter; but if the ureter be fixed by adhesions then it certainly gets kinked and occluded. The enlargement then is due to obstruction of the ureter caused by rotation or descent of kidney (permitted by relaxed condition of peritoneum) with fixed ureter. In regard to the polyuria observed after the periods of congestion and enlargement, Dr. Watson cited the case of urination in dogs, whose bladder is small and non-distensible. The dog can go without passing urine for some eighteen hours, if compelled to, and then within a few minutes will pass more than six times as much as the bladder can hold, this being doubtless a nervous phenomenon, analogous in its effect to a temporary tying of the ureters. He spoke also of the so-called derotation of the kidney, at the time of attacks of descent (or moving), with congestion and enlargement due to the twisting of the ureter, with pain, etc. This was accomplished by turning the patient over on the side of the affected kidney, elevating the hips, and then manipulating the kidney into place. The pain ceases and the usual free urination follows (six to twelve ounces), repeated several times within a short period.

Clinical Observations on Loose and Displaced Kidneys.—Dr. John P. Bryson, of St. Louis, said that the real pathological condition was a disturbance in the condition of the fatty capsule, with or without general enteroptosis. This involved, 1st, loosening and movement of the kidney within its capsule; or 2d, a condition in which the capsule itself is loose from its posterior attachment, so as to slip with the kidney; or 3d, a combination of both first and second conditions. Early in these cases the pain is in inverse proportion to the movability of the kidney, because it is the kidney that leaves its bed, and the vessels, not being loose, cannot follow it. The displacements of the kidney and twisting or bending of the vessels cause compression of vessels, and *ergo* congestion and swelling of kidney, and therefore the pain follows. The direction of kidney movement was in the cases observed more often a rotation than a descent, and he found more pain from the twisting of the pedicle in rotatory displacement than from bending of the pedicle in descent of kidney. In one case the kidney was displaced downward and when down rotated on its short axis so that the hilus looked upward. In displacement of right kidney there were pain in the stomach and vomiting, but he had never observed this in displacement (or any trouble) of the left kidney. This suggested some possible connection of the right kidney with the pneumogastric nerve. In another case the kidney had descended into the lower right inguinal region and was rotated on its long axis, so that the outer edge looked forward; this was due to a band of adhesion attached opposite the twelfth rib and below to the kidney on its outer inferior border. The ureter was kinked low down. There was a constant pain, of a pulling, dragging character, in the loin. The right loin was depressed and sunken in. There was some atrophy of the kidney and a slight degree of hydronephrosis. Operation: Drained through the loin and fastened the kidney as high up as possible. In this case the speaker observed a phase of the polyuria which was peculiar. When up and about the patient had oliguria; when lying down he had marked polyuria. The case was a neurotic one. The first urine of a series of frequent passings was of fair specific gravity; the later ones were very low in specific gravity. The symptoms of these cases varied in three ways: first, as to intensity; second, in some there were no symptoms referable to the kidney, but all to the stomach; third, the character of the symptoms was variable, but all were due to the same cause.

There was free discussion of the two papers of Dr. Watson and Dr. Bryson taken together, especially of the polyuria and the gastro-intestinal symptoms found in many of the cases, the polyuria in most being referred to some action (unknown as yet) of the nervous system upon the kidney, and also being regarded

as of little value as a diagnostic point of movable kidney.

Dr. Bryson in closing spoke of the claim of some authors, that very flat kidneys were more liable to become loose than others. He had observed one case bearing out this statement. Polyuria is due, 1st, to irritability of the lower part of the urinary tract, causing frequency perhaps more than true polyuria; and 2d, to kidney trouble, which was more likely to be true polyuria. He thought that the constantly repeated swelling (or congestion) and emptying, due to obstruction low down, were perhaps one cause of loosening.

Dr. Watson, in closing, said that he believed that movable kidney was usually if not always only a part of a general enteroptosis of all the abdominal organs. He also suggested further observation as to the crystalline constituents of the urine in cases of movable kidney, especially oxalates, which he thought were always present in greater or less quantity.

Some Observations upon the Surgical Anatomy of the Kidney.—Dr. George E. Brewer, of New York, read a paper with this title. During the last winter the writer had made it a routine practice to make an abdominal examination of all patients upon whom such was allowable, making first a general anterior abdominal examination and then a bimanual examination, one hand behind and the other in front. If no results were obtained the patient was turned face downward on the table, after Professor Guyon's method. A few were examined standing, but with generally poor results, on account of the rigidity of the abdominal muscles in that position. If by any of these methods the kidney could be positively identified, it was classed as a "palpable kidney;" if it could be grasped and moved, but the examiner could not feel the upper border, it was classed as "movable kidney;" if the upper border could be felt and the kidney was freely movable, it was classed as "floating kidney."

To compare the clinical findings with the position of the organ as found in the cadaver, examinations were made on bodies in the dissecting-room, and the highest point of the upper border was found in the majority of cases to be about three inches from the spinal column, and between the eleventh and twelfth ribs. Other anomalies and abnormalities of the anatomy were also observed, as detailed later. Total cases examined, 351, 200 clinical and 151 post mortem. Of the 200 clinical 142 were males, 56 females. Number of displaced kidneys in the 200 clinical cases, 11, or 5.5 per cent. Of these 9 were palpable, 1 movable, 1 floating. In the 142 males but 2 displacements were found, both on the right side, or 1.4 per cent. In the 56 female cases 9 displaced kidneys were found, or 17.3 per cent., all on the right side. Of the 11 patients with movable kidney only 1 complained of symptoms directly attributable to the kidney.

Of the post-mortem examinations 151 were made, 91 males, 56 females. In 4 the sex was not recorded. Number of displaced kidneys, 14, or 9.2 per cent.; 10 in males, 4 in females. Of the 10 in males 6 were on the right side, 4 on the left side. Of the 3 in female 2 were on the right and 1 on the left side; in one case in which sex was not recorded the displaced organ was on the right side. None of these displaced kidneys were freely movable at the time of first examination, a fact probably due to the post-mortem solidification of the perirenal fat. In only 3 cases was there evidence of the kidneys having been freely movable during life. In 6 cases the lower border of the kidney was found within one inch of a transverse line joining the two anterior superior spinous processes of the ilium.

It is thus seen that although the clinical examinations seemed to confirm the generally accepted opinion that movable kidney is more common in women, and in the great majority of cases on the right side, the post-mortem examination facts observed seem to be at variance with this view, as shown in the following table:

Displaced Kidney.	Per Cent in 200 Clinical Cases.	Per Cent. in 151 Post-Mortem Examinations.
Both sexes	5.5	9.2
Males	1.4	10.9
Females	17.3	5.3
On right side	5.5	5.9
On left side	0.0	3.2

This discrepancy may be due to:

1st. That the number of observations is too small for accurate deductions.

2d. The fact that the kidney was fixed in normal position after death by no means proves that it was not movable during life.

3d. That the data from clinical examinations are probably inaccurate.

Attention was also called to some other facts observed during the post-mortem examinations which may be of surgical interest. In one case the left kidney was congenitally absent, the right one being twice as large as normal. Great variations were observed in the distributions of the arteries to the kidney: 85 kidneys received more than a single trunk; of these 70 had 2 from the aorta, 12 had 3, 2 had 4, 1 had 5; in the last case 3 of the 5 were from the aorta, 1 from the ovarian, and 1 from the common iliac. Twenty-eight kidneys received trunks or large branches in locations other than the hilus. Of these 19 received a large trunk at the upper pole, 6 at the lower pole, all of which might easily have been torn off during a nephrectomy. Three received large trunks on the anterior surface, which again might easily be torn during operation. In one instance the spermatic artery was given off from the renal, and in two cases from the aorta above the renal and crossed the renal pedicle near the middle, and might possibly and even probably be included in a ligature of the pedicle.

Many variations and anomalies in the arrangement of the ureters were also observed which might lead to difficulties in diagnosis. For instance, in one subject four ureters were found, two from each kidney. In another subject there were two complete left ureters, one from the upper portion of the kidney being markedly diseased and coming from a diseased pelvis; the other, from the lower part of the kidney, being perfectly healthy. In two other cases the ureters were double above near the kidney, uniting below to form a single trunk.

Results after Nephrectomy for Renal Tuberculosis.—Dr. L. Bolton Bangs, of New York, said he was unable to get many remote results or reports of cases long after operation. He took as his point of reference from which to reckon, Dr. Newman's report in 1888. Opportunites for diagnosis were much better since the introduction of the cystoscope. The immediate results were brilliant, both as to mortality and relief from suffering, and the patients were provided with a promise or a hope of cure. He found one hundred and twelve cases, most of them not published in previous reports. Mortality from operation, nineteen per cent.; mortality of first few months, twenty-eight per cent. These figures agree with Pollet's, making mortality twenty-nine per cent. Thirty-three of these subjects had lived from one to eight years after operation. The "promising" cases were thirty-three in number. Those having no remote record of condition after operation were nineteen in number. The prognosis, if the operation was unilateral and early, was fairly good.

Discussion brought up the question as to the relative value of operation and palliative or hygienic treat-

ment, with the majority of the speakers favoring the latter, excepting when the condition was unbearable from pain, etc., and then operation was advised for the relief of symptoms rather than as an attempt to cure. Also the discussion brought out the difficulty and the importance of excluding other bacilli than the tubercle bacilli from the microscopical examinations of the urine, especially the smegma bacillus, which gave most trouble.

Detection of Kidney Stone.—Dr. Edward Martin, of Philadelphia, did not read his paper, but only gave an abstract from memory, calling attention to a few points of etiology and symptomatology, and showing a number of skiagraphs of kidneys with and without stones in them. Among the etiological factors he spoke of heredity, traumatism, and kidney diseases. Among the symptoms he mentioned pain as a most misleading one; deposits of large quantity of mucus in sterile urine; blood in the urine, less when the patient is quiet, more when active or jolted about, with methæmoglobin rather than oxyhæmoglobin in the urine: tenderness over the kidney, sometimes transferred, pus in urine; renal colic; palpation difficult if not impossible. Positive signs: Passage of calculi; lumbar incision, with examination of kidney direct; Roentgen rays. He had had seven pictures taken by *x*-ray process, and only one was a really good typical picture of a living subject; he had had two good cadaveric pictures. By the *x*-rays all kinds of stone could be detected, but the phosphatic stones best. These pictures were certainly a help, but not conclusive always, as they would not always "take." In one case a stone had been indicated by the picture but none found on operation.

Discussion brought out the fact that small stones were usually the most troublesome, and were just the ones that could not be well located by the skiagraph; they were often located in small diverticula of the pelvis, and often could be found only by most careful digital examination—sometimes not even then. Absolute diagnosis in all cases was as yet impossible, and many operations must still be exploratory.

Scrotal Resection Clamp.—Dr. Bransford Lewis, of St. Louis, showed a new modified scrotal resection clamp, having a screw catch at one end, made so that it could be slipped off at will without unscrewing it; with eyeholes, funnel shaped, through the blades, for the ready passage of sutures before taking off the clamp, and with the inner surfaces of the blades hollowed or gouged out to allow the infiltrating anæsthetizing fluid to penetrate the area through which the needle would pass in introducing the sutures.

Cystin Calculus.—Dr. Paul Thorndyke, of Boston, reported a case of cystin calculus of the bladder. The history covered five years, with attacks of pain, passage of gravel, and occasional stoppage of urine. The stone was crushed and removed. The principal objective sign had been the rapid and easy decomposition of the urine, with evolution of H_2S, and occasional cystin crystals in the urine. The calculus weighed three and one-half grains.

Urethro-Rectal Fistula.—Dr. James P. Tuttle, of New York, read a paper on a new operation for the relief of this condition. Dr. Tuttle spoke of the lack of material in medical literature relating to this subject, and spoke of the many books and of the fact that little definite or conclusive was reported in them; he said that cases of this disease were rare, but had heard of a number of cases besides those here reported. The condition generally originated in the urethra, and the urine escapes into the rectum much more frequently than fæces into the urethra. These fistulæ are either traumatic or pathological; the former usually result from operations, the latter from cancerous growths, ulceration of rectum, simple or syphilitic or tuberculous; extension of anal fistulæ; abscesses. Diseases of the urethra and prostate are the most frequent cause, especially stricture of the urethra with posterior ulceration, and abscesses of the prostate. There are two distinct stages, viz., the acute or suppurating, and the chronic or cicatricial.

Diagnosis: The characteristic symptoms are the passage of urine by the rectum and of gas and fæces by the urethra, and the physical objective signs obtained by examination by finger or instruments. By finger one can locate the opening in the rectum if large, or even if small one can recognize the elevated pouting orifice; by speculum in the rectum one can see the orifice and pass a probe into it, and this can be felt in contact with sound in urethra. Dr. Tuttle gave a table of differential diagnosis between this condition and vesico-rectal fistula.

Treatment: This has been varied and mostly useless. After discussing and dismissing the many other means used, the writer proceeded to outline his own operation. The principles of successful treatment are: 1st. Remove all obstruction to the passage of urine and fæces by their normal outlets. 2d. Protection of the parts from the abnormal passage of urine, of fæces, and of gas, by catheterization of bladder and (best) by forming a temporary artificial anus. 3d. Treatment of the fistulous tract itself. This is to be attempted first by stimulating or caustic agents, and, these failing, by surgical operation. These operations have been many, but few of them successful. The usual one is some modification of Sims' operation for vesico-vaginal fistula. The difficulty is in keeping the wound free from decomposing urine. Fresh urine does no harm, but when it gets into any pocket it lies there and decomposes and then infects the wound. This pocketing is very hard to avoid in these operations, especially if the fistula is a long or deep one.

Ziembecki applied a new principle in destroying the parallelism of the two orifices, rectal and urethral, by dissecting the lower end of the rectum free, and rotating it till the fistulous opening was well off to one side, and suturing it in that position. Usually the urethral side gives way first in the unsuccessful cases, and therefore Dr. Tuttle paid especial attention to preventing that. He incised the rectal sphincter, cut away cicatricial tissue, and freshened the edges of the fistula. He dissected the rectum loose to a point above the opening of the fistula. He then opened the urethra by perineal section, closed the fistula in the floor of urethra by flaps over a sound in the urethra, and left the perineal wound open. He sewed the intestinal wound up and packed, putting a catheter in the urethra and a tube in the rectum. In six weeks the case was discharged cured.

Dr. Tuttle then gave details of twenty-five cases—eight cured by operative, four by palliative measures.

AMERICAN SURGICAL ASSOCIATION.

The Influence of Anæsthesia on the Surgery of the Nineteenth Century.—Dr. John Collins Warren, of Boston, president of the association, read a paper on this subject. It seemed desirable that he should speak on this subject on this occasion, since the semi-centennial of this important discovery had just been celebrated. He then described the methods of operating before the discovery of anæsthesia. No medical man attempted to operate. Little was known about the means of controlling hemorrhage. The introduction of the tourniquet brought about great improvement in this direction. Violent prejudice existed against surgical procedures. He then briefly outlined the history of surgery. In 1774 a closer union was established between medicine and surgery. In 1737 an academy of surgeons was founded. In 1743 bar-

ber surgeons were done away with. Later surgery became a distinct branch. The speaker then outlined briefly the methods of instruction in England and in France. To show the light esteem in which surgery was held he cited the fact that in 1753 Hunter was advised to study medicine rather than surgery. Dr. Warren then described the horrors of surgery without anæsthesia and the torture of the after-treatment. Superficial wounds were strapped together tightly and deep wounds were packed full with oakum. Military surgery has contributed much to the improvement of surgical technique. The asepsis which followed in many cases must be credited to the rapidity of operating, the most rapid operators having less sepsis. Operators were advised to cut quickly in order to avoid pain. Many surgeons used caustics, thus avoiding the use of the knife. The discovery of anæsthesia was a surprise, yet history will show that it had been foreshadowed. In 1839 Velpeau wrote about escaping from pain. Dr. Warren then reviewed at length the history of the discovery of anæsthesia, such as was read by him at the recent celebration in Boston. The crucial test was in the public administration of ether. This was done. The operation was for the removal of a tumor of the jaw, a picture of which was passed around for inspection. Salient truths stand out well in reviewing the history of anæsthesia. In 1846 anæsthesia became recognized. Immediately after its recognition the number of surgical operations greatly increased; in London hospitals the number of operations performed was more than doubted. The notable increase was among the voluntary operations. He then referred to sepsis, which ran riot in 1860 at the Massachusetts General Hospital. Students to-day know nothing of the ravages of sepsis in those days. He then spoke of the great work of Lister. Hunter had aroused great thirst for knowledge through his discovery. Great advances were made; anæsthesia widened the field of research, and when it seemed that surgery was to run on to its destruction through sepsis Lister came to its rescue.

The Indications for and the Technique of Hysterectomy.—Dr. John Homans, of Boston, read a paper with this title. Under indications for hysterectomy he advised operation: 1st. In oft-recurring hemorrhage without discovered fibroid or malignant disease, when all the usual measures have been tried without permanent success. Clinical reasons prevail over histological and practical over theoretical. 2d. In malignant disease, when the operation is possible without permanent injury to the bladder or bowels. 3d. (*a*) In a case of fibroid tumor which causes much discomfort or (*b*) threatens death by hemorrhage. (*c*) Because it may increase and become burdensome. (*d*) Because it may develop a cancerous character. (*e*) Because by its pressure on the abdominal organs it may destroy life. (*f*) Because it may become cystic and thoroughly adherent. He did not mean fibroids with dilated lymph spaces, but fibroids with cysts as clear and distinct as those in ovarian tumors. (*g*) Because it may be an ever-present anxiety. (*h*) Because it may cause œdema of one or of both extremities and phlebitis, to be followed perhaps by the passage of an embolus into the circulation. (*i*) Because it may become twisted with the uterus as a pedicle and must be removed immediately to save life. He had seen this once. (*j*) Because a very sensitive single woman, in good health and active, demands its removal on account of the disfigurement it causes. (*k*) Because the operation to-day in experienced hands is almost uniformly successful. 4th. In cases of complete prolapse, particularly after the menopause, when all the usual measures for holding up the uterus have been tried and found useless. 5th. In cases of incurable chronic inversion. 6th. In cases of infection when the removal of the Fallopian tubes affected with salpingitis has not cured the patient. The French surgeons of the present day have a great deal of right on their side when they claim that the uterus is the infecting organ, and that in many cases there will be no cure till it is removed. 7th. To cure puerperal sepsis when the diagnosis is as certain as it can be.

Under technique of hysterectomy he began by describing the simplest operation for the simplest condition requiring hysterectomy, namely, for intractable uterine hemorrhage without discovered malignant or fibroid disease. In this case the vaginal route is to be followed. A circular incision around the os completely through the mucous membrane is made and also two incisions on either side parallel with the axis of the organ and about one-half inch in length. Next the bladder is peeled off from the uterus along the line of cleavage. An opening is next made with scissors, or with the ends of a pair of forceps, through the peritoneum of the anterior cul-de-sac into the abdomen and a retractor, not too wide lest it draw the ureters into the wound, is passed into the opening to keep the bladder out of the way and prevent the intestines from descending. Next an opening is made with more freedom into the posterior cul-de-sac and is enlarged with the fingers. A piece of gauze with the end hanging out or a gauze sponge with a string of silk attached is inserted between the uterus and rectum. Next the fundus of the uterus is anteverted and pulled down beneath the bladder, and a strong clamp is put on the left broad ligament parallel with the long axis of the uterus. If it is thought best to remove the ovaries it is easier to pull them down before putting on the clamps. The same procedure is gone through with on the right side and the uterus is cut away between the clamps. It is a matter of indifference whether the ovaries and tubes are removed or not. The main thing is to get rid of the bleeding mucous lining of the uterus, and, as curetting has not succeeded, we remove the whole organ.

Dr. Homans then described the technique of abdominal hysterectomy when it has been decided to leave the neck and os. The patient is placed in the Trendelenburg position. The incision is made of the required length and the tumor is delivered at once, if free from adhesions, by means of a cork screw, or by any method of traction which seems most easy. A large piece of gauze is now put in the abdomen over the intestines, and the sides of the incision above the tumor are often fastened together by catch forceps or by a temporary stitch to prevent the intestines from protruding and to keep them clean and warm. When the broad ligaments are seen he ties the left one first, passing the ligature low down and close to the uterus by means of a Cleveland needle, being most careful not to perforate the bladder; he then ties another ligature about an inch away from the first toward the ovaries and beyond the tube, or beyond the ovary and the tube and divides the broad ligament between them. He leaves the broad ligaments as long as possible, so that the seam over the stump when the operation is finished will be a short one. He now goes through the same process on the right side, and then makes a circular incision through the peritoneal covering of the uterus in front about two inches above the outline of the bladder wall, and the same distance above the rectum behind, the two incisions meeting on either side where the broad ligaments are tied, exactly as one would make a circular incision for the amputation of the thigh. These peritoneal flaps are then turned back. The uterine arteries are then looked for and tied, or the uterus is encircled at the denuded point with a small solid rubber cord, and the tumor and uterus are then cut away. The uterine cervical canal is cauterized with Paquelin's cautery, the point being

passed through the mouth of the uterus well into the vagina and being allowed to remain there several seconds. Next the muscular wall of the neck is sewed by a continuous suture of silk over the cervical canal, so as to shut out the neck from the abdominal cavity. The peritoneal flaps are then united by a light continuous suture over the stump. Attention is then turned to the ovarian and round ligament stumps and the ovarian arteries are again tied separately. There is now a sutured line running across the lower part of the pelvis, and if there is no oozing the abdomen is emptied of the pieces of gauze, the patient is lowered, the omentum is pulled down, and the abdominal wound is closed with silkworm-gut sutures without drainage. The rapidity of convalescence is in great contrast to that following the treatment of the pedicle by the clamp, which should be entirely discarded.

The technique of complete hysterectomy, "panhysterectomy," for fibroid tumors, will vary from the above-described operation only in the fact that the os and the neck are separated wholly or in part from the vaginal wall before the abdominal dissection is begun, and at the close of the operation the vaginal walls are sewed together and the peritoneal flaps which have been separated anteriorly and posteriorly from the uterus are lightly united by a suture of very fine silk.

The operation for the cure of puerperal sepsis should as a rule be done by the vaginal route, clamps being used to secure the vessels, as these insure good drainage. Should the diagnosis of general peritonitis be made, the abdominal route should be followed and the peritoneal cavity should be thoroughly washed out and drained.

On the whole the best operations for large fibroids should begin with free separation of the vesical and rectal walls in the vagina, accompanied by ligature of the uterine arteries, to be followed by laparotomy and removal of the tumor through the abdominal wound.

The X-Rays in Surgery.—Dr. J. William White, of Philadelphia, called attention to the fact that foreign bodies in the tissues would often move, so that if a body was located at one point one day, the next day it might be found at some other point. The doctor reported several cases, showing the property of a foreign body to move from place to place. In cavities, foreign bodies were shown and located by angular skiagraphs or triangulation. In the cranial cavity bullets have been located and removed. Localization is very difficult; clinical symptoms and other means of exploration assist greatly. Rubber drainage tubes in the thorax cannot always be located by skiagraphy. By this method blood effusions from bullet wounds in the lower part of the lung have been observed. In the pelvic cavity foreign bodies can be located with satisfaction by taking skiagraphs from various positions.

The speaker then referred to fractures of the skull. He thought we might be able to recognize fractures of the inner table. Fractures of the base may be detected but this is attended with difficulty. Skiagraphs in fractures of the spine had not proven very successful; he had been moderately successful when experimenting on cadavers.

Dr. White laid great stress on the value of getting views from different positions. In making skiagraphs of the ribs, one should first fix the chest by means of bandages. Skiagraphy should prove to be of especial value in fractures which are accompanied by much swelling; in fractures about joints of extremities; in epiphyseal separations where the deformity is slight; in special fractures, as, for instance, those involving the neck of the femur. Ununited fractures can be well shown. Work has been begun in studying the repair in fractures. Callus is translucent, but lime salts are opaque. In the ambulatory treatment of fractures, we may be able to note progress. Skiagraphy is of value in certain diseases of bones, as caries of spine, hip disease, osteoma, intracranial exostosis, multiple fractures of osteomalacia, central abscess of bone, osteosarcoma, etc. An actual differentiation between diseases of bone is not possible at present, but we may be able to distinguish them later. We may also include congenital luxation at the hip, various forms of talipes, Pott's disease with resulting abscess, rheumatoid-arthritis cases, arthritis deformans, periarthritis, floating bodies in the knee-joint, etc. In cavities of the body great service can be rendered by skiagraphy. Pleural effusions, patches of consolidation, cavities in the lungs have all been recognized; also pericardial effusions and intrathoracic aneurisms have been noted. It must be understood that we are merely on the threshold of this new discovery. One should remember that variations in the time of exposure will show different tissues of the body, and so certain tissues can be kept out of the picture by varying the time of exposure. Oxalic-acid calculi are almost impervious to the rays. Stones in the bladder can be clearly seen.

The speaker referred to the therapeutic effect of the *x*-ray. He mentioned a case of inoperable cancer; the rays were passed through, but he had no results to report. He is experimenting with capillary nævi, hairy moles, keloids, etc., and will continue his experiments until he finds them useless.

Dr. W. W. Keen, of Philadelphia, called attention to the medico-legal value of the *x*-ray. He did not advocate the regular use of the rays in fractures and dislocations, on account of their unreliability. He reported a case of an osteotomy done, in which bone was thoroughly broken; the day following the skiagraph showed no fracture, but a perfectly even outline of the bone.

Dr. C. B. Nancrede, of Ann Arbor, Mich., spoke of the practical methods for detecting foreign bodies. One could define a body with the skiagraph when the fluoroscope failed to show it; he did not think we could rely upon the latter. Focussing over ten minutes with a strong current is dangerous, but he thinks this danger can be obviated by the use of some unguent. He demonstrated what could be done with an apparatus costing about $70, in the hands of a person who had but little skill; one need not know much about photography to get good results, if he sent the film away to a photographer to be developed.

Dr. G. R. Fowler, of Brooklyn, discussed briefly the question of apparatus. He thought there was little to choose between a coil and the static machine. The doctor referred to the opportunities for making errors. He mentioned the case of a distinct luxation, in which a transverse skiagraph showed nothing, while the antero-posterior skiagraph showed plainly the deformity. He spoke of a case of detection of a foreign body in the œsophagus, and its easy removal by means of a pair of forceps. Sources of error may be due to defects upon sensitive paper or the plate. One should be on his guard against malpractice suits. He related an interesting case of a lady with a Colles' fracture; she had been to some studio and a shadowgraph taken which showed deformity. She had fallen into the hands of a shyster lawyer, who persuaded her to bring suit. The speaker found he could place her well hand in such a position as to produce a greater deformity than that which was supposed to exist on the side injured.

Dr. M. H. Richardson, of Boston, spoke of the diagnosis of fractures from a medico-legal standpoint. He thought it was incumbent upon physicians to exercise the greatest care, especially in fractures involving the lower extremity and in those about the wrist. Judges in Massachusetts are going to admit skiagraphs. It seemed to him that no matter of greater importance

could be brought up than the position the surgeons are to take in this matter.

Dr. Williams had never seen the slightest harm done by the *x*-rays. He reported a case of cancer of the liver; an *x*-ray examination was made, and the cancer disappeared. He does not know whether the *x*-ray caused its disappearance or not. The doctor showed a platinum tube, over the end of which was to be placed a photograph film. This was to be inserted into the rectum, behind the bladder, and by means of the Crookes tube placed in front of the abdomen a photograph obtained of the bladder contents.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Second Day—Wednesday, May 5th.

Internal Secretions Considered in Their Physiological, Pathological, and Chemical Aspects.—This session of the congress was under the joint charge of the Association of American Physicians, the American Physiological Society, and the American Pædiatric Society.

Dr. William H. Howell, of Baltimore, contributed the first paper. He said that the organs now believed to have internal secretions were the liver, pancreas, pituitary body, and suprarenals, and probably also the ovaries, testicles, and spleen. Brown-Séquard had attributed internal secretions to all tissues, and had expressed the view that all animal tissues ought to be employed as therapeutic remedies in special cases. This was but a revival of a very old medical idea.

The one clearly successful method of treatment by animal tissues is that by the thyroid extracts—a method established quite independently of the generalization of Brown-Séquard. Not only the thyroid but the accessory thyroids had been shown beyond a reasonable doubt to have important internal secretions, and the complete removal of this tissue in man is followed by serious disturbances of nutrition that are immediately or ultimately fatal. One hypothesis supposes that this secretion is antitoxic; another assumes that the secretion of the thyroid acts normally by promoting or regulating the ordinary metabolism of the body. Histologically, the small bodies known as the parathyroids bear no resemblance to the thyroid, and appear to consist of embryonic tissue. Moreover, the two tissues seem to have a different origin. The tendency of recent research is to show that the functional value of the thyroids and the parathyroids is not identical. The removal of only one of the suprarenals does not appear to give rise to notable disturbance, but the complete removal of these bodies causes extreme muscular weakness and feeble heart action, and suggests the symptoms that precede the fatal termination in Addison's disease. It has been found that the extracts of the medulla of the suprarenals when injected into the circulation cause a marked but transient slowing of the heart action and a rise in the blood pressure. This effect disappears on section of the vagi; hence it can be due only to stimulation of the cardio-inhibitory centre in the medulla. Other experiments seem to show that the substance producing this effect is formed normally within the gland. Blood drawn from the suprarenal vein if injected into the circulation of normal animals produces the same effect, although different in degree, as that produced by the injection of the extract of the suprarenals. This is not observed, however, when blood is drawn from other parts of the body and injected into the circulation.

The anterior lobe of the pituitary body evidently has a glandular structure, but the posterior lobe presents the appearance of a very rudimentary organ. Observations bearing on the function of this body have been limited to the anterior lobe. Dr. Howell said that the nature of the connection between acromegaly and disturbances of the function of the pituitary body, if any existed, had not yet been definitely made out. Semonovitch stated that by the injection of extracts of this body he had obtained a slight fall in the blood pressure and quickening of the heart action. The speaker said that recently he had been carrying on new experiments, with extracts made separately from the glandular and the infundibular lobes. The physiological effects of each had been tested by injecting the extract into the circulation of normal dogs. Extracts of the infundibular portion had a distinct and remarkable effect on the heart and blood-vessels, causing a pronounced slowing of the heart, which lasted much longer than that produced by the injection of the extract of the suprarenals. The force of the heart's action is increased and at the same time the blood pressure rises. If the vagi had been previously cut, the slowing of the heart was much less pronounced, the reduction of the heart rate being about fifty per cent. when the vagi were intact, and twenty per cent. when the vagi had been severed. When the animal is etherized, it should be noted, the effect of the injection is the same as though the vagi had been cut. The infundibular lobe is in all probability one possessing some important physiological activity, and its function is probably different, and possibly independent, of the anterior lobe. Injections of the extracts of the anterior lobe were entirely negative.

Prof. Russell H. Chittenden, of New Haven, took up the physiological and chemical aspects of the subject. He said that in its broadest sense internal secretion must be looked upon as something common to all active tissues; but the term "internal secretion" should be limited to those specific products which, being manufactured in certain glands, are plainly endowed with a well-defined physiological action. Experiment, he said, had clearly shown that the functions of the thyroid and of the parathyroids had something in common, for, in animals possessing parathyroids, the thyroid and all but forty per cent. of the parathyroids could be removed without causing the death of the animal. A marked loss of body weight had been noted when the thyroid gland had been fed to obese persons. When administered in the form of extracts to normal individuals, it produced a very noticeable effect on the metabolism of the body, leading not only to loss of body weight but to increased excretion of nitrogen and water, and a decomposition of the tissue proteids. The thyroid gland probably prevents the formation of toxic substances in the body by exerting a direct influence on the general metabolism. From the point of view of the chemist the thyroid gland is specially characterized by the presence of a compound proteid of peculiar constitution. This substance, to which Hutchinson has given the name of "colloid matter," is the active constitutent of the gland. The thyroid gland also contains a small quantity of a nucleo-albumin, together with certain extractives which, however, apparently have no physiological significance. This colloid matter is of special interest, as it contains a compound known as thyro-iodine, and more recently as iodo-thyrin. It resists the action of ordinary decomposing agents, and the gland can be boiled for many hours with dilute sulphuric acid without destroying the active principle. It is a non-proteid cleavage product, characterized by containing both iodine and phosphorus. It seems to be pretty well established that the physiological properties of the thyroid are contained in the iodo-thyrin. So far as is known, iodine is not normally present in other tissues. In human thyroids, as well as the thy-

roids of sheep, oxen, and pigs, iodine is usually present in considerable quantity, often to the extent of ten per cent. As a dose of one milligram of iodothyrin will produce a distinct therapeutic effect on goitre, it is evident that this is not due to the insignificant quantity of iodine contained in this compound. In cases of goitre only minimal and relatively small amounts of iodine are to be found, and iodine is sometimes absent in the thyroids of children. Regarding the adrenals, the speaker said that there was some evidence of the existence of two distinct physiologically active substances in these bodies.

Dr. J. George Adami, of Montreal, said that in attempting to discuss the pathological aspects of the general subject of internal secretion, the pathologist found himself in a very difficult and disheartening position, owing to the rarity with which he was able to draw conclusions from the post-mortem findings regarding the functional activity of organs during life. He considered the subject under three main heads, viz., 1, glandular inadequacy; 2, glandular overactivity; and 3, compensation. Glandular inadequacy, he said, might be due to excess of substance acted on by internal secretion of the gland, without due compensation. In the second instance there might be an excess of internal secretion, without due compensation; and in the third class there might be lesions of the gland or an altered systemic condition, unaccompanied by symptoms. In the first two divisions there were changes accompanied by symptoms of disease, but this was not true of the third class. When morbid changes were found in the pancreas in cases of diabetes, there were usually atrophy and destruction of the gland, yet there were many cases of diabetes without such changes in the pancreas. In another class of cases there was advanced atrophy of the pancreas without the occurrence of diabetes. Addison's disease might be associated with disease of the suprarenals, or with intact suprarenals, or again there might be complete or nearly complete destruction of the suprarenals without symptoms of Addison's disease.

Dr. Francis P. Kinnicutt, of New York, discussed the clinical side of the subject. He said that the number of cases of myxœdema treated with thyroid preparations was already very great. Although the myxœdematous symptoms were speedily removed by this treatment, the discontinuance of the remedy caused a return of the original symptoms after a greater or less time. It had been shown conclusively: 1, that complete recovery could be effected even after the disease had existed as long as fourteen years, and was of a very severe type; 2, that the maintenance of health could be secured only by continuous treatment during the lifetime of the patient. Equally good results were obtained from a single daily dose, or a larger dose at longer intervals, rarely, however, exceeding a week. As regards sporadic cretinism, it had been shown conclusively that the myxœdematous symptoms could be speedily removed; that the treatment was capable of developing the natural tendencies of the growth of the skeleton; and that striking improvement in the mental condition might be effected, although more slowly than the changes in the skeleton. The effect of the treatment on the growth of the skeleton and on the mentality was in an inverse ratio to the age of the patient. In young persons the growth might amount to an increase of stature of upward of a foot in the first three years of treatment. If the treatment were initiated early and systematically continued, it held out every promise that the cretin child would develop into a healthy adult. In the treatment of goitre the maximum of improvement would be obtained in goitre of the simple hyperplastic form. Large cysts were apparently unaffected by this treatment. Complete disappearance of the goitre was rarely noted. Bruns had reported sixty cases, in which fourteen subjects were cured, twenty-nine were improved, and seventeen were not benefited. Although occasional claims had been put forward in favor of this treatment in cases of exophthalmic goitre, one would not expect, from *a priori* considerations, that these cases would be improved, but rather that the condition would be aggravated. The use of the thyroid preparations in insanity had been based on their undoubted and profound influence on metabolism. The treatment had been advocated in various mental disorders, and Dr. M. Allen Starr spoke very highly of its value in a form of mental disturbance described by him as a mental depression, with anxiety and morbid fears, occurring at the climacteric. This line of treatment is, however, still in the experimental stage. In general, Dr. Kinnicutt said the treatment of obesity by thyroid preparations had been favorable, but disappointments were met with from time to time. The loss of weight is more rapid during the first few days of the treatment, and is quite considerable even without any restriction of the diet. It does not unfavorably affect the general health, but very soon after the treatment is discontinued the obesity returns. The thyroid preparations had been advocated in phthisis, and he had given this method of treatment a careful trial in his hospital wards, but without observing any effect from it. The employment of preparations of the adrenals had been recommended in Addison's disease. Of forty-eight subjects so treated, six were reported as well, twenty-two as improved, and eighteen unimproved. In two cases the symptoms were aggravated. Owing to lack of time, Dr. Kinnicutt was unable fully to consider the other organs known to possess important internal secretions.

Dr. James J. Putnam, of Boston, continued the discussion. He dwelt upon the relation of infantilism to myxœdema. He said that out of one hundred and thirty cases of acromegaly collected by Sternberg, thirty per cent. showed giant growth, and many of the latter had myxœdema. These and kindred affections were essentially toxic in origin, due to the loss or perversion of the function of certain glands, such as the pituitary body, the thyroid, adrenals, testes, etc.

Dr. William Osler, of Baltimore, occupied the remainder of the session in showing lantern views in illustration of the very remarkable results obtained from the use of the thyroid preparations in the treatment of cretinism.

President's Address.—In the evening the president of the congress, Dr. William H. Welch, of Baltimore, delivered the address, taking for his theme "The Adaptation of Pathological Processes." He said that the conferring upon him of the honor of being president of this congress he took as a recognition of the progress made in certain branches not directly connected with the practice of medicine. The term "self-regulation" was probably better than "adaptation," as descriptive of some of these processes. His purpose was not to point out the beauties or extent of adaptations in pathological processes, but rather to speak of the general mechanism of their production and the proper attitude of mind regarding them. The most wonderful and characteristic attribute of living organisms is the adaptation to external and internal conditions in such a way as tends to the welfare of the individual or the species. Marked examples of this are to be found in the preservation of the normal temperature of animals amid great variations in the surroundings; the adaptation of the heart to the varying demands made upon it; and the adjustment of the iris to varying illumination.

The mechanical theory of the purposefulness observed in nature, the speaker said, was the only one

that could be recognized in science. The explanation of the physiological adaptations furnished by the doctrines of organic evolution helps us to study pathological adaptations. Most of our precise knowledge of these subjects has been obtained during the present century through clinical observations and pathological and biological studies. In the domain of infectious diseases, wonderful and hitherto undreamed of agents of disease have been brought to light. One of the most important characteristics of pathological adaptations is that most of them have their foundation in physiological processes or mechanisms. In physiological adaptation the cells respond to changed conditions, to meet which they are especially fitted by innate properties, determined in part by natural selection and other evolutionary factors. No other weapons than these same cells does the body possess against injuries and dangers from without, but these weapons were not forged with any special reference to their adaptation to these emergencies. A heart, hypertrophied in consequence of valvular lesion, does not completely restore the normal balance of the circulation. If we look upon inflammation as an attempt to repair injury, and, therefore, as an adaptive process, with what imperfections and failures and disorders is it often associated? A new growth of bone to fill in defects is often highly beneficial, but what grave consequences may result from thickening of the skull and partial arrest of development in embryonic life? We see, therefore, that nature is neither kind nor cruel, but simply obedient to law, and therefore consistent.

The compensatory hypertrophies afford admirable illustration of certain fundamental principles regarding adaptations in pathology. They often afford an adjustment, highly beneficial, in certain morbid conditions. Given the changed conditions on the one hand, and the organization of the cells on the other, the result must follow as surely as night follows day, and this final result influences the preceding series of events no more in the one case than in the other. Our knowledge of the manner of production of the compensatory hypertrophies of the various organs and tissues stands in direct relation to our knowledge of the physiology of the same organs and tissues. The relationship between increased functional activity and hypertrophy is so evident in many cases that there is strong presumption in favor of this explanation for those glandular compensatory hypertrophies which have not as yet been clearly referred to the class of functional hypertrophies.

In order to a better understanding of the principles involved, the speaker selected compensatory hypertrophy of the heart as a concrete example. The heart, like other organs of the body, does not work ordinarily up to its fullest capacity; it is capable of doing three or four times its usual work. Its capacity to do this extra work is called its "reserve force." It has been proved experimentally that this is sufficient to enable the heart to compensate at once for a high degree of insufficiency at its orifices. But this cannot be done long without causing fatigue, even in an accommodating organ like the heart. If it is to continue this extra work long, it must receive new increments of energy. The various morbid conditions leading to cardiac hypertrophy are such as increase the volume of the blood to be propelled at each stroke, or to increase the resistance in the circulation, or both. The physiologists have given some insight into the mechanisms by which the heart responds to increased work in these circulatory disturbances. These disturbances increase the tension of the cardiac muscle in much the same way that a weight augments the tension on a voluntary muscle. It is a physiological law that within certain limits greater tension on a muscle excites to greater contraction and to increased work. We do not know exactly how increased tension facilitates greater expenditure of energy. With increased muscular tension, under a given stimulus, a point is reached where the contraction is diminished, although the actual work done is increased. Under such circumstances the heart fails to empty its chambers as thoroughly as formerly, and the result is dilatation. We thus see that dilatation often precedes the compensation. This dilatation lessens the strain on each muscular fibre, and thus enables it to shorten more with each contraction. The evidence seems to favor the view that the power of the heart to adapt itself to the work required resides in the muscle cells and not in the intrinsic nervous mechanism.

Inasmuch as greater functional activity is associated with an increased supply of blood to the part, the argument is often put forward that it is because of this hyperæmia that functional activity and growth are increased. Physiological investigation, however, seems to indicate that the cell regulates its own metabolism. Functional activity has a marked influence on increasing the quantity and affecting the quality of lymph in the active part. It is now believed that the formation of lymph is due, not simply to filtration from the blood plasma, but to diffusion and active secretion from the blood. Any satisfactory explanation of cell growth causing work hypertrophy, Dr. Welch said, must start in physical or chemical changes in the muscle or gland cell itself directly connected with the increase of function. It should be noted that some kinds of excessive work do not lead to hypertrophy. Thus the heart might beat more rapidly than normal for years without giving rise to hypertrophy. The compensatory hypertrophy of muscle seems to be due chiefly to the size of the cells, although they may in some instances undergo multiplication. Clinical experience shows that the energy available for unusual demands, that is the reserve force, is less in the hypertrophied than in the normal heart; hence, the greater liability of the hypertrophied heart to fatigue. Such fatigue is apt to give rise to relative insufficiency of the mitral or tricuspid valve.

Turning next to the consideration of adaptation as exemplified in the circulatory system, the speaker called attention to the wonderful precision with which the blood-vessels adjust themselves to changing velocities and volumes of blood. The changes in the circulation induced by the falling out of the placental system at birth, he said, were essentially identical with those resulting from the amputation of an extremity. The mechanisms by which the adjustments are secured, have, in consequence of their physiological uses, a special fitness to meet certain pathological conditions. But these mechanisms are not equally well adapted to meet all morbid conditions. The rapidity with which a collateral circulation may be established after the ligation of a large artery is known to every surgeon. This was formerly attributed to increase of pressure above the ligature, but this rise of pressure has been shown to be too small to account for the change. The changes in the walls in the anastomosing vessels seemed to the speaker best explained by the changes associated with work hypertrophy.

He then raised the question as to how far we were justified in regarding acute inflammation as an adaptive or a protective morbid process. He said that the answer depends much upon one's point of view. The more severe the inflammation the greater, as a rule, is the danger to the patient. The clinician is not likely to see any beneficial results from inflammation, but the pathologist and bacteriologist looks at the process from a different standpoint, and sees in it a protective process by which invading micro-organisms may be prevented from entering the system.

In closing, Dr. Welch said that he had arrived at

the conclusion that the healing power of nature is often incomplete and imperfect, and that systems of treatment, based upon the belief that nature is doing the best possible in disease, rest often on an insecure foundation.

AMERICAN ORTHOPÆDIC ASSOCIATION.

Wednesday, May 5th—Second Day.

Some Effects upon the Leg of Pronation of the Foot.—Dr. John Dane, of Boston, stated that during the past few years a large amount of attention had been given to the foot and the changes which it undergoes when subjected to weight, but in the present paper he desired to offer a few facts concerning the behavior of the leg caused by the changes in shape and position of the foot which have been referred to as excessive pronation. The leg has been regarded hitherto as the fixed point, and, while this might be true when the foot was hanging freely in the air, it ceased to be when the foot was placed upon the ground. This was first brought to his attention by a series of photographs taken with double exposures upon the same plate, while he was preparing a joint paper with Dr. Lovett. These showed that while the foot and toes remained stationary there was considerable change in the outline of the leg when weight was brought to bear on the foot. He had recently made further experiments in this direction, both upon normal feet and upon those which were pronated, and the conclusions reached were as follows:

1. In "pronation of the foot" the greater part of the foot remains stationary and the leg rotates upon it.

2. While in the normal foot, when weight is brought to bear upon it, the malleoli move inward and slightly downward, the normal outward rotation of the tibia and fibula is replaced by an exaggerated rotation inward, which takes place about a nearly vertical axis located near the inner border of the tibia.

3. These changes acting together produce an alteration in the obliquity of the axis of flexion of the ankle-joints sufficient to destroy the mechanism by which the normal joints are enabled to support the body weight with a minimum of muscular exertion. As a consequence flexion must be prevented and equilibrium maintained wholly by muscular force, which soon leads to irritation and fatigue of all the muscles of the leg, and especially of the peroneus longus.

4. The inversed rotation of the tibia interferes to a great extent with the operation of the mechanism by which complete extension of the knee should lock the joint and render it proof against the constant tendency of the body weight to flex it. The knee must therefore in subjects with pronated feet be kept in extension by a constant effort of muscular force, which results in fatigue and tendency to tonic spasm of the thigh muscles.

5. Owing to the constant attempt of the muscles on the outer side of the thigh to prevent the internal rotation of the lower part of the leg, they are commonly found to be tense and sensitive to pressure.

6. To compensate for this inversed rotation of the tibia and fibula there is an exaggerated inward rotation of the femur. This in turn overstretches the external rotators of the hip, causing sensitiveness and tonic spasm of the glutei and tenderness over the points of exit of the sacral nerves.

7. This explanation is wholly in accord with the clinical fact that, when by means of efficient mechanical support pronation of the foot is prevented, the pains in the calf, knee, and hip are relieved.

Dr. Lovett considered that the work done by Dr. Dane was a decided advance over the old methods, and that in the consideration of flat foot the time had come for accurate measurements. All were familiar with the backache, pains in the thighs and calf, etc., which accompany flat foot, but no rational explanation had been offered before. It was important to recognize the difference between a pronated foot and a broken-down foot. He had been interested in noticing the effect upon the back of change in the position of the feet. The change from an angle of 90° to a straight position produced considerable lordosis. Also when the feet were parallel the weight fell principally upon the third metatarsal bone, but at an angle of 90° the weight moved inward upon the first metatarsal. This was important in regard to the base position of the feet in gymnastics, which has always been with the feet at 90°. Dr. Lovett also called attention to the frequency of pronated feet in beginning lateral curvature.

Dr. Shaffer thought the paper threw light on some points, but it told how the conditions described arose but not why, *i.e.*, what was it that threw the normal mechanism out of gear. In his opinion a shortened gastrocnemius muscle was responsible for the vast majority of pronated feet, and he thought such a faulty muscular mechanism of the foot could produce the conditions described by Dr. Dane.

Congenital Dislocation of the Shoulder-Joint.—Dr. Charles L. Scudder, of Boston, reported two cases of so-called dislocation of the shoulder, one in a girl one year and three months old, and the other in a girl three years old. With both the labor was normal. In the first case during the first week it was noticed that the baby's right arm and hand were swollen. In both the position of the arm was characteristic, rotated inward, the internal condyle looking backward, and the head of the humerus felt in the infraspinatus fossa. In the first case there was no change in the bones or muscles of the upper extremity, while in the second there were considerable shortening and atrophy, and in this case no injury had ever been noticed. He was inclined to consider this a true congenital dislocation or misplacement and the other a traumatic dislocation at the time of birth, and thought a distinction should be drawn between the two, as the pathology was probably different.

A Case of Asymmetrical Development.—Dr. H. R. Shands, of Washington, presented a remarkable case of asymmetrical development in a boy, twelve years of age, an inmate of an orphan asylum. When he was two years of age it was noticed that the right side of his body seemed to be growing faster than the left and the unequal growth had continued to the present time. He called attention to the atrophied condition of the left side, even including the face, and the greatly increased right side, the boggy feel of the soft tissues, and the purple markings of the skin, which were also present to some extent upon the left side. The measurements showed the great difference in size:

	Right.	Left.
Ankle	10	
Calf	15	9
Thigh	18½	13
Forearm	8	7½
Arm	8	8
Ball of hand	8	7¼
Little finger	2¼	1½
Length of limb	28½	24
Length of foot	9½	7½

A peculiar feature of the case was the fact that the left thumb measured three and a half inches in circumference and the right only three, and that one of the toes on the left foot was larger than the corresponding foot. The right testicle had not descended. The boy had average intelligence and was a general favorite.

The members of the Pædiatric Association were asked to come in to see this interesting case, and Dr. Adler made some remarks upon it. He said that

this was the fourth case of the kind he had seen, one of which involved the lower extremities only, and he thought they were rare. No satisfactory explanation of their etiology had been given. The two conditions with which they might be confounded were acromegaly and elephantiasis, but acromegaly always affected both sides. In this case he was struck with the fact that the left thumb and one of the toes were larger than the right, and thought that it was possible the boy might develop acromegaly later. In elephantiasis only the soft parts were involved, while here undoubtedly the bones were enlarged. These cases always presented enormously enlarged blood-vessels, even the capillaries, but he thought it was rare to have the capillaries of the skin so much dilated as in this case.

Gluteal Bursitis.—Dr. E. G. Brackett reported seven cases of inflammation of the bursa under the glutei muscles. He stated that the bursa inflamed is one of those situated under the gluteus maximus and the clinical symptoms are early and persistent limp, without remissions as in hip disease; pain referred to the back of the thigh and under the knee; limitation of motion in extreme flexion, and rotation outward and flexion of the extended leg. In the severer cases slight permanent flexion may be present. There is swelling in the upper part of the buttock, which in a well-marked case has definite outlines that can be made out by palpation. The course is rather slow and the cases are of special interest because the hip-joint may become infected by extension of the disease. Two of the cases reported were not operated upon, but were treated by the expectant plan. In all of the others the plan of operation was an incision along the edge of the gluteus maximus, thorough opening and curetting of the sac, and packing of the wound, allowing it to heal by granulation. All healed kindly. In two tuberculous disease developed elsewhere within a year. In two the contents of the sac were examined and reported to be tuberculous in character.

Mechanical Treatment of Ununited Fracture of the Neck of the Femur.—Dr. Newton M. Shaffer, of New York, reported three cases, one in which treatment was begun three months after the original injury, one eighteen months after, and the third eight months after. The first and third were completely successful, and the second a failure, which he thought was due to the fact that so long a time had elapsed before treatment was begun and that the treatment was not kept up continuously and for a sufficiently long period. The method employed was traction by the long hip splint, supplemented by a surcingle around the pelvis and direct pressure over the trochanter by means of a tourniquet. The limb was kept adducted about 20° and elevated to an angle of 160°, while the patients were kept in bed for several weeks and then they were allowed to walk and stand with the aid of crutches and a high shoe on the sound limb. He urged a persistent trial of this method in cases of ununited fracture, and thought that in the majority of cases success would be obtained.

Dr. Ridlon reported four successful cases of recent fracture of the neck of the femur in old people by means of the Thomas hip splint with fixed traction, and thought that this apparatus met the indications for this treatment of this fracture better than anything which had been devised.

(To be Continued.)

The Appendix.—There are certainly some cases, not few in number, in which the appendix is so deeply embedded in the wall of the abscess, or so difficult to define at all, that to insist upon its discovery and complete removal would be to incur quite unjustifiable risk.—McBurney.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

WORK OF THE COLLEGE LABORATORIES—HERNIA CEREBRI—NON-TUBERCULOUS POSTERIOR BASIC MENINGITIS IN INFANTS—MR. LAWSON TAIT—THE LATE LEOPOLD HUDSON, J. B. BAILEY, AND GORE RING—SIR CHRISTOPHER NIXON.

London, April 23, 1897.

A report of the laboratories committee of the royal colleges shows that since December 4th over 3,000 doses of antitoxin serum of 4,000 units each, 125 doses of 1,500 units, and 499 of 1,000 each were supplied for diphtheria in the hospitals of the asylums board. Other demands have been fully met. Researches in connection with the Goldsmith's grant have been continued. These have led to the production of a serum of eight hundred units per cubic centimetre—the strongest ever prepared, surpassing even Behring's, which is only six hundred. This strong serum is the one employed by Dr. Sidney Martin at University College Hospital, and you will remember with what important results. The report promises various improvements from researches which are not yet completed.

At the last meeting of the Royal Medical and Chirurgical Society, Mr. Lawford Knaggs read a paper on a case of "Compound Depressed Fracture of the Skull, Followed by Cerebral Abscess and Hernia Cerebri," in connection with which he took into consideration the subject of hernia cerebri based on one hundred collected cases. His patient was operated on for compound depressed fracture of the left parietal bone on September 11, 1894, and though the membranes and brain were injured and the wound subsequently suppurated, healing took place and the man became an out-patient on November 28th. He was readmitted in February, with some cerebral symptoms and a protrusion of the soft parts over the bony aperture. On February 4th he was unexpectedly found at the point of death, and the swelling was explored and then opened with a penknife by the resident surgical officer. An ounce of pus was evacuated from a cerebral abscess, and the patient brought round by artificial respiration. Hernia cerebri and paresis of the right arm and leg at once developed. The former grew as large as a hen's egg in a fortnight, remained stationary for three weeks, and then shrank, and by July 7th had disappeared. He left the hospital on August 3d well, except for some remaining weakness of the forearm muscles and a hesitation in his speech; and a year later his condition remained unaltered, except that he had a fit every eight weeks. He was working as a laborer. The intracranial conditions which produce hernia cerebri were described, viz.: (1) Increased tension; (2) a softened or diffluent state of a portion of the cerebral substance; and (3) inflammation of the brain substance, which leads to an increase in bulk, to its softening, and when prolonged to its replacement by granulation tissue, and finally by cicatrix. The inflammation also impairs, suspends, or even destroys the functions of the centres implicated. The duration and size of the hernia are influenced by the extent of the inflammation. The causes are traumatism and sepsis, either separate or combined. If sepsis be avoided the inflammatory effusion is gradually absorbed and the protrusion will certainly dwindle and disappear after it has reached its maximum. The time required varies from a few days to several months, and depends on the amount of brain involved and the absence or presence of continued irritation. The results of septic infection are abscess, meningi-

tis, and diffuse inflammation, and abscess is the only one that is not always fatal. Hemorrhage and abscess may be associated with hernia cerebri, and attention was drawn to the importance of gravity in certain cases and to the sudden but transient enlargement of the tumor, which may result from trivial causes, either local or general, such as probing the wound or an attack of tonsillitis. The prognosis was stated to be good if sepsis were avoided, and it was to be borne in mind that septic infection might be a result not only of the original injury but of subsequent interference, operative or other. Treatment should be: 1. Preventive; every case of compound depressed fracture of the skull should be thoroughly treated, and the wound made aseptic. This is now generally done, and probably accounts for the rarity of the cases in current literature. 2. Non-interference should be the rule, and the tumor allowed to run its own course. 3. Operation may be necessary when abscess is present, and should aim at evacuation, not mutilation. It may be necessary to remove embedded fragments after their position has been demonstrated by skiagraphy, but it was difficult to imagine a condition in which excision could be justified.

Mr. Ballance attributed the rarity of hernia cerebri at the present time to the successful avoidance of sepsis. Provided that there was an aseptic condition, as in surgical operations, extensive injury might be done to the brain without hernia cerebri. After an accident it might be impossible to obtain an aseptic condition of the parts. He found it difficult to believe that the hernia might push through the uninjured dura mater. The cases ought certainly to be carefully treated at the onset, and he was in hopes that the surgeon might be able to deal with and render aseptic compound fractures of the base as well as those of the vault.

Dr. J. Walter Carr afterward read a paper on "Non-tuberculous Posterior Basic Meningitis in Infants." The object of the paper was to show that there was a distinct form of meningitis, occurring almost exclusively in infants, which has not at present received adequate recognition, though described by Dr. Gee and Dr. Barlow in the St. Bartholomew's Hospital Reports for 1878, under the title of "The Cervical Opisthotonos of Infants;" that it mainly affects the posterior part of the base of the brain, is entirely independent of tuberculous disease, runs a subacute or chronic course with fairly characteristic symptoms by which it can be diagnosed during life, and presents very constant and definite post-mortem appearances, although its actual causation remains at present unknown. Eleven cases observed by Dr. Carr were narrated in detail, and compared with those recorded by Dr. Gee and Dr. Barlow. The cases all terminated fatally, none in less than five weeks, while some patients lived for three months or even longer. At the necropsies (ten in number) inflammation of the pia-arachnoid was found over a very definite area at the base of the brain, hydrocephalus in all the cases, and in some closure of the openings between the fourth ventricle and the subarachnoid space. In no instance was any sign of tuberculous disease discovered, either in the cranial cavity or elsewhere. The possible causation of the ventricular effusion was considered in the paper, discussion on which was adjourned.

Mr. Lawson Tait has had to submit himself to the knife of a surgical confrère. While stooping over a patient he was suddenly attacked with acute pain about the neck of the bladder, which was followed by symptoms of impacted stone. A perineal incision was made and the calculus removed. As Mr. Tait had renal colic last year, it is probable that the stone descended from the kidney at that time. It will gratify your readers to hear he is rapidly recovering.

Mr. Leopold Hudson died lately, in his thirty-fifth year. After a distinguished curriculum and serving various offices, he attained a position on the surgical staff of his hospital (the Middlesex) and of the Children's Hospital. In the early part of last winter's session he was attacked with paraplegia, and last month cerebral hemorrhage occurred. He was a man of great ability and devotion to his work, a genial companion. He will be missed by both colleagues and students, who all regarded him with admiration and affection.

Mr. James B. Bailey, the librarian of the Royal College of Surgeons, died lately. He was much esteemed by those who frequent this important library, for his cordiality and readiness at all times to place at their disposal his profound knowledge of medical bibliography. Before taking his last office Mr. Bailey was librarian at the Medical and Chirurgical Society, and previous to then at the Radcliffe Library, Oxford. The decease of this accomplished medical librarian, at the early age of forty-eight, is a loss to the profession.

Dr. Gore Ring, of Keswick, died suddenly in church on Sunday morning, just as the service had begun.

Sir C. Nixon, the eminent Dublin physician, had a narrow escape last week. While speaking to his coachman in the coachhouse, the ground under him suddenly gave way, and he was saved from a fall into an old well some thirty feet deep only by seizing the wheel of a vehicle close by, when he was helped out of the chasm by the coachman.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 8, 1897:

	Cases.	Deaths.
Tuberculosis	215	101
Typhoid fever	5	2
Scarlet fever	232	7
Cerebro-spinal meningitis	3	5
Measles	350	7
Diphtheria	285	50
Laryngeal diphtheria (croup)	9	0
Small-pox	3	2
Chicken-pox	31	0

Chancres to Burn.—Multiple chancres are not uncommon, but Petrini's case of an Italian who had six upon the face shows an *embarras de richesse* hitherto not recorded.

He Ought to Know.—The new house surgeon, having examined the injured man, said to his wife: "I fear your poor husband is dead." "No, I ain't," said the supposed corpse. "Hush, John, be quiet," said the wife; "the gentleman must know better than you what's the matter with you."—*St. Thomas' Hospital Gazette.*

Adherent Pericardium in Children.—Of the physical signs often found, Dr. G. M. Swift says (*Archives of Pediatrics*) the following are important: 1. Marked enlargement of the heart is present in many cases, accompanied by various murmurs. 2. Systolic depression at site of apex beat. 3. Systolic retraction of lateral and posterior walls of thorax. 4. Impeded descent of diaphragm in inspiration. 5. Dilatation of the veins of the neck, with sudden emptying in diastole. 6. Absence or feebleness of apex beat.

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Original Articles.

SENSORY DISTURBANCES IN LOCOMOTOR ATAXIA. A STUDY OF THE LOCALIZATION OF ANÆSTHETIC AREAS AS AN EARLY SYMPTOM.

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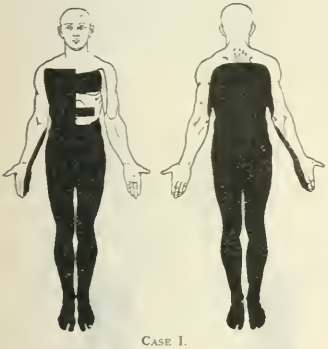
All symptoms are of value in spinal-cord diseases, and especially is this true in tabes because of its insidious onset. Areas of sensory disturbance in tabes constitute a new symptom which is not usually noticed by the patient. It has been known for some time that sensory disturbances were present in the later stages of the disease, but only lately has it been shown that areas of anæsthesia are an early and frequent symptom of locomotor ataxia. Attention has been called to these areas and their early appearance by Laehr[1] and Patrick.[2]



Case I.

Complete anæsthesia to touch. Complete anæsthesia to heat and cold in lower extremities. Impaired sensibility to heat and cold in trunk. Anæsthesia to pain all over the four extremities and trunk up to the level of the clavicles.

Out of twenty-one cases of locomotor ataxia which I have had under my care and observation in the Incurable Hospital during the last year, I find that eighteen have sensory disturbances of various kinds and degrees. The areas vary greatly in shape, size, and location.

I have examined these cases again and again, and find that the anæsthetic areas change, generally in a progressive manner, showing a greater involvement of the sensory nerves as the disease progresses. In examining a patient I have used a camel's hair brush for ascertaining tactile sensibility, a pin for pain perception, and hot and cold test tubes for sensibility to heat and cold. I have marked the areas of sensory disturbance as found upon the skin of each patient, and carefully mapped them out on the accompanying diagrams.

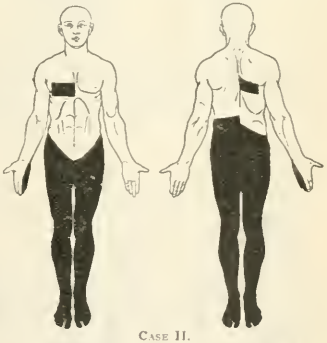
Trunk anæsthesia is absent in only two of the seventeen cases which have sensory disturbances. Tactile anæsthesia is present on the trunk to a greater or less degree in all the other cases, and is sometimes accompanied by loss of pain perception, and in a few cases by a loss or impairment of heat and cold sensibility also.

This trunk anæsthesia may be present on both the chest and the back. It may involve both sides of the chest or of the back, or only one side of each. It may also involve only one side of either the chest or the back. When only one side of the chest is affected, there is generally a corresponding area of anæsthesia on the same side of the back, but in Case VIII. there is only the small area on the left chest.

The anæsthesia on the back is always at about the same level as that on the chest. When unilateral it is sharply limited to the median line. Laehr has noted that when the trunk anæsthesia has reached the third rib it extends down the inner surface of the upper arm in a tongue-shaped area. This obtains in all except two of my cases which have trunk anæsthesia.

It will be seen from the diagrams that the anæsthesia may be broader on one side of the body than on the other, and that the superior boundary of the anæsthetic area of one side is higher than that of the other in eight of the nine cases which have anæsthesia on both sides of the chest. Laehr says that the upper borders of the anæsthesia on the two sides of the chest are nearly always on a level and that the anæsthesia extends downward.

When I first examined Case IV. the trunk anæsthesia extended on both sides from the level of the third rib downward to the umbilicus. Now the anæsthesia extends from the clavicles downward, joining that on the lower extremities, thus having extended both upward and downward. In most of the other cases the extension has, however, been downward. In some of the cases there are two distinct and separate bands, or commencing bands, on the same side of the chest or back, which condition would seem to indicate that different parts of the cord may be invaded at the same time.



Case II.

Complete anæsthesia to touch. Over the front of the legs heat and cold sensibility is impaired. Ulnar side of right hand, paræsthesia and tactile anæsthesia.

In the arms anæsthesia appears first over the ulnar distribution; in the legs it usually starts in the feet and ascends. In the lower extremities the areas of anæsthesia vary greatly from time to time, usually in a progressive manner. They vary more than the areas on the trunk. In several cases, when I first examined I found anæsthesia over the foot and lower half of the leg, like a sock, with a band of delayed or impaired sensibility just above it. In succeeding examinations this anæsthesia has ascended until, as shown

[1] Archiv für Psych., xxvii., p. 688. "Ueber Sensibilitätsstörungen bei Tabes dorsalis und ihre Localisation."

[2] New York Medical Journal, February 6, 1897.

in the diagrams, it has involved the whole of the lower extremities.

These areas of anæsthesia also change in size with the weather. In rainy or cold and damp weather the areas are larger than on pleasant and warm days.

In examining these cases again and again I have been interested in the changes found in regard to the size and location of the anæsthetic areas. One would naturally expect to find an anæsthetic area increase in size with the progress of the disease, but in several of the cases these areas have decreased in size or perhaps entirely disappeared. More often, however, a hyperæsthesia has become an anæsthesia, or the area of anæsthesia has become larger. The diagrams here pre-

CASE III.

Anæsthesia to touch. Anæsthesia to pain all over the body. Anæsthesia to heat and cold, in front, over lower two-thirds of legs and feet, and over the penis and scrotum; behind, over thighs, from just below the buttocks downward, over the legs and soles of the feet. Heat and cold sensibility very much impaired and uncertain over all the rest of the body, heat more so than cold.

CASE IV.

Anæsthesia to touch and pain. Perception of heat and cold delayed. Numbness all over trunk and legs.

CASE V.

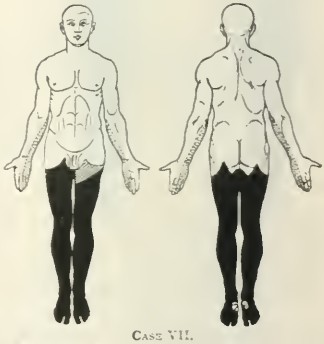
Anæsthesia to pain and touch. Pain sensibility is normal over scrotum, but lost on penis. Anæsthesia to heat and cold all over legs, below knees, and on penis and scrotum. Sensibility to heat and cold impaired over thighs in areas in which there is tactile and pain anæsthesia; heat perception is less than cold.

CASE VI.

Anæsthesia to touch. Sensibility to pain, heat, and cold is normal.

CASE VIII.

Loss of tactile sensibility.



CASE VII.

Anæsthesia to touch, pain, heat, and cold.
Anæsthesia to heat and cold only.
Impaired sensibility to touch and pain.

CASE X.

Anæsthesia to touch. Anæsthesia to pain on anterior surface of left leg. Anæsthesia to pain over all of anterior surface of right lower extremity and over the posterior surface of both legs below the knees. Anæsthesia to heat and cold over the posterior surface of both lower extremities from the sacral region downward, and over the anterior surfaces of both legs below the knees

CASE XI.

Amputation.
Tactile anæsthesia. Pain anæsthesia also over buttock and ulnar side of right hand.
Anæsthesia to pain.
Anæsthesia to heat and cold over left leg below knee (anterior and posterior surfaces).

CASE XIII.

Tactile anæsthesia.
Anæsthesia to pain and touch. Perception of heat and cold delayed. Anæsthesia to heat only, on the plantar surface of left foot.

CASE XIV.

Tactile anæsthesia. On soles of feet, total anæsthesia. *Pain sense* dulled all over body except above the superior boundary of the trunk anæsthesia. Sensibility to heat and cold is slightly uncertain over the lower extremities.

CASE XV.

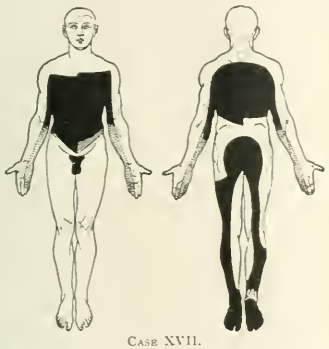
Loss of tactile sensibility.

CASE XVI.

Tactile anæsthesia. Anæsthesia to heat only, sensibility to cold normal. Anæsthesia to *heat and cold* over penis; sensibility on scrotum normal. Pain sense diminished over legs and ulnar distribution on forearms.

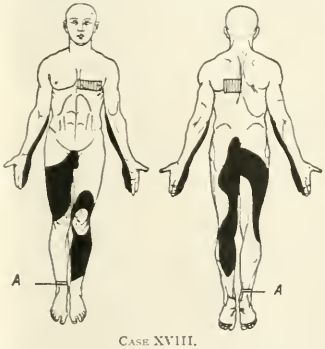
sented show the results of the last examination, made this month (April).

I have found that the borders of the anæsthesia on the chest or back are sharply defined in most cases, especially the upper border; but when the anæsthesia extends down upon the abdomen the lower border is usually poorly defined. The borders of the areas on the lower extremities are not so sharply defined as upon the chest. If, in locating the borders of an anæsthetic area, one approaches the anæsthesia by successive touches or pricks, it is noticed that the borders recede and the area is smaller than if the examination is begun in the anæsthetic area and continued outward to the normal surface.



CASE XVII.

Anæsthesia to touch.
Anæsthesia to touch, pain, heat, and cold.
Tactile sensation uncertain. General anæsthesia to pain over lower extremities and trunk below superior boundary of tactile anæsthesia on trunk.



CASE XVIII.

Sensibility to pain impaired. Anæsthesia to touch on posterior surface of lower extremities. Sensibility to pain is normal over penis and scrotum. Sensibility to heat and cold is lost over penis and scrotum. Anæsthesia to heat only, over anterior and posterior surfaces of legs below the knees.
Tactile anæsthesia only.
A, Foot amputated.

In comparing these areas of anæsthesia with the distribution of the spinal-cord segments, it is seen that in the arms and trunk they agree, and that the anæsthesia does not correspond to the distribution of the peripheral nerves. In the legs very few areas correspond to the distribution of the spinal-cord segments. Cases IV. and VII. agree with the spinal-cord segments, according to Th. Kocher's diagrams, and Cases XIV. and XVII. nearly correspond to them. The other cases do not correspond except partially.

One of the first things we notice about these cases is the fact that the sensory changes are apparently not dependent upon the duration of the disease, for there are large areas of anæsthesia and hyperæsthesia in some of the cases in which the duration has been only from two to five years, while in some others which have had tabes from twenty-five to twenty-eight years there are hardly any sensory changes at all.

Cold is more easily perceived than heat, and is often very easily felt—almost a hyperæsthesia—when there is no perception of very hot water.

In some cases at one time sensations were not localized correctly over certain areas, but this condition has been succeeded by complete anæsthesia over these same areas.

Tactile anæsthesia is found oftener than the other anæsthesiæ, but it is usually accompanied by a hyperæsthesia or anæsthesia to pain over the same area. Loss of perception of touch may be present in various combinations with anæsthesia to pain, heat, or cold over the same area. These sensory disturbances are a valuable and early symptom of tabes, as has been proven by the finding of small areas of tactile anæsthesia in a number of consecutive cases of incipient tabes which have come under my notice in the Vanderbilt Clinic. The patients very seldom are aware of the areas of anæsthesia unless they involve the hands, feet, or buttocks. They then know of them because they cannot feel objects they pick up, and at night they cannot feel the bedclothes.

Paræsthesia is an early symptom which causes a good deal of annoyance to the patient. It is present very early in the disease, and usually appears first in the feet or the ulnar distribution of the forearms. It may be limited to these areas, or it may extend until it involves the whole body. One of my cases has paræsthesia over the whole body, and another over the whole of the left half of the body only. This paræsthesia also varies with the weather.

It may be interesting in this connection to mention a new symptom of locomotor ataxia, which was first noticed by Biernacki and has been named after him. This symptom is the lack of pain when violent compression of the ulnar nerve at the elbow is made, although the usual tingling of the finger is felt. Biernacki says that this condition is present in seventy-five per cent. of his cases, and that it occurs in no other

form of organic disease that may be mistaken for tabes. It is sometimes present, however, in general paresis. I have found this symptom present in seventeen of the twenty-one cases, but in two of them it is present only on one side. Therefore the symptom is present in about eighty per cent. of my cases, which is somewhat more frequently than was found by Biernacki.

The advantages which we ought to gain from a knowledge of these areas of anæsthesia and their location in tabes are both pathological and clinical. As regards pathology, a close study of the areas of anæsthesia and of their location in a large number of cases may be of service in helping to localize more definitely the areas of the skin related to the spinal-cord segments. If these areas become better known, we may be able to locate the point of invasion of the disease more accurately.

From a study of the areas of anæsthesia in old cases—that is, in cases which have had the disease a number of years—we can get many data which will be of service in studying and diagnosing incipient cases of tabes.

A case illustrating the value of examining suspected cases of tabes for areas of anæsthesia, and the assistance the presence of such areas may be to us in making a diagnosis, has just come to my notice. The patient, a young man, had a chancre ten years ago. He now has a loss of both knee jerks and a very slight swaying of the body when the eyes are closed. There are no other symptoms. The pupils respond normally. No diagnosis was made, although tabes was suspected, until on examination an area of tactile anæsthesia was found on his chest. The presence of the area of anæsthesia confirmed the suspicions of the examiner,[1] and made the diagnosis of tabes possible.

Case I. has had locomotor ataxia six years. There is complete anæsthesia to touch over the whole of the lower extremities, over all the posterior surface of the trunk, and over the chest, on the right side, from the level of the second rib downward, and on the left side from the level of the third down to the sixth rib. There is also tactile anæsthesia over a second area on the left side of the anterior surface of the trunk, which extends outward from the median line for about four inches, and from just below the sternum downward about two inches. Tactile anæsthesia is also present over a small tongue-shaped area on the inner side of each arm, extending from the axilla downward nearly to the elbow, and also over the ulnar distribution of the right forearm. Over the lower extremities there is complete anæsthesia to heat and cold. Sensibility to heat and cold is much impaired or uncertain over the anterior and posterior surfaces of the trunk. Pain perception is lost all over the four extremities, and over both the anterior and posterior surfaces of the trunk as far up as the clavicles.

Case II., in which the disease has existed for seven years, presents complete tactile anæsthesia over the anterior surface of the lower extremities up to the groin, and over the posterior surface as far up on the left side as the lower dorsal vertebræ, and on the right side as the second lumbar vertebra. On the right side of the chest, extending from the median line outward about five inches and from the fourth to the sixth rib, there is an area in which tactile sensibility is lost. There is a similar area on the right side of the back, at about the same level, in which tactile perception is absent. Over the anterior surface of the lower extremities perceptions of heat and cold are very much impaired and uncertain. On the ulnar side of the right hand tactile sensibility is lost and there is marked paræsthesia.

Case III.—Duration of the disease, twenty-five years. There is general complete anæsthesia to pain (analgesia). Over the penis and scrotum there is also anæsthesia to touch, heat, and cold. Tactile sensibility is lost on both the plantar and the dorsal surface of each foot, the anæsthesia extending in front up to about the middle third of the legs. There is also tactile anæsthesia in a semicircular area on each buttock, in an area over the epigastrium extending about four inches on either side of the median line, and in two small areas on the back, both on the left side of the median line. There is a loss of perception of heat and cold over the lower two-thirds of the legs in front and the dorsal surfaces of the feet, and over the thighs behind from just below the buttocks downward over the legs and the soles of the feet. Over all the rest of the body sensibility to heat and cold is very much impaired, cold being more easily distinguished than heat.

Case IV. has had the disease twelve years. There is complete anæsthesia to touch and pain from the level of the clavicles downward over both the anterior and posterior surfaces of the body, excepting only a small area on the inner side of the plantar surface of each foot, where all sensations are normally felt. Over this same area there is a general numbness, and perceptions of heat and cold are much delayed.

Case V. has had tabes for ten years. There is anæsthesia to pain and touch over the anterior surface of both lower extremities, excepting over a narrow tongue-shaped area extending downward from the groin and nearly to the knee along the middle of the left thigh, and in a small circular area over the left knee, where sensations are normally perceived. On the right side this anæsthesia extends upward on the abdomen to the level of the umbilicus. On the abdomen, on the left side of the median line, there is a small area about two inches square just below the umbilicus, in which there is a loss of pain and tactile perception. On the chest there are three areas of tactile and pain anæsthesia—one on the right side, extending from the median to the axillary line and from the third rib down to just below the end of the sternum; one on the left side, extending from the fourth to the sixth rib and from the median line outward for about one and one-half inches, where there is a normal space; and external to that the third area, a continuation of the anæsthesia again to about two inches beyond the nipple. Over the posterior surface of the trunk and lower extremities there is a loss of sensibility to pain and touch from about the level of the inferior angles of the scapulæ downward, excepting only a narrow area along the inner surface of the left thigh, where sensation is normal. Sensibility to pain is normal over the scrotum, but is lost over the penis. There is anæsthesia to heat and cold over the whole of the legs below the knees, and on the penis and scrotum. On the thighs, in the areas in which there are pain and tactile anæsthesia, perception of heat and cold is diminished, cold being more easily distinguished than heat.

Case VI. has had locomotor ataxia ten years. Perceptions of pain, heat, and cold are normal. There is tactile anæsthesia all over the forearms, over the inner half of the posterior surface and the upper half of the inner surface of each arm. Tactile anæsthesia is present on the trunk from about the level of the third rib downward, the upper border being a little higher on the right side than on the left. This tactile anæsthesia is present also over the upper two-thirds of the anterior surface of the right thigh and the upper fourth of the left thigh. There is no perception of touch over the back as far down as the lower lumbar region, and down along the outer surface of the right thigh to the popliteal space. There is also a small area of tactile anæsthesia on the posterior surface of the left

[1] Dr. Pearce Bailey.

thigh, as shown in the diagram, and a still smaller area over the external malleolus of the left ankle.

Case VII.—Duration of the disease, five years. There is total anæsthesia over the anterior and posterior surfaces of both lower extremities from the junction of the upper with the middle third of the thighs downward, excepting a small area on the inner side of the plantar surface of each foot, and another small area in the middle third of the anterior surface of the left thigh. In the small area on the plantar surface of the left foot and the area on the middle third of the left thigh there is anæsthesia only to heat and cold. Over the ulnar distribution of each forearm sensibility to touch and pain is impaired. There is no trunk anæsthesia.

Case VIII. has had tabes twenty-eight years. There are no other sensory disturbances than a tenderness to pressure along the spine from the eighth to the twelfth dorsal vertebra, and the narrow interrupted band of tactile anæsthesia on the left side of the chest at the level of the nipple.

Case IX.—Duration of the disease, eight years. Death from uræmia. Over the whole of the right lower extremity, excepting a small area just below the groin, and over the external half of the anterior and posterior surfaces of the left lower extremity, there is anæsthesia to touch, heat, and cold. Perception of touch is lost over the ulnar half of the left hand. Pain sensibility is normal over the whole body. There is no trunk anæsthesia. As I was able to make but one examination of this patient before his death, I do not present the diagram of his areas of anæsthesia.

Case X. has had the disease twelve years. There is tactile anæsthesia over two areas on the chest. On the right side the anæsthetic area extends from the median to the axillary line and from the third to the sixth rib, and on the left side from the median to the axillary line and from the fourth to the seventh rib. There is also loss of tactile sensibility over the ulnar side of the left forearm, both anterior and posterior surfaces, and on the anterior and posterior surfaces of the lower extremities, as shown in the diagrams. Over the same area on the anterior surface of the left leg there is also loss of pain perception. There is anæsthesia to pain over all of the anterior surface of the right lower extremity, and over the posterior surfaces of both legs below the knees. Perception of heat and cold is lost over the anterior surfaces of both legs below the knees, and over the whole of the posterior surfaces of both lower extremities from the upper sacral region downward.

Case XI.—A woman; duration of the disease, thirteen years. Right thigh amputated at *A* for Charcot joint. There is tactile anæsthesia over the anterior surface of the trunk, from the third rib on the right side, and from the fourth rib on the left side down to the pubes, and over the posterior surface of the trunk as far down as the first lumbar vertebra. The boundaries, both upper and lower, of this anæsthetic area on the back are higher on the left than on the right side. There is also a loss of touch perception over a tongue-shaped area on the inner and posterior surfaces of each arm, extending from the axilla downward nearly to the elbow, over the ulnar side of the right hand, and over a semicircular area nearly covering the right buttock. Anæsthesia to pain is present over the whole of both forearms, the whole of the left lower extremity from the groin in front and the sacral region behind downward, and over the whole of the posterior surface of the right thigh below the sacral region. There is a loss of perception of heat and cold over the whole of the left leg below the knee.

Case XII.—A woman; duration of the disease, eighteen years. There is general hyperæsthesia to all stimuli.

Case XIII.—A woman; has had the disease five years. She is blind. There is tactile anæsthesia over an area on the left side of the chest, extending from the median to the axillary line and from the fourth to the sixth rib, and over an area on the left side of the back at about the same level, extending from the median line outward for about five inches. Over the whole of the left lower extremity and the left buttock there is anæsthesia to pain and touch, and perceptions of heat and cold are very much delayed. On the plantar surface of the left foot there is anæsthesia only to heat.

Case XIV. is blind: has had the disease seven years. There is complete loss of tactile sensibility on the chest, extending on the right side from the median to the axillary line and from the fourth rib down to the level of the umbilicus, and on the left side from the median to the axillary line and from the space below the third down to the sixth rib. On the back the area of tactile anæsthesia extends on the right side from the median to the axillary line, the superior and inferior borders being on the same level as those of the area on the right side of the chest. On the left side of the back the band of tactile anæsthesia corresponds in width to that on the left chest. There is also tactile anæsthesia over the penis and scrotum and the adjacent surface of the thighs and pubes, and over the posterior surface of the thighs in the areas shown in the diagrams. There is total anæsthesia over the soles of the feet, excepting a small area on the inner side of each foot, where sensibility is normal. Pain perception is impaired over the whole body below about the level of the third rib. Over the lower extremities sensibility to heat and cold is slightly impaired and uncertain.

Case XV. has had tabes five years. The patient is blind. The only sensory disturbance found in this case is a complete loss of tactile perception over an area on the right chest, extending from the median to the axillary line and from the fourth rib downward nearly to the level of the umbilicus, and over an area on the right back extending from the median to the axillary line and from just above the inferior angle of the scapula downward for about five inches. There is no diminution of perception of pain, heat, or cold on any part of the body.

Case XVI. is blind; has had the disease twenty-seven years. This patient has anæsthesia to touch and heat over the following areas: On the left chest from the median to the axillary line, and from just above the fourth to the sixth rib; on the left back from the median to the axillary line, and from the level of the spine of the scapula down to about the eighth dorsal vertebra; on the right back from the median to the axillary line, and from the level of the spine of the scapula downward about five inches (this area connects with a tongue-shaped one on the inner and posterior surface of the right arm): over the ulnar distribution of both forearms, over the anterior surface of the right lower extremity from the middle of the thigh downward, and on the left side from the level of the umbilicus down over the whole surface of the left lower extremity, excepting only a small area on the inner side of the knee. Posteriorly this anæsthesia extends from the lumbar region downward over the whole of the lower extremities, excepting a small area on the inner side of the left knee. Perception of cold is normal over the whole body except over the penis, where there is complete anæsthesia to heat and cold. Over the scrotum heat and cold sensibility is normal. Pain perception is diminished over the ulnar distribution of the forearms and over the legs below the knees.

Case XVII. has had tabes seventeen years. There is complete tactile anæsthesia over the right side of the chest from the third rib downward nearly to the

groin, and on the left chest from the second intercostal space downward to about midway between the umbilicus and the pubes; below this tactile perception is impaired. Over both sides of the back from about the level of the spines of the scapulæ down to the upper lumbar region, there is also loss of touch perception. This tactile anæsthesia extends downward on the inner surface and the inner half of the anterior and posterior surfaces of the arms to the elbows. There is tactile anæsthesia over the penis and scrotum, and to a slight extent on the adjacent parts, and over the buttocks and posterior surfaces of the lower extremities, as shown in the diagrams. Over the ulnar distribution of both forearms there is total anæsthesia. There is a loss of sensibility to pain over the whole of the lower extremities, the inner surfaces of the arms, and the trunk as far up as the level of the third rib.

Case XVIII.—Duration of the disease, two years. Foot amputated at *A*. There is tactile anæsthesia on the left chest over a small area about two inches wide, extending outward for about five inches from the median line at the level of the nipple, and over an area about two and one-half inches square at about the same level on the back just to the left of the median line. There is an impairment of pain perception over the ulnar distribution of both forearms, over the lower two-thirds of the anterior surface of the right thigh, over a small area on the anterior surface of the left thigh just above the knee, over the upper two-thirds of the anterior surface of the left leg, and over the irregular areas on the posterior surfaces of both the lower extremities and the buttocks. Over the penis and scrotum sensibility to pain is normal, but there is a loss of perception of heat and cold. There is anæsthesia to heat only over the anterior and posterior surfaces of both legs below the knees, sensibility to cold being normal.

Case XIX.—Duration of disease, two years. Has no sensory disturbances.

Case XX. is blind. Has had the disease four years. There is no anæsthesia.

Case XXI. has had tabes five years. There is no anæsthesia.

It is seen from these cases that sensory disturbances are both an early and a late symptom of tabes, that the areas of anæsthesia are of diagnostic value in incipient cases, and that they increase in size as the disease progresses.

I wish to thank Dr. M. Allen Starr and Dr. Pearce Bailey, attending physician to the Hospital for Incurables, for their kindness in giving me valuable advice in the preparation of this article.

April 10, 1897.

The Treatment of Hemorrhoids by Whitehead's Method.—Dr. Delorme (*Médecine Moderne*, October 31, 1896) speaks very favorably of Whitehead's treatment of hemorrhoids, which he regards as the method of election in cases of large internal or externo-internal piles forming a prominent circular mass. The author states that in eighteen patients thus treated he obtained perfectly satisfactory results; the operation was followed by primary union, there was exact apposition of the skin and mucous membrane, the formation of supple and dilatable cicatrix, and freedom from both retention and incontinence. The cure is radical provided the gut is incised above the zone of venous dilatation. The immediate hemorrhage is seldom profuse. To secure success, the incision must be made above the limits of the affected mucous membrane; the suture must be strong; the sphincters must be carefully preserved; absolute rest of the perirectal muscles must be maintained until the complete development of firm union.

GOUTINESS IN ITS RELATIONS TO DISEASES OF THE EAR.[1]

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I believe that the sentiment among otologists is quite general that while gout, or the gouty diathesis, may play a certain part in the etiology of various disturbances of the ear, the facts which thus far have been ascertained are too few or of too doubtful a character, as matter of evidence, to warrant us in establishing a distinct class of cases to which we may apply the term gouty. It is, therefore, not surprising that modern otological text-books say little or nothing on this subject. But when I came to look over the published works of some of the older English writers, for the purpose of ascertaining what particular lesions or phenomena were considered by them as being of a gouty nature, I was surprised to find that only two of them furnish any data upon which one can form an opinion in regard to this question. Thus, for example, in Wilde's treatise[2] (page 259) I find the following: "That gouty otitis may exist, I have no doubt, but I myself have never seen a well-marked example of it; neither have I yet read a description of that disease which afforded any one pathognomic [*sic*] which could be relied upon." Then, on a previous page (170), he says: "Gouty inflammation of the external ear has been fully established. Dr. Graves, who was the first to describe this affection, says that the state of congestion of the auricle seldom lasts long, and generally subsides on the occurrence of the disease in the extremities."

At a somewhat later date Toynbee, on page 362 of his work,[3] makes this statement: "The poison of gout may also give rise to deafness and other peculiar symptoms in the head." Then, by way of illustration, he gives the history of a case which he believed to be of gouty origin. As it is the only thoroughly typical case of gouty ear disease of which I have been able to find a record, I make no apology for reproducing the account here in its entirety.

Toynbee's case: "D. T——, Esq., aged fifty-four, consulted me in June, 1857. He said that for the last four or five years he had been subject to attacks of gout, which had at times caused him great inconvenience, and the disease had recently made so much progress as to make him fearful that his brain was weakened by its influence. He added that he was never really clear-headed excepting just after an attack of gout, when he supposed his blood was temporarily freed from the poison. He had rapidly aged in the course of the previous two years. An extremely distressing symptom had lately presented itself in the form of a peculiar sensation of vacancy in the ears, accompanied sometimes by a low humming sound. There was no deafness, and the patient applied to me only on account of the sensations in the ear. On examination, small deposits of gouty matter were observed in the substance of the right upper eyelid; the surface of the meatus externus was of a bright red color; the circumference of the membrana tympani and of the long process of the malleus were also red; while the surface of the tympanic membrane was very bright. Air passed freely,

[1] Read before the American Otological Society at its meeting in Washington, D. C., on May 4, 1897.

[2] "Practical Observations on Aural Surgery, and the Nature and Treatment of Diseases of the Ear," American edition, Philadelphia, 1853.

[3] "The Diseases of the Ear; their Nature, Diagnosis, and Treatment," London, 1868.

and with the natural sound, into the tympanic cavity. The hearing power was perfect. By what, therefore, could the distressing symptoms be caused? Were they the result of congestion of the nerve?—a condition which, it seemed to me probable, might render the nerve so exquisitely sensitive that the ordinary sounds ever floating in the air might become a source of excitement to the ear. Being aware also, from previous experience in similar cases, that pressure upon the external meatus so as to shut out or diminish the sound in the meatus would remove the symptom complained of, I closed with my fingers each external meatus, and the unpleasant symptoms at once disappeared. On subsequently exerting a gentle pressure on the ears by the introduction of cotton steeped in water into each, the patient was enabled to leave in comparative comfort. For the purpose of preventing the recurrence of the symptoms, it was of course requisite to diminish the congestion, for which purpose two leeches were applied below each ear, small doses of colchicum administered, and strict attention to diet enjoined. The quantity of wine was decreased from four to two glasses daily, and in lieu of beef and mutton, of which he had been in the habit of partaking very abundantly, he was ordered to live principally on poultry, game, and fish, with abundance of farinaceous food and vegetables. The result of this treatment was the removal of the distressing symptoms in the ears, and the gradual disappearance of the attacks of gout."

It is clear, from this account, that Toynbee based his belief in the gouty nature of both these lesions—those seen in the external auditory canal and those assumed by him to exist somewhere in the course of the auditory nerve—partly upon the other pathological phenomena which the patient manifested, and which would be accepted by all authorities without dispute as being of gouty origin, and partly upon the beneficial results of the antigouty treatment adopted.

So far as the older otological literature is concerned, the data given above comprise, as I have already stated, all the information which I have been able to obtain. But in Garrod's classical treatise on gout[1] I find certain statements which may be quoted here, as they bear directly upon the question of the correctness of Toynbee's diagnosis in the case just cited, as well as upon the general subject of gouty affections of the ear. In speaking of the irregular forms of gout—and it is among these that all the ear cases of this disease must be classed—he says (page 32): ". . . they occur in subjects who have never experienced a true fit, but who either inherit gout, or at least have been much exposed to its predisposing causes. When at any time we can demonstrate that these symptoms depend upon the same diathesis as leads to the inflammation of the joints, we are certainly justified in considering them irregular manifestations of gout." Farther on, he says: "On the other hand, there can be no question that the same systemic condition which ordinarily leads to the development of regular gout may at times produce symptoms altogether apart from the joints, but which are essentially of a gouty character." Then again, in speaking of eczema, he says: "Eczema is also a form of skin disease constantly met with in gouty individuals, either localized to a few spots in certain parts, as behind the ears, or on the external ear," etc. The only mention which he makes of any gouty manifestations in the deeper parts of the ear is the following: "Deposits are not unfrequently found upon the drum and the ossicles of the ear, but I have failed to discover uric acid in any which I have examined. I am inclined to regard the alterations which I have now and then seen in the bones of the ear as indicating the presence of rheumatoid arthritic disease rather than true gout."

[1] Edition of 1876 (London).

Finally, Lyman, of Chicago, in his admirable treatise on gout in the first volume of the "Twentieth Century Practice of Medicine,"[1] mentions a number of alterations in the organ of hearing which have been attributed to the arthritic diathesis; but, as no details of individual cases are mentioned, the reader cannot form an independent judgment in regard to the correctness of these deductions. Personally, however, I am confident that at least some of these alterations have been rightly attributed to goutiness.

During the past eight or nine years the conviction has been steadily growing stronger in my mind that a gouty diathesis plays an important part in a very large percentage of the cases of ear disease which we encounter in private practice. I start out with the premise that a patch of eczema, of spontaneous development, signifies the existence, in the individual possessing it, of a gouty diathesis. Garrod's statement, just quoted, is my warrant for this broad rule. As it happens, the floor of the external auditory canal is apt to be the very first spot on the surface of the body where an eczematous inflammation develops. That this should be the favorite spot for the first outbreak of an eczematous inflammation is probably due to two facts: first, that the blood-vessels in this locality are very small; and second, that rarely if ever is the skin at this spot disturbed in its quietude. Every other part of the surface of the body is moved at brief intervals, and this motion is unfavorable to stagnation of the blood-current. The spontaneous development of this condition of stagnation in the blood-current of some limited area of the skin constitutes, therefore, a valuable guidepost, pointing, as it does, at a very early stage, to the existence of that disturbed state of the metabolic processes to which the term goutiness, or a gouty diathesis, is applied. In the cases which I am about to describe as types of gouty ear disease, this lesion was invariably present at some time or other in the course of the disease. In these cases, furthermore, it will be seen how different localities or different tissues are involved at different times. Thus, for example, at one time it is the skin of the external auditory canal and auricle; at another time the dermoid surface of the tympanic membrane is involved, as well as the walls of the canal; at still another, the adjacent bone tissue is affected; and finally, at a fourth, the disease locates itself in the mucous membrane of the tympanic cavity, and particularly in that part of it which borders upon the two fenestræ. In addition to these brief histories I will give with each a running commentary upon those features which seem to me to call for some special remark.

[1] Published by Wm. Wood & Co., New York, 1895, Thomas L. Stedman, M. D., editor.

Case I.—A gentleman, about thirty years of age, and apparently in robust health, consulted me, in the spring of 1882, on account of an uncomfortable affection of both his ears. The symptoms were: a distressing irritation in both canals, occasional pain, intermittent watery discharge, and decided fluctuations in the hearing-power. Generally, he could hear perfectly well, but often, for two or three days at a time, the ears would seem to close, and then he would experience considerable difficulty in hearing. On examination, I found both auricles eczematous and the external auditory canals very much swollen. The semi-raw surface of the skin, in the latter regions, was bathed with a thin purulent secretion. Near the tympanic membranes there seemed to be an abundance of room, but farther outward the calibre was reduced to the size of a steel knitting-needle. The cause of the trouble was not far to seek. In the first place, his father was a great sufferer from gout; and in the next

place, he himself was very fond of good living, and was well known among his friends as an authority on the places where the best brew of German beer or the best Bass' ale could be obtained. Furthermore, he habitually abstained from anything like vigorous physical exercise.

I gave him momentary relief from the worst aspects of his trouble by the local application of a strong silver-nitrate solution (one hundred and twenty grains to the ounce), and I spoke to him very earnestly in regard to the important topics of diet and physical exercise.

During the past fifteen years I have seen this patient repeatedly. His ears are to-day in precisely the same condition as they were in 1882—no better no worse. Strange as it may seem, the tympanic cavities appear to have escaped entirely. At all events, when the outer passages are clear he seems to hear as well as anybody. Even an intercurrent severe attack of knee-joint inflammation—presumably gouty—has not accomplished any more than have my repeated sermons in inducing him to alter his habits in respect to eating and taking exercise.

The preceding case is a well-marked example of a class of cases with which every aural surgeon in private practice is perfectly familiar. In probably the majority of instances the eczema is not so widely diffused; it is more apt to be confined to a patch of limited extent, which rises but little if at all above the level of the surrounding healthy skin. While the lower wall of the canal is, perhaps, more oftcn the seat of such a localized patch of eczema than is any other portion of the canal, there is no part of it which may not be visited by the disease. Now and then it invades even the drum membrane itself. I have seen several instances of this, but I have preserved the records of only the two following cases:

Case II.—The patient, a lady of about fifty years of age, consulted me during the autumn of 1896 on account of the following symptoms: tinnitus, slight impairment of the hearing, and vertigo, together with sleeplessness, anorexia, and "rheumatic" pains in different parts of the body (hands, shoulders, etc.). In both external auditory canals I found circumscribed areas of eczema, and in one ear the posterior half of the membrana tympani was the seat of an oblong, dirty-looking, grayish scab, sharply limited in its outlines, and of only slight thickness. By the employment of a small and very delicately constructed ring-shaped curette this scab was readily removed, and the base upon which it rested was found to present a feebly granulating moist surface. Under a course of anti-gouty treatment the subjective symptoms nearly all disappeared, but the patch on the membrana tympani persisted for a period of several weeks, despite the fact that I applied a strong solution of silver nitrate to the granulating surface on one or two different occasions. Finally, this lesion disappeared completely (March 19, 1897), leaving the tympanic membrane perfectly smooth and pale.

Another case, which belongs in this category, was reported by me in 1891.[1]

Case III.—In this patient, an adult, I found the region above and behind the short process of the hammer, and the larger part of the posterior half of the drum membrane, converted into a mass of tolerably firm granulation tissue. At its lower and posterior border the mass represented little more than a red, succulent, very much thickened tympanic membrane, while at and around the short process the mass projected sufficiently for me to remove a portion of it with the snare. The outer canal elsewhere was only mildly inflamed, and contained but a small quantity of purulent discharge. The hearing for voice sounds was scarcely at all affected. A search was made for a fistulous opening in the vicinity of Shrapnell's membrane, but no trace of one could be found. The previous history of the case pointed rather to chronic eczema of the external auditory canal.

By the aid of the snare at first, and of chromic acid afterward, I soon succeeded in destroying all the exuberant tissue in the region of Shrapnell's membrane; the patient in the mean time employing faithfully Angelo's ear douche, with warm water, two or three times a day. In less than three weeks the tympanic membrane and the surrounding regions had very nearly resumed their natural appearance, and I question whether anybody who might then have seen the ear for the first time would have believed it possible that such gross lesions as I have described above were present in this ear so short a time previously. In only one material respect did the tympanic membrane show a departure from the normal condition: an elongated oval patch, of a silver-grayish color and sharply defined borders, occupied the greater part of the posterior half of the membrane. By suitable manipulations with the tip of the slender silver probe it was ascertained that the thickening was seemingly confined to the outer surface of the membrana tympani, and that it was perfectly flexible and dry. A patch of psoriasis is the only skin lesion which occurs to my mind as presenting a strong resemblance to the one observed in the present case.

In this last case we are warranted, it seems to me, in assuming that the gouty impulse, at least at this particular spot on the membrana tympani, was stronger than it is in those cases in which the granulation process goes no farther than to convert the skin surface into a succulent secreting area.

But the picture presented to the eye may be materially modified by the action of other factors, such as pressure upon the inflamed parts, damming up of the products of the inflammation by an obstructing mass of cerumen, etc. The following case, which I saw about twenty years ago,[1] illustrates this point, and also suggests the probability of our being able to demonstrate, at some future day, that even large deposits of chalky material (urates) may occur in the external auditory canal.

Case IV.—The patient, a very intelligent lady, thirty-eight years old, and in fairly good health, stated that during the previous five weeks she had experienced at times quite severe pain in the right ear. There had been no discharge and very little disturbance of the hearing, so far as general conversation was concerned. Her regular medical adviser had attributed the painful affection of the ear to impacted cerumen, and had syringed the canal very thoroughly with tepid water, but without beneficial effects. On examination, I found the orifice of the right auditory canal tender on pressure, and obstructed by the presence of a moderately large mass of granulation tissue springing from the mouth of what seemed to be a furuncular pocket. Beyond this fleshy mass, which I at once removed with the snare, the canal was found to be tightly plugged with a whitish mass which felt as hard as chalk. By means of the curette and forceps, I was able to break down and remove piecemeal the entire mass. It presented, throughout, every appearance of being a chalky substance, and probably represented a calcareous transformation of pus that had first undergone cheesy degeneration.[2] The inner end of the mass extended to within a few millimetres of the drum

[1] "International Clinics," April, 1891.

[1] Reported in my manual, "The Diagnosis and Treatment of Ear Diseases," Wm. Wood & Co., New York, 1880, pp. 93–95.

[2] The present report of this case, it should be remembered, is in the same words which I employed when I first published it in 1880. Farther on, it will be seen that I no longer entertain the view here put forward in regard to the mode of development of this chalky mass.

membrane. After it had been entirely removed I found that the only lesion in the osseous part of the canal, beyond a moderate degree of redness and swelling, was a circumscribed ulcer, situated posteriorly and superiorly not far from the junction of the osseous with the cartilaginous portion. On exploration with the probe I ascertained that denuded bone surface constituted the base of the ulcer. The membrana tympani appeared to be perfectly normal.

An examination of the patient's left ear, which she had always supposed to be healthy in every respect, revealed the existence of a small, pale, succulent polypoid mass, springing from the posterior wall of the osseous part of the canal, close to the drum membrane. The secretion from this mass was so scanty that no fluid could be seen in the canal except in the immediate neighborhood of the growth. Exploration with the probe showed that the polypus was simply a superficial outgrowth, not connected with any demonstrable disease of the bone. The membrana tympani appeared to be perfectly natural, and there was no appreciable redness or swelling of the walls of the canal in the vicinity of the growth.

I questioned the patient carefully with regard to the condition of her ears in the past, but could elicit no information that threw any light upon the peculiar lesions found. The pain of which she had complained during the previous five weeks was evidently due to the development of a furuncle near the outer orifice, and the mass of granulation tissue found in this location was simply the effect of continued irritation from some source or other. These lesions were evidently of comparatively recent date. The presence of the calcareous mass in the right meatus pointed clearly to a discharge of much earlier date; but it was not so easy a matter to define the location from which this discharge came. The middle ear, for instance, could safely be excluded as a source of the pus, as the patient was positive that she had never experienced any pain or discomfort in the right ear until recently, and also because the condition of the drum membrane, as found after the chalky mass had been removed, showed no trace of any recent or former inflammation of the middle ear. The discharge, therefore, in all probability, came from the auditory canal. The patient, however, it will be remembered, stated distinctly that she had never observed a discharge from either ear. In explanation of this apparently contradictory state of things, the assumption is certainly warranted that in the outer portion of the canal there must have been some obstacle which prevented the escape of pus secreted in the inner portion. Impacted cerumen would present such an obstacle, and, by greatly diminishing the rate of evaporation which would take place in the pus under ordinary circumstances (*i.e.*, in an unobstructed meatus), would favor its gradual accumulation and slow transformation, first into a cheesy and then into a chalky mass. No cerumen, it is true, was found in the canal at the time when I examined it; but it is more than probable that the thorough syringing which the ear had received at the hands of the attending physician had removed all that was there.

The question relating to the exact source of this assumed discharge, whether the latter came from the circumscribed ulcer described above, or from some previous diffuse inflammation, of which this ulcer was the last remaining trace, is one which I am unable to answer.

With regard to the treatment and subsequent progress of the case, there is very little of interest to communicate. Both ulcers healed slowly under the use of nitrate of silver (in the form of a bead) and (later) powdered iodoform. A dry eczema, affecting the orifices of the canals, continued to be present for several weeks after the ulcers had healed, and then finally disappeared. As late as during the summer of 1879 I found both canals still quite natural in appearance.

In recent years I have been disposed to attach an entirely different pathological interpretation to the lesions described in the foregoing record. I think that it is highly probable that the ulceration of the osseous portion of the right external auditory canal was a distinctly gouty lesion, such as is seen in the vicinity of certain articulations in the more severe forms of the disease, and that the chalky material which filled the canal came from this source. This lady's father and sister had both been sufferers from gout in a pronounced form, and, as will be noticed in the record, both canals showed evidences of eczema for a certain length of time after the healing of the ulcers. These two facts add strength to the hypothesis that in this particular case the main underlying cause of the peculiar lesions observed in the ears was a well-marked gouty diathesis, active only during a limited period of time.

To the minds of some it may seem strange that the chalky material observed in this case should have been found lying free in the external auditory canal, whereas the gouty tophi observed in other parts of the body are always surrounded by an envelope of skin. This difference may probably be explained in the following manner: In the neighborhood of the small joints of the fingers the skin is very strong and elastic and only loosely adherent to the underlying fibrous structures. The chalky urates may, therefore, easily accumulate at these points in quite large quantity without rupturing the skin. In the external auditory canal, on the other hand, or more particularly in its osseous portion, the skin is extremely thin and is quite firmly attached to the underlying bone. It could therefore scarcely serve as a sac for holding any such mass of chalky material as was found in the present case.

It may also seem strange to some that these chalky urates—if such, indeed, they were—should not have escaped from the external auditory canal, instead of remaining there, and gradually forming a solid mass of considerable size. The explanation which seems to me to be the most plausible is the one which I have already given above, viz., that a mass of impacted cerumen doubtless occupied the outer half of the canal at the time when the more active gouty outbreak occurred, and the presence of this obstacle prevented the escape of the solid portions of whatever secretions may have been poured out into the deeper parts of the canal.[1] One can easily understand how, under these favoring conditions, the separate particles of solid matter might, in the course of time, become pressed together into a fairly hard mass, such as was found in the present case.

In the cases of which I have thus far given brief accounts, the lesions have been limited in extent and have not, with, perhaps, a single exception (Case IV.), involved the underlying bone structures. In the following case[2] the gouty influence was so strong and so persisting that both the skin and the underlying bone became involved in the inflammation.

Case V.—The patient, a rather stout lady about thirty-eight years of age, consulted me on October 6, 1887, for what seemed to be a subacute catarrhal inflammation of both middle ears, accompanied by almost constant tinnitus, and by an unpleasant sense of fulness in the ears. From the right ear there had been

[1] This lady's regular medical adviser was in the habit of using the speculum and reflector in examinations of the ear; and, as he first pronounced the condition to be one of impacted cerumen, I think we are warranted in concluding that he based this first diagnosis upon the fact that he actually saw such a mass in the canal.

[2] Reported in part in the "International Clinics," April, 1891. Lippincott Company, Philadelphia.

a slight discharge, and the sensation of itching in this ear had at times been almost intolerable. The patient was then also suffering, and had been for several years, from well-marked diabetes insipidus. In general conversation with her I observed no evidences of impaired hearing, but on testing this function with the watch, which was a loud ticker, I found that she could hear it at a distance of only two inches on the left side and three on the right. I inquired into her habits as regards eating and exercise, and learned that she practically took no outdoor exercise whatever, and yet she had not modified her diet in the slightest degree.

An examination of the ears revealed the existence of an eczematous inflammation in both external auditory canals. The tympanic membranes showed no noticeable alterations.

I prescribed a restricted diet, more physical exercise, the use of the douche with warm water in the right ear, local applications of the oil of cade and vaseline in both ears, spraying the nasal passages with listerin and water, bi-weekly applications of a silver-nitrate solution to the vault of the pharynx, and inflations of the middle ears acording to Politzer's method. Very little, if any, improvement followed this plan of treatment. My impression is, however, that the advice about diet and exercise was not followed.

From October, 1887, to January, 1890, I saw the patient at irregular intervals. The memoranda in my case book simply show a record of ups and downs, with no special tendency on the part of the disease to grow materially worse. The discharge from the right ear, although scanty, was almost constant. On the 31st of January, however, she began to suffer from the first of a series of boils in the right external auditory canal. All sorts of local remedies—Hebra's diachylon ointment, silver-nitrate solutions of various strengths, powdered boric acid, etc., were tried, but without any beneficial effect. The sulphide of calcium, administered in small doses, seemed to do a little good, but yet not enough to warrant us in continuing its use. In the mean time the left ear had also begun to discharge, owing to the presence of a diffuse inflammation of the skin lining the inner half of the canal.

On the 14th of May I found, on the lower wall of the right meatus, not far from the outer orifice, a circumscribed patch of granulation tissue, which I touched freely with a strong (twenty-four per cent.) silver-nitrate solution. This application causcd the ulcer to heal promptly, and for about one month afterward the ear gave her very little trouble. The left ear had also, by this time, resumed a fairly quiet condition.

On the 16th of June, when I saw her for the last time before she went away to the country for the summer, there was a little tenderness at the orifice of the right canal, as if a fresh furuncle were developing; but in all other respects both ears seemed to be as free from irritation as they had been at any previous time for several months past.

On the 6th of October, when she returned from the country, I found the left external auditory canal in very much the same condition as I had seen it on the 16th of June; that is, the canal was a trifle narrower than it should be and there was more fulness of the blood-vessels than is normal. On the right side, however, the condition of the auditory canal had become very much worse. A polypoid growth, about the size of a small pea, occupied the orifice of the canal. By the aid of a bent probe it was ascertained that this growth sprang from the edge of an opening in the skin, at the bottom of which denuded bone could be felt. After the removal of this polypus with the snare, it was seen that the cutaneous walls of this deeper portion of the canal had been converted into granulation tissue which completely obliterated the calibre of the meatus. Neither on this nor on any subsequent occasion was I able to determine accurately whether any portion of the cutaneous lining of the canal had escaped this conversion into granulation tissue. Along the upper wall, down to a point close to the tympanic membrane, the skin seemed still to retain a smooth, firm surface, but I was not able to ascertain positively whether such was the fact or not. The lack of space and the facility with which such tissues bleed when manipulated are almost insurmountable obstacles in the way of a satisfactory examination. The skin covering the mastoid process was red, swollen, and tender, and the auricle was dislocated slightly forward. There was comparatively little pain at this time; no more, in fact, than would be expected from an inflammation of the surface tissues.

Although I inquired carefully into what had taken place during the interval between June 16th, when I last examined the right ear, and the date of the visit to which I have just referred, I failed to discover any facts which would warrant the belief that she was suffering from inflammation of the mastoid process of middle-ear origin, that is, an inflammation which had developed more or less independently of the long-standing disease in the external auditory canal. During this period she had experienced, it is true, a great deal of pain in and around the ear, but it could all readily have come from the presence of a deep-seated furuncle and from the rather vigorous efforts made by the different medical men whom she consulted to effect healing of the furuncular cavity.

I took her temperature (under the tongue) and found it to be normal; and I might add that on no subsequent ocasion did it rise above 99.5° F.

During the next three weeks I made various attempts to remove, or materially to reduce in bulk, the granulation tissue in the right canal, but at most I accomplished very little. On the 31st of October, therefore, she was put under the influence of ether, and I proceeded to remove, partly by means of suitably curved knives and partly by the aid of Hinton's fenestrated forceps, the larger part of the obstructing mass. In this way I obtained a clear calibre, from the tympanic membrane outward, of fully five millimetres in diameter. As the bony floor of the canal seemed to be rougher than natural, I scraped it with a sharp-edged spoon. As a last step I insufflated powdered iodoform and sealed up the orifice of the canal lightly with cotton.

Three days later I found that no unpleasant reaction had followed the operation, and that the canal still retained a calibre of about four millimetres in diameter. In the hope of stimulating these relaxed tissues to contract and resume the firm condition of natural skin, I injected into the meatus, by means of a slender glass pipette, a six-per-cent. (thirty grains to the ounce) solution of silver nitrate. The result of this procedure was directly the opposite of that which I had expected; at the end of about forty-eight hours I found the calibre of the canal completely obliterated.

By this time I had become thoroughly convinced that I was contending with forces which I could not possibly hope to overcome by mere local interference, and I expressed the opinion that it would be useless to make any further active efforts to benefit the ear in this manner; although variations in the local conditions might call for some slight therapeutic interference from time to time.

During the early part of November the patient was obliged to keep her bed on account of a rather severe attack of arthritis of the right knee. While this was in progress the pain and swelling in the mastoid region became more marked; but under the influence of

frequent poulticing, with hot flaxseed-meal poultices, the swelling and tenderness rapidly diminished and the pain became insignificant.

About one month later (early in December) I was confident that a certain amount of shrinking and a diminution in the hyperæmia had taken place in the granulating walls of the right external auditory canal. The discharge had always been scanty, and this remained unchanged. There were but two things to which I could attribute this change for the better, and these were the increased amount of outdoor exercise which her attending physician had at last succeeded in inducing the patient to take, and the greatly restricted diet which he had prescribed and which she had faithfully adopted. She had even, at his suggestion, dismissed her maid, in order that she might be forced to take many steps which ordinarily had been taken for her by this person, who had heretofore been in constant attendance.

While the right ear, as I have said, showed only to a slight degree the beneficial effects of the judicious treatment inaugurated by the regular medical attendant, the left responded in a much more decided fashion. It was during the month of October that this ear had begun to grow perceptibly worse. The calibre of the canal became smaller and smaller, and the inflamed walls seemed to be taking on the characteristics of granulation tissue, just as had occurred long before in the right canal. At intervals of a week or ten days a furuncle would appear on the lower wall of the canal near the orifice, break, and then heal up, to be followed in due time by a fresh one at or close to the same spot. The discharge was constant, but rather scanty in amount. Solutions of acetate of lead and of nitrate of silver of different strengths, powdered iodoform and boric acid, and a variety of ointments were tried in succession, but they all failed to produce any beneficial effects. As a matter of fact, they seemed rather to make the ear worse. All through this period the ear was decidedly painful, at times even more so than the right, which certainly seemed to be the more profoundly affected of the two. Then, as I have already stated, there came a decided change for the better in the condition of this left ear, a change which was certainly not due to any local treatment, but could rightfully be attributed to the restricted diet and the increased muscular activity alone. The improvement referred to manifested itself in the following ways: the formation of furuncles ceased, the swelling and discharge diminished, and the pain practically disappeared. By the 13th of December the calibre of this left canal had so increased in size that I was able to obtain a fairly good view of the tympanic membrane.

From this time onward I saw the patient not oftener than once or twice a year; the last time in 1894. Her left ear gave her very little trouble during this period, but the right one never returned to anything like a normal state. The skin of this canal remained in a granulating condition, and the hearing, which at no time had been seriously impaired, varied from time to time according to the variations in the degree of swelling of the granulating skin. The mastoid region continued to be somewhat tender when pressed upon, and there was also more or less pain in this region, but never enough to interfere with her sleep.

Death occurred in 1895, apparently from pneumonia. So far as I could learn, no material change had taken place in the condition of her ears during this last year of her life.

I can recall but one other case in which, from an apparently simple eczema of the skin lining the external auditory canal, there gradually developed a veritable mastoid osteitis, involving the more superficial portions of this bone. I entertained doubts for a long time in regard to the correctness of my diagnosis, and was more than once tempted to explore the interior of the mastoid process. At the end of eight or ten months of unsuccessful treatment I induced the patient to visit Homburg, near Frankfort, in Germany. She followed, for a period of six or eight weeks, the course of treatment which is commonly prescribed at these springs, and which is essentially the same as that recommended at Carlsbad, and she returned to New York seemingly cured of her disease.

The preceding examples may be considered as illustrating sufficiently the different phases manifested by a gouty inflammation of the external meatus. But the auricle and the external meatus are certainly not the only parts of the ear which are affected by this disease. I believe that it also invades the tympanic cavity and produces there alterations which are of the same general character as those which are observed in the external auditory canal. In the former region we cannot actually demonstrate, as is easily done in the meatus, the precise extent and general character of any given lesion, or the particular part of the cavity which it may occupy. The presence of the tympanic membrane prevents this. But our inferences in regard to these points are, nevertheless, not based upon guesswork; they rest upon substantial supports. I will give here two examples of what I believe to have been a gouty inflammation of the middle ear.

Case VI.—A young woman, about twenty-six years of age, and of not a very strong physique, consulted me on the first of February, 1896, for a slowly increasing difficulty of hearing, associated with neither tinnitus nor a noticeable sense of fulness in the ears. She was not able to say exactly when the trouble first manifested itself, but she was confident that during the previous summer and early autumn she had heard quite well. On testing her hearing I found that, for the watch, it stood: R. 3 in., L. 48 in.; and for spoken words it was so far impaired that I was several times obliged to repeat my questions before she was able to understand what I said. Both external auditory canals were normal in appearance, and the tympanic membranes showed no evidences of congestion, or of excessive atmospheric pressure from without, such as might be expected to result from tubal obstruction. An examination of the nasal and pharyngeal regions (by my associate, Dr. Robert Lewis) revealed no lesions of any importance in the nasal passages, and only a moderate degree of congestion of the mucous membrane of the naso-pharyngeal vault.

On inquiring into the patient's past history I ascertained that a few years previously she had suffered more or less from "rheumatism," and that during the past eighteen months she had been working unremittingly as a member of some sisterhood, nursing the sick, teaching a large class of boys, etc. With all this she had taken scarcely any outdoor exercise. Her sallow complexion and tired expression of countenance told very plainly the story of overwork.

So far as local treatment was concerned I restricted this to triweekly inflations of the middle ears by Politzer's method and equally frequent paintings of the congested vault mucous membrane with a three-per-cent. silver-nitrate solution. Small doses of cod-liver oil, abstention from work of any kind after 3 P.M., and as much outdoor exercise as circumstances would permit — these were the chief therapeutic measures upon which I depended for checking the advance of her deafness, and for regaining, if possible, some of the hearing which she had lost.

Improvement took place very slowly. By March 10th the hearing had risen to R. 13 in. and L. 78 in., for the ticking of the watch, and she experienced less difficulty in hearing conversation.

During the month of June she gave up her work al-

together and spent about twelve weeks at the east end of Long Island, on the seacoast. All through the summer she experienced no difficulty whatever with her hearing, and her health was excellent.

In September she returned to the city and resumed her work. But in the course of a few weeks she again began to have some difficulty in hearing; and, by the following February (1897), when she returned to me for treatment, her hearing had already become more noticeably impaired than at any time during the previous year. On questioning her I learned that she had been working harder than ever, and "had not had time" to take any outdoor exercise. The mucous membrane of the pharyngeal vault was again found to be hyperæmic, and an examination of both external auditory canals now revealed for the first time the presence of well-marked patches of eczema. Both tympanic membranes were also hyperæmic, but the eczematous patch in each of the canals did not extend as far inward as to the membrana tympani. The impairment of the hearing had progressed so far that I found considerable difficulty in making myself understood.

The treatment adopted was the same as that which I instituted when the patient first came under my care in 1896. But in conjunction with those measures I advised her to take, every morning, a full hour before breakfast, a tumblerful of hot water in which a scant teaspoonful of the Carlsbad Sprudel salts had been dissolved. I also recommended that the starchy and saccharine elements of her diet should be diminished.

The case is still, at the present time of writing (April, 1897), under observation; but already a very satisfactory degree of improvement has taken place, both in her general physical condition and in her power to hear. The tympanic membrane is no longer congested, and nothing remains of the eczema beyond one or two small sheets of cast-off epidermis which have not yet become fully detached from the living skin. At the end of five weeks she was obliged to give up taking the Sprudel salts, as they were beginning to cause a feeling of languor and weakness. In their place, accordingly, I prescribed Blaud's iron pills, thirty grains daily.

Very similar in character are the phenomena presented by the following case, of which, I regret to say, only very imperfect notes were kept.

Case VII.—The patient, a young woman of twenty-three, and previously of fair average health, consulted us on April 8, 1895, on account of difficulty in hearing. All winter long she had been working hard at her studies, being anxious to graduate with honor from one of the leading colleges for women. Slowly but steadily her hearing had grown more and more imperfect, until finally she experienced great difficulty in hearing what was said to her. Of her general health she had no special complaint to make, but her facial aspect revealed clearly the existence of well-marked anæmia.

On testing the hearing we found that she was almost totally deaf in the right ear. She could distinguish words only when they were spoken in a loud tone of voice almost directly into that ear. On the left side the hearing was still fairly useful; that is, she could distinguish words spoken in a loud tone of voice at a distance of eight feet.

The right external auditory canal was considerably narrowed by an eczematous inflammation of its cutaneous walls; and the corresponding tympanic membrane showed, in its upper posterior portions, decided evidences of hyperæmia and infiltration. (No memoranda relating to the condition presented by the left tympanic membrane were preserved, but it is more than likely that the lesions in this ear were of the same character as those observed in the right.)

An examination of the pharyngeal vault and nasal passages (by Dr. Lewis) revealed the existence of a small spur of bone on the left side of the nasal septum, and a moderate-sized mass of hypertrophied lymphoid tissue in the vault of the pharynx.

In addition to the local treatment (removal of both the nasal spur and the hypertrophied lymphoid tissue in the vault, mopping of the latter region with a fifteen or twenty grain silver-nitrate solution, inflations of the middle ears by Polizter's method), a certain amount of constitutional treatment was inaugurated. Restricted diet; decidedly increased amount of outdoor life; abstention from all studying; massage and the cold pack; the daily taking of iron and the Carlsbad Sprudel salts (a single morning dose); these were the more important constitutional measures adopted.

Under this treatment a certain amount of improvement took place, but only at a very slow rate. Toward the end of July it was found that the swollen condition of the right external auditory canal had almost disappeared, and the congested and infiltrated condition of the upper and posterior region of the tympanic membrane had diminished to a noticeable extent. Her general condition had also materially improved. But so far as her hearing was concerned, the result was certainly not satisfactory. The variations in hearing-power were very striking. For two or three days at a time she would be able to hear general conversation fairly well, and then she would go back almost to the point where she was when we first saw her.

At our urgent request her father then took her to Carlsbad, and she there underwent a stricter course of dieting and drinking of the waters than was practicable at her home near New York.

The patient was seen again on December 14th, a few weeks after her return from abroad. She reported that within twenty-four hours after leaving this port her hearing came back to her, and that all through the voyage she had experienced no difficulty in this respect; a fact which led us to infer that the treatment to which she had been subjected (by Dr. Lewis) had really accomplished more than appeared to be the fact when she left the city. She had gone through the prescribed course in Carlsbad, and up to the date named (December 14th) she had experienced nothing like a relapse. We tested her hearing, and found that she could hear the ticking of the watch fifty inches on the left side and twenty-two inches on the right. For whispered words the hearing-distance, right ear, was twenty feet. Her general health seemed to be excellent.

In January, 1896, the watch test showed: left ear, fifty-five inches; right ear, twenty-two inches. At a still later date (March 5th) the hearing, for the left ear, was found by the same test to be: left, fifty-seven inches (after inflation by Politzer's method, it rose to twelve feet); right, twelve inches (after inflation twenty-two inches). Then, a short time afterward, her hearing began again to give her some trouble, and her parents determined, upon their own responsibility, to send her for the second time to Carlsbad.

Since the date last named we have not seen the patient professionally. But through other members of the family we have learned that she visited Carlsbad, as already stated, and that during the past winter and spring her hearing has been quite good; but that occasionally she has a slight relapse, which lasts, however, only a short time.

In all these cases, which should, as I believe, be classified as gouty, the lesions actually observed in the external meatus and those rightfully assumed to exist in the tympanic cavity are doubtless one and the same in all essential respects. Dilated and therefore paretic blood-vessels; retarded circulation; escape of the watery elements of the blood both upon

the free surface and into the interstices of the tissues; proliferation of the cellular elements of the connective-tissue stroma; and the swelling or increase in bulk of the tissues thus affected—these are the alterations which a gouty diathesis commonly produces in the skin and mucous membrane of the human ear. But in rare cases, as in Case V., even the bony structures adjacent to such a limited area of gouty inflammation may become involved, and a disorganization not unlike that observed by Garrod in the knee-joint may ultimately take place. We are not yet able to state, from actual observation, what precise part the deposition of urates takes in these areas of gouty inflammation. But it is highly probable that such deposits are formed at these spots and that their presence plays an important part in exciting the inflammation and in retarding the flow of blood through the affected tissues.

In the two cases which I have reported above as illustrations of a gouty inflammation of the middle ear, I believe that we are justified in assuming that the pathological alterations must have taken place mainly in that part of the mucous membrane which borders upon the two fenestræ. In Case VI. the alterations noted in the tympanic membrane gave us, it is true, no warrant for this assumption; but, on the other hand, the comparatively rapid development of a marked degree of deafness and the subsequent gradual return of the hearing under the employment of suitable constitutional treatment can be better explained in accordance with this assumption than in any other way. In Case VII., however, the tympanic membrane furnished good evidence in favor of the belief that the most decided alterations in the mucous membrane were located at the posterior and upper corner of the tympanic cavity. But, after all, the most conclusive evidence of the gouty nature of all these lesions is that which is furnished by the results of an antigouty treatment, and by the comparatively insignificant results—indeed, sometimes even harmful in their nature—which follow purely local measures. If further evidence of the correctness of the diagnosis be needed in any given case, it may generally be obtained by a careful inquiry into the patient's mode of life as regards eating, drinking, physical exercise, etc., and also into the history of the different bodily ailments from which he may have suffered. Tophi at the finger-joints; stiffness and painful movements of the joints of the hand; "rheumatic" pains in different parts of the body; inflammation of one of the joints of the big toe; formication and heat, and afterward numbness of the skin along the outer sides of the thighs; a persistent, lame sensation, or a sensation of heat, in the top of the head; occipital neuralgia; cramps in the muscles of the calf of the leg; painful action, with more or less paresis, of the muscles of the shoulder; disturbances of digestion; depression of spirits; sleeplessness, etc.—these are among the concomitant symptoms which I find recorded in my notes of the different ear cases which I have set down as of gouty origin.

As this paper has already reached an inordinate length, I may be pardoned for not pointing out in detail the decided differences which exist between the two types of goutiness represented by Case I., on the one hand, and by Cases VI. and VII., on the other. Nor can I, for the same reason, enter upon a discussion of the question of treatment. However great may be the importance of this branch of the subject, it is somewhat foreign to the main purposes which I have had in view, viz., to arouse, if possible, fresh interest in a long-neglected subject, and at the same time to furnish at least a temporary scheme of the workings of a gouty diathesis in the different parts of the human ear. No matter how imperfect such a scheme may be, it cannot fail—if based upon actual observations—to furnish some aid to those who may afterward succeed in developing a more perfect presentation of the facts relating to this department of pathology.

COMPARATIVE DIAGNOSIS IN PULMONARY TUBERCULOSIS BY THE ROENTGEN RAYS—SERIES OF SEVENTY-THREE CASES.

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The following cases are presented for the purpose of demonstrating that in the Roentgen rays and fluoroscope we possess accurate agents for diagnosing tuberculous changes of lung tissue in its various stages, using them not only as corroborative factors of results arrived at by auscultation and percussion, but in some instances discovering isolated foci of infection not recognizable by ordinary methods.

In addition these cases prove that the fluoroscope enables us to recognize more fully and accurately the degree, position, and relation of areas of infiltration and consolidation, and also delineates plainly the limits of these areas. It is unfortunate that as yet no satisfactory photographs have been taken of the images cast upon the fluoroscope plates.

In order that these observations might be of more value the examinations have been made by different physicians and written notes thereof taken by different nurses, it having been my desire to obviate all danger of bias due to familiarity with the results of examination by the ordinary method before using the fluoroscope, and *vice versa*. In addition, after fluoroscopic examinations have been made and notes taken in numerous cases, laymen have been requested to look into the fluoroscope and report the relative intensity of the transmitted light in different regions. Blue pencil marks were made by their direction and they have invariably coincided with the professional examinations. By reference to the following table it will be seen that in Cases X., XIV., and XLV., there was simply haziness of the infiltrated areas, and, in some cases of incipient trouble, at the apex. The first thing that is noticed may be a comparative haziness or indistinctness of outline of the clavicle on the affected side.

In cases of slight infiltration of one or two apices there is a haziness or fog between the light and the observer, the clavicle in other instances appearing to have a gauzy veil thrown over it. When there is marked consolidation the transmitted light is relatively less, the edges of the clavicle are indistinct, or the bone may be invisible. When there is present the same pathological condition at both apices it is an easy matter, by comparing the two sides, at once to decide upon which the disease has made the most progress. Comparative shadows at the apices are generally seen more distinctly from behind than in front, by directing the patient to bring his shoulders forward so as to separate as widely as possible the scapulæ and then placing the fluoroscope directly over the spinal column.

Ordinarily a practised eye can by these methods alone clearly distinguish areas of the most incipient infiltration, but, if it is desired to be more accurate in defining their limits, a metal rod may be placed evenly against the chest walls in front or behind and moved up and down with the fluoroscope until its outline becomes more distinct, which will indicate that the upper and the lower borders of the consolidation have been reached. If a pencil mark now be made along the edge of the rod and subsequently percussion practised, the area of dulness will be found between the lines.

In cases of complete dulness, say, to the second in-

terspace, with relatively less dulness for one or two interspaces below, a dark shadow will be seen over the first-named region, which will gradually shade off consecutively into haziness and normal reflex of light below, the area of haziness corresponding to the limits of relative dulness. In one or two instances slight haziness has been observed in spots which at the time showed no other physical signs of disease, but where they subsequently developed.

One case, number XXXI., is a good illustration of the appearance of a lung in which cavities exist. In cases in which the cavity is single, it appears as a bright reflex amidst an area of consolidation or shadow. This bright spot assumes the shape of the cavity. At times the observer can plainly discern a decidedly dark ring surrounding the dark spot (see case number XI.).

In Case XXVI. in which there were multiple cavities, the dense intervening tissue was shown in the form of dark streaks winding between the spots of bright reflex.

In another case, number II., the fluoroscope demonstrated a cavity which had presented no signs by percussion or auscultation, probably owing to obstruction at its outlet.

In Cases LXXII. and LXV., old pleuritic adhesions were seen as areas of absolute darkness, even more dense than the normal shadow over the cardiac region. In Case LXIX., displacement of the heart downward and to the right was easily marked out, also an old pleuritic thickening. Cardiac dilatation was discovered in one case. When I state that the exact areas in these last two cases were marked out by my house physician, William M. Bryan, without any knowledge of my previous diagnosis, the value and exactness of the fluoroscope as a diagnostic agent is well authenticated.

At different times we have outlined the convexity of the arch of the liver, which can be seen to rise and fall with expiration and inspiration. The cardiac pulsations are easily discernible.

A series of fifteen healthy cases was examined in order to familiarize the observer with normal reflexes and shadows.

A summary of the result of our investigations at the sanitarium shows:

1. Slight haziness indicates the beginning of tuberculous infiltration and may or may not be accompanied by dulness.

2. Decided shadows indicate consolidation, the extent of which is in direct relation to the comparative density of the shadow thrown on the fluoroscope.

3. Circumscribed spots of bright reflex, surrounded by narrow dark shadow rings or located in the midst of an area of dense shadow, indicate cavities.

4. Intense darkness, especially at the lower portion of the lung, indicates old pleuritic thickenings over consolidated lung tissue.

A great deal depends upon the intensity and steadiness of the light, and for this reason a motor generator is better than a vibrator, as the latter gives a flickering light. An eight-inch-spark coil was used. Considerable practice is necessary before the eye can appreciate perfectly the finer differences of shades and outlines.

At the Loomis Sanitarium the examination of patients by the *x*-ray is now as much a matter of routine as that by auscultation and percussion.

Comparative Diagnosis by Roentgen Rays.

Series of Seventy-three Cases.

Physical Examination.	*Fluoroscopic Examination.*
Case I.—Dulness left side infraclavicular space. Slight increase vocal resonance left side to fourth interspace.	Shadow over left upper lobe anteriorly to fourth interspace. To midline of scapula posteriorly.
Case II.—Consolidation right lung with crepitant râles anteriorly and posteriorly. Circumscribed area of increased vocal resonance third interspace near sternum right side.	Shadow from third interspace to base of lung. Extending from first interspace to third rib one inch from sternum, a bright light surrounded by dark ring.
Case III.—Consolidation right upper lobe. Crepitant and subcrepitant râles.	Sharply defined shadow right upper lobe. Ribs sharply defined until shadow is reached.
Case IV.—Right apex to third interspace, dulness, crepitant râles, and increased vocal resonance. Occasional crepitant râle base of right lung.	Shadow right apex to third interspace. Slight shadow base of right lung.
Case V.—Slight infiltration left side.	Shadow left side January 29, 1897. Absolutely clear February 26, 1897.
Case VI.—Infiltration right upper lobe. Crepitant and subcrepitant râles to second interspace.	Shadow to third interspace right side.
Case VII.—Dulness right and left apices. Crepitant râles left side, first and second interspaces. Increased vocal resonance left upper lobe and right apex to second interspace. Harsh respiratory murmur and crepitant râles right apex to line of nipple and extending under axilla to base of lung.	Shadow left upper lobe. Dim shadow diffused over right lung.
Case VIII.—Dulness right side to second interspace near edge of sternum. Increased vocal resonance, pleuritic friction sounds, broncho-vesicular breathing right side to third interspace.	Wedge-shaped shadow right side second interspace near border of sternum.
Case IX.—Dulness right and left apices. Increased vocal resonance, crepitant râles left side, first and second interspaces. Increased vocal resonance, broncho-vesicular breathing and prolonged expiration right side to second interspace.	Left apex dark shadow extending to second interspace. Right side, shadow to second interspace.
Case X.—Dulness, increased vocal resonance right apex to second interspace.	Very faint shadow to second interspace right side.
Case XI.—First stage affecting right lung. Second stage affecting left lung with physical signs of cavity in fourth interspace.	Shadow to fourth interspace left side. At fourth interspace a circumscribed area of light surrounded by dark ring. Shadow right side to third interspace.
Case XII.—Dulness outer third infraclavicular space left side. Increased vocal resonance, crepitant râles from left apex to fourth rib.	Shadow to fourth rib left side.
Case XIII.—Consolidation right upper lobe. Dulness, increased vocal resonance, crepitant and subcrepitant râles right side to third interspace.	Shadow to third interspace right side anteriorly and to lower angle of scapula posteriorly.
Case XIV.—Slight infiltration right upper lobe.	Faint shadow to fourth interspace right side.
Case XV.—Consolidation right upper lobe.	Distinct shadow right side to fourth interspace.
Case XVI.—Slight dulness right side anteriorly to second interspace, to midline scapula posteriorly. Exaggerated breathing and increased vocal resonance same region.	Slight shadow right side to second interspace.
Case XVII.—Dulness right upper lobe, bronchial breathing, increased vocal resonance whole right lung.	Whole right lung casts a shadow. More marked to third interspace.
Case XVIII.—Consolidation right upper lobe.	Shadow distinct to third interspace, right side.
Case XIX.—Dulness and increased vocal resonance to second interspace right side anteriorly and to midline of scapula posteriorly.	Shadow right apex anteriorly to third interspace. To midline of scapula posteriorly.
Case XX.—Dulness right upper lobe with broncho-vesicular breathing, pleuritic friction sounds, and crepitant râles.	Shadow right upper lobe to fourth interspace. To midline of scapula posteriorly.

Case XXI.—Dulness right apex to third interspace. No râles.	Shadow right side anteriorly to fourth interspace. To midline of scapula posteriorly.
Case XXII.—Slight dulness left side, also increased vocal resonance but no râles.	Shadow left side to fourth interspace.
Case XXIII.—Increased vocal resonance midline of scapula to base of left lung. Also crepitant râles. Increased vocal resonance right apex anteriorly outer third infraclavicular on forced inspiration.	Left lower lobe distinctly dark, shadow being well defined from fourth interspace to base of lung. Right apex shadowy to second interspace.
Case XXIV.—Dulness, increased vocal resonance, and crepitant râles over entire left lung.	Left side dark with good reflex above and below clavicle. Right side clear with good reflex.
Case XXV.—Dulness, broncho-vesicular breathing, and cog-wheel respiration right side to third interspace.	Shadow to third interspace right side. Very dark at apex. Left side clear.
Case XXVI.—Dulness, increased vocal resonance left side, apex to fifth rib. Cracked-pot resonance second interspace left side, mucous and crepitant râles.	A circumscribed area of light surrounded by dark ring in second interspace, left side. Lung dark to fourth interspace.
Case XXVII.—Dulness both apices, more marked left side. Bronchial breathing right second and third interspaces. No râles.	Shadow extending to third interspace left side. Shadow to second interspace right side.
Case XXVIII.—Both apices dull. Crepitant râles, increased respiration murmur, and increased vocal resonance apex to base left lung.	Distinct shadow over whole of left lung, more marked at apex. Shadow at right apex to second interspace.
Case XXIX.—Dulness left apex to second interspace, also bronchial breathing.	Shadow left apex to second interspace.
Case XXX.—Decided dulness right side to third interspace. Cracked-pot resonance second interspace right side. Relative dulness whole right lung.	Shadow whole right lung, more marked at apex. Bright spot second and third interspace. Left lung negative.
Case XXXI.—Dulness right infraclavicular space. Increased vocal resonance, amphoric breathing, and cracked-pot resonance to fourth interspace right side.	Shadow to fourth interspace right side. Bright spots second interspace right side, surrounded by dark ring.
Case XXXII.—Increased vocal resonance apex and infraclavicular space. Diminished respiration murmur, cog-wheel respiration right side to second interspace. Crepitant râles right apex.	Decided shadow right apex to third interspace.
Case XXXIII.—Dulness left lung to fifth interspace. Slight crepitation with pleuritic friction sounds left apex posteriorly.	Shadow from left apex to fourth interspace. Shadow more marked at apex.
Case XXXIV.—Dulness, bronchial respiration, increased vocal resonance right apex and infraclavicular space.	Shadow right apex to second interspace.
Case XXXV.—Dulness both apices. Increased vocal resonance to second interspaces. Crepitant râles to second interspaces both apices.	Shadow to third interspace right side anteriorly and midline scapula posteriorly. To second interspace left side anteriorly and upper angle scapula posteriorly. Faint shadow to third interspace right side.
Case XXXVI.—Increased vocal fremitus posteriorly and in axilla. Slight dulness right upper lobe to third interspace.	
Case XXXVII.—Infiltration right apex. Slight dulness to second interspace.	Shadow to second interspace right side.
Case XXXVIII.—Dulness and increased vocal resonance both apices. Relative dulness to fourth interspace right lung.	Shadow both apices. Shadow to third interspace right side.
Case XXXIX.—Dulness right and left apices. Crepitant râles and increased vocal resonance left apex. Increased vocal resonance and crepitant râles fourth interspace.	Shadow left apex very well marked. Shadow right lung to second interspace, remainder of lung hazy.
Case XL.—Increased vocal resonance right upper lobe to second interspace. Relative dulness to third interspace.	Shadow to second interspace right side anteriorly and upper angle of scapula posteriorly.
Case XLI.—Dulness right side. Broncho-vesicular breathing and increased vocal resonance to third interspace right side. Crepitant râles second and third interspaces right side.	Shadow right apex to third interspace.
Case XLII.—Dulness left side to second interspace. Increased vocal resonance and bronchial breathing with pleuritic friction sounds over right lung.	Shadow left side to third interspace. Right lung slightly hazy.
Case XLIII.—Dulness both apices. Broncho-vesicular respiration right side.	Shadow both apices, more pronounced on right side.
Case XLIV.—Dulness both apices. Crepitant râles right upper lobe to second interspace.	Shadow both apices. Both clavicles indistinct. Shadow to second interspace right side.
Case XLV.—Slight dulness, prolonged expiration, and increased vocal resonance right apex to second interspace.	Very slight shadow right apex to second interspace.
Case XLVI.—Dulness, increased vocal resonance, pleuritic friction sounds, broncho-vesicular respiration, and prolonged expiration left side to fourth interspace. Slight dulness right apex to second interspace.	Shadow left upper lobe to fourth interspace. Shadow right upper lobe to second interspace.
Case XLVII.—Dulness and increased vocal resonance right upper lobe to second interspace.	Shadow right apex anteriorly to second interspace. To midline of scapula posteriorly.
Case XLVIII.—Slight dulness and increased vocal resonance right apex and infraclavicular space.	Slight shadow right apex to second interspace.
Case XLIX.—Dulness right infraclavicular space. Slight crepitation right infraclavicular space anteriorly.	Slight shadow right upper lobe to second interspace anteriorly. To midline of scapula posteriorly.
Case L.—Duiness, increased vocal resonance, and crepitant râles left upper lobe.	Distinct shadow to second interspace left side anteriorly. To midline posteriorly.
Case LI.—Increased vocal resonance third interspace right side. Absence of respiratory murmur right axilla in line with nipple.	Right upper lobe hazy to third interspace. Reflex better left side.
Case LII.—Dulness first interspace. Sibilant râles upper angle of scapula. Pleuritic friction sounds right side posteriorly. Increased vocal resonance left side anteriorly; crepitant râles anteriorly to third interspace.	Shadow right apex; left side shadow to third interspace anteriorly and midline of scapula posteriorly.
Case LIII.—Cog-wheel respiration, increased vocal resonance right apex. Cog-wheel respiration, slight increase of vocal resonance first to third interspaces left side.	Shadow right apex. Shadow well defined to second interspace anteriorly and to midline of scapula posteriorly left side.
Case LIV.—Dulness. Decided increase of vocal resonance. Crepitant râles and deficient respiratory murmur right lung, more marked at apex. Increase of vocal resonance and broncho-vesicular respiration left apex.	Shadow both apices. Entire right lung hazy, more marked at apex.
Case LV.—Dulness and broncho-vesicular respiration both apices. Diminished respiratory murmur right apex. Crepitant râles and diminished respiratory murmur over whole of left lung.	Shadow both apices and entire left lung hazy.
Case LVI.—Dulness and increased vocal resonance right apex.	Slight veil anteriorly and posteriorly right apex.

Case LVII.—Dulness right side and in infraclavicular space and first interspace left side. Both lungs dull posteriorly, right side more so. Increased vocal resonance right side. Crepitant râles right apex. Bronchophony crepitant râles, and semiliquid râles right side opposite spine of scapula.	Right apex nearly opaque. Whole of right lung very dark. Light spot in second and third interspace right side. Shadow left side down to second interspace.
Case LVIII. — Consolidation both apices, more marked posteriorly left side.	Shadow both apices, more marked to second interspace left side.
Case LIX. — Dulness. Broncho-vesicular respiration. Increased vocal resonance left side to second interspace.	Shadow left apex to second interspace, more marked posteriorly.
Case LX. — Dulness both apices. Increased vocal resonance and cog-wheel respiration both upper lobes.	Shadow right apex to second interspace. Shadow to second interspace left side.
Case LXI.—Dulness, increased vocal resonance. Rude bronchial respiration with jerky respiration right side to nipple. Dulness, bronchial respiration, rude in character, left side to third rib.	Right side distinct shadow to nipple. Left side shadow distinct to third rib, remainder of lung hazy.
Case LXII. — Dulness, broncho-vesicular respiration, crepitant râles, respiratory murmur present, expiratory murmur absent, right side to fourth interspace. Dulness, bronchial breathing, and increased vocal resonance left lung apex to base.	No reflex left lung. Absolute shadow apex to base anteriorly. Hazy to second interspace right side anteriorly. Absolute shadow below. Shadow down to upper angle of scapula right side posteriorly. No reflex left side posteriorly.
Case LXIII. — Dulness, cog-wheel respiration, increased vocal resonance, broncho-vesicular respiration right side to third interspace. Dulness, increased vocal resonance, and bronchial breathing left side to third rib.	Shadow right side to third rib. Hazy to third interspace left side. Shadow right and left to midline of scapula.
Case LXIV.—Dulness, increased vocal resonance, faint crepitant râles, cog-wheel respiration, right side to third interspace.	Distinct shadow right apex to third rib.
Case LXV.—Dulness, increased vocal resonance, crepitant and subcrepitant râles, prolonged expiration, right side to third interspace. Dulness, increased vocal resonance crepitant râles, bronchial breathing, left side to second interspace. Broncho-vesicular breathing in third and fourth interspaces left side.	Shadow both apices, to second interspace left side, to third interspace right side. Shadow opposite heart fourth interspace almost identical with cardiac shadow.
Case LXVI.—Increased vocal resonance apex right to lower angle of scapula. Liquid râles upper angle scapula. Cracked-pot resonance left infraclavicular space.	Shadow whole of right lung. Shadow to first interspace left side.
Case LXVII.—Increased vocal resonance right apex to second interspace. Increased vocal fremitus, dulness, increased vocal resonance, crepitant râles, and broncho-vesicular breathing left side.	Shadow right side to second interspace, more marked above clavicle anteriorly. Shadow outer half left lung shading to haziness toward sternum. Line of shadow distinct below fourth interspace.
Case LXVIII.—Increased vocal resonance right lung upper lobe. Crepitation right apex.	Slight haziness right side to nipple, more marked at apex.
Case LXIX.—Increased vocal resonance, dulness right side to third rib. Pleuritic friction sounds, suppressed respiratory murmur fourth interspace to base of lung. History shows an old attack of pneumothorax with effusion left side, with hypertrophy of the heart to the right.	Shadow right apex to third rib. Shadow left side fourth interspace to base of lung (pleuritic thickening). Heart hypertropied to the right in line with and one inch above right nipple. Apex beat in fourth interspace border of sternum. Slight haziness right side to nipple, more marked at apex.
Case LXX.—Dulness to nipple, crepitant râles and pleuritic friction sounds apex to base right side. Crepitant and sonorous râles, pleuritic friction sounds left side to third rib.	Shadow from apex to base right lung. Shadow left side to third interspace.
Case LXXI.—Dulness, increased vocal resonance, crepitant râles right side to third rib.	Shadow right side to second interspace anteriorly and midline of scapula posteriorly.
Case LXXII.—Increased vocal resonance, dulness apex to second interspace right side.	Shadow right side apex to second interspace. Shadow nipple to base of lung right side.
Case LXXIII. — Dulness to third interspace anteriorly to upper angle scapula posteriorly right side. Marked vesicular tympanitic resonance first interspace, cracked-pot resonance infraclavicular space right side. Whisper resonance right apex to upper angle of scapula posteriorly right side with amphoric breathing. Increased vocal resonance, crepitant râles at spine of scapula to base of lung right side.	Circumscribed area of light surrounded by dark ring, first interspace right side. Remainder of lung hazy.

Progress of Medical Science.

The Treatment of Rheumatoid Arthritis with Methylene Blue.—Philpots (*British Medical Journal*, March 27, 1897, p. 781) relates that in several very obstinate cases of rheumatoid arthritis he has administered methylene blue, two grains twice daily after food, with the greatest of benefit, each case showing marked improvement soon after the commencement of treatment. Not only does the arthritic process appear to be arrested, but the drug has besides a favorable influence upon the general condition, improving nutrition and leading to increase in weight.

"Gonococcus" Pyæmia.—Dr. E. Finger (*Wiener med. Wochenschrift*) says that it is generally acknowledged that many complications of gonorrhœa—such as arthritis, tenosynovitis, bursitis, periostitis, endocarditis, and pleuritis—are dependent upon the presence of the gonococcus, the organisms being carried from the point of infection to some distant part. It is not generally accepted as proven that the gonococcus rarely excites superficial inflammation of the mucous membranes, the micro organisms acting far more frequently as an exciter of metastatic inflammation and suppuration in company with pyogenic cocci, streptococci, and staphylococci. Shon and Schlaginhaufer have shown that the morbid processes produced by the coccus are not at all dissimilar in some respects to those caused by the pus cocci. The pus cocci permeate the tissues rapidly and cause their rapid breakdown, while the gonococcus is least active and takes the paths of least resistance through the fissures and lacunæ of the epithelium and connective tissue. Again, the inflammation caused by the gonococcus is entirely purulent; the formation of granulation tissue is early and abundant. The gonorrhœic process tends to the formation of connective tissue and scars, in the urethra as stricture, in the prostate as destruction of the gland, in the suprarenals as thickening of the organs, and in the joints as ankylosis. The gonococcus is destroyed when exposed to a temperature of 103° or 104° F. for several hours, while the pus cocci are less susceptible to such a temperature. From these considerations it is shown that the gonococcus is less active and more easily destroyed than the pus cocci, and that the lesions produced by the former tend toward recovery more readily than those produced by the latter.

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THE AMERICAN MEDICAL ASSOCIATION.

THERE is soon to be held in Philadelphia the annual meeting of the American Medical Association, at which will be celebrated the completion of the first half-century of its existence. Great preparations are being made by the physicians of Philadelphia to realize the expectation that this will be the most successful meeting the association has ever had, and we sincerely trust the result of these labors will fully meet the highest anticipations of Dr. Hare and his efficient co-workers on the committee of arrangements.

There are apparently but two dangers ahead, and we trust these can be avoided by skilful management. The first of them is the enormous list of papers with the reading of which the various sections are threatened—seventy-six papers in the section on laryngology and otology, ninety-three in the section on general medicine, and others in proportion. Of course many of these are merely announced as to be read, the authors never meaning to read them, even if they ever write them but with these aside there will be enough left to occupy every minute of the four sessions of each section, to weary every suffering member of the section, and effectually to strangle all discussion. No good to anybody can come from the hurried reading of paper after paper, shutting off the long-winded speakers in the middle of their argument, and so limiting discussion as to make it barren of any result. This is a danger to which the association is exposed in its scientific character. But what most menaces its usefulness and will always, as long as it lasts, prevent the American Medical Association from attaining the position it should occupy as the representative body of the American medical profession is the everlasting quarrelling which disturbs the general meetings and disgusts all who think the grabbing of offices is not the chief end of medical man. Of late years the great bone of contention has been the secretaryship of the association. The present most capable secretary, Dr. Atkinson, has performed the arduous duties of his office in a most efficient manner for many years, and a meeting without his genial presence might, indeed, be a medical meeting of some sort, but it would hardly seem like one of the American Medical Association. Even the father of the association himself would scarcely be more missed. Yet for years this faithful servant of the association has been compelled to sit upon the platform and listen to accusations of incompetency and worse brought against him by young men who were unheard of and undreamed of when he first took up the cares of the office which he fills with so much honor to the society. The fact that the constitution of the association makes the office of secretary a permanent one has hitherto stood in the way of Dr. Atkinson's enemies; but at this coming meeting, held in the City of Brotherly Love, the home of the secretary and the birthplace of the association, these men hope to carry through an amendment to the constitution whereby they will be enabled, if they can pack the meeting efficiently, to depose the secretary and elect another man to serve in his place. We hope for the good of the association and for the honor of American physicians that their plans may be thwarted.

THE PREPARATION FOR ANÆSTHESIA.

THE dangers attendant upon the use of chloroform or ether pushed to the production of profound anæsthesia are too well known to require cataloguing, yet they are often forgotten, despite the many warnings in the shape of sudden death on the operating-table. Many of these deaths are unavoidable, yet many again, we fear, might have been avoided by the exercise of ordinary or extraordinary care on the part of the anæsthetist. And even when there has been no question of jeopardy of the patient's life, his discomfort and that of the operator, and especially of the anæsthetizer, may have been greatly increased by the absence of these precautions.

In *Treatment* for March 25, 1897, Dr. J. W. Silk contributes an interesting article on the preparatory treatment of patients subjected to anæsthesia, in which he offers several suggestions in following which we may often save both ourselves and our patients a world of trouble. The anæsthetic is almost always better taken, he says, if the patient has been subjected for a brief period to a hospital régime, by which he means rest of body and mind, and regulation of the bodily functions by attention to the diet, confinement to bed in some cases, though not all, and removal in any case from the usual worries and disturbing influences of the every-day life. The bowels should be moved by a purge given the evening before the operation, and care should be taken in most cases to see that the stomach is empty. Starvation, however, is to be avoided, for the patient may need all his strength to withstand the severe tax upon it of the operation. A little stimulant in the shape of hot broth may be given three or four hours before the operation, but milk should be avoided as being too slow of digestion. In special cases a nutrient enema containing the yelk of an egg and an ounce each of beef tea, milk, and brandy, may be given half an hour before the patient is placed upon the operating-table.

As a general rule, Dr. Silk does not favor the giving of drugs immediately before the anæsthetic with a view of increasing the action of the latter, or of guarding against its possible evil effects. He deprecates

the routine use of morphine, believing that its advantages are illusory, and that its tendency to mask the symptoms of over-narcosis may conduce to a fatal result. It may, however, be of possible service in cases of cerebral surgery by reason of its action in contracting the vessels. It is otherwise as regards strychnine, for this drug may obviate or reduce the shock of the operation, and it is claimed by some that the tendency to sickness is lessened by its use. In the feeble, therefore, and in severe operations one-fiftieth grain may be injected immediately after anæsthesia has been induced, and the dose may be repeated toward the end of the operation, or oftener if necessary. This can do no harm and may do a great deal of good.

The use of brandy by the mouth as a preliminary to the administration of an anæsthetic is, both physiologically and clinically considered, highly irrational. It may become necessary, however, in cases of impending syncope from fright, and possibly in some few instances its administration may have a good moral effect upon the patient, but, as a general rule, Dr. Silk holds it is certainly not a desirable proceeding.

And finally, as regards the position of the patient, the best rule to adopt, the writer says (and he speaks from long experience as the anæsthetist at King's College Hospital), is to accept the position assumed by the patient as being most convenient and comfortable to himself. In the majority of cases this will be supine, but in exceptional cases, *e. g.*, empyema, the patient may prefer to be on his side, and the administrator must adapt himself accordingly. He thinks it is hardly necessary to point out that the administration of chloroform to a patient in the sitting position, as in a dental chair, is a proceeding which is quite unjustifiable. And, of course, whatever position is adopted, the greatest possible respiratory freedom must be insured, and everything in the shape of belts, stays, etc., that may tend to obstruct the breathing, must be removed.

THE EFFICACY OF ANTIDIPHTHERITIC SERUM.

A commission has lately been held in France to inquire into and to report upon the efficacy of antidiphtheritic serum, with the view to discover the most effective system in force for obtaining and distributing the serum. The commission, which commenced its task in February, 1895, has just completed its session, and has made its report. The matter in point has been closely studied both in France itself and in other countries by the commission, and its members have arrived at the conclusion that the best system is that in vogue in Germany. The sero-therapeutic institutes there are allowed the greatest possible liberty; they can prepare serum more or less active, following their own methods, with this limitation: the government reserves to itself the right of prescribing the manner in which the serum shall be presented to the public. Its quality must be up to a fixed standard, and with the object of protecting the druggists and the public the serum is submitted to the scrutiny of a State board, composed of the bacteriologists of Berlin, who verify the assertions of the manufacturers and affix on the flasks containing the serum the mark of the State board. The commission rejected the French system, yet, on account of the great difficulties connected with the application of the German system to France, it has been decided not to recommend its adoption.

News of the Week.

Sickness among School Children.—Diphtheria and scarlet fever are unusually prevalent in Jersey City, especially in the hill section. Moved by the occurrence of a few cases of small-pox in New York, the board of education in Jersey City has given orders that all the pupils in the school shall be revaccinated.

A Prolific Family.—With the advent of a daughter to the Duke and Duchess of York, the number of grandchildren and great-grandchildren of Queen Victoria is now an even thirty.

Jubilee Lightning.—Many British and Irish medical men, as well as some in the colonies, are living in the anxious anticipation of receiving knighthood or perhaps even a baronetcy from the Queen by way of marking the completion of her sixty years of faithful service in the employ of the British government. There are even whispers of another medical peer, but that would really be almost too good to be true.

A Persistent Spitter.—A man named Bradbury, who had previously been arrested and fined $5 for spitting on the floor of a San Francisco street car, was arrested a second time a few days ago for the same offence, and was sentenced to imprisonment for twenty-four hours. He protested against the "outrage," holding with a New York civil justice that it is the inalienable right of a free-born American citizen to expectorate whenever and wherever he pleases.

Clinics Abandoned.—Five clinics in the Brooklyn Throat Hospital have been discontinued, the reason given being that they were for the treatment of diseases in no way related to the throat, and were consequently not provided for in the charter of the institution.

The Prince of Wales' Hospital Fund.—It is reported in *The Sun* that the jubilee fund for the benefit of the London hospitals, which was under the special patronage of the Prince of Wales, promises now to fall far short of the desired and expected amount, not more than one-sixth of the needed sum having been as yet subscribed.

Another Medical Senator.—After a protracted struggle in the Kentucky legislature, that body, on its sixtieth ballot, elected Dr. William J. Deboe as United States senator. During the sessions Dr. William G. Hunter led in the race, but always lacked from one to five votes. Both of these gentlemen are well-known and reputable physicians. Dr. Hunter is now a member of the national house of representatives.—*The Lancet-Clinic.*

The Colorado State Medical Society. — The annual meeting of this society will be held on June 15–17, 1897, in Denver. The president of the society is Dr. Robert Levy, and the secretary Dr. Herbert B. Whitney, both of Denver.

Dr. Lucy Waite, the wife of Dr. Byron Robinson, has been elected head physician and surgeon to the Mary Thompson Hospital of Chicago. The hospital is devoted to the diseases of women and children; it was established thirty years ago, and has a capacity of eighty beds.

Philadelphia County Medical Society.—A stated meeting of the Philadelphia County Medical Society was held on May 12th, the president, Dr. James Tyson, in the chair. Dr. J. Madison Taylor made a report as chairman of a committee on the Health Protective Hospital for Contagious Diseases. The proposal is to build a hospital for the reception of patients with contagious diseases who can afford to pay and do not desire to avail themselves of the privileges of the municipal hospital for contagious diseases. Dr. Edwin Rosenthal read a paper on "The Municipal Hospital of Philadelphia," in which he pointed out the merits and the demerits of this institution, and concluded with a warm plea for the establishment of a pay hospital for contagious diseases. In this he was sustained by Dr. Benjamin Lee, secretary of the State board of health. Dr. H. Augustus Wilson described and exhibited a portable door attachment for applying suspension. The device is an exceedingly simple one, and is constructed on the principle of the painter's jack, and should greatly extend the applicability of a useful means of diagnosis and treatment.

The Late Dr. Clark Wright.—The West End Medical Society at its regular meeting, May 1, 1897, adopted the following resolutions:

"We, the members of the West End Medical Society, have learned with regret of the death from pneumonia, on March 16, 1897, of our late fellow-member and associate, Dr. Clark Wright.

"As a physician he was endowed with high scholarly attainments, a thorough knowledge of his profession, and a kind and sympathetic nature. As a friend he was endeared to all who knew him by his genial and happy manner, and by his readiness to extend a helping hand. Be it

"*Resolved*, That this expression of our regret and appreciation of our loss be entered on the minutes, and that a copy thereof be sent to the family and that it be published in the medical journals of this city.

"Alexander H. Travis, M.D,
"F. Spencer Halsey, M.D.,
"*Committee.*"

Vital Statistics of Philadelphia.—For the week ending May 8th there were reported to the Philadelphia board of health 418 deaths, of which 122 occurred in children under the age of five years. The whole number was 71 less than that of the previous week, and 9 more than that of the corresponding week of the preceding year. The individual causes of the largest number of deaths were as follows: Pneumonia, 64; pulmonary tuberculosis, 32; heart disease, 30, apoplexy, 20. There were reported during the week 102 cases of scarlet fever, 94 of diphtheria, and 77 of typhoid fever.

The Health Department of Baltimore has decided to make systematic bacteriological examinations among pupils of the public schools whenever a case of diphtheria is reported from any one of the number. The first examination was made a short time ago, and the bacillus of the disease was found to be present in the throats of several pupils, who were ordered not to attend school. Dr. McShane, the health commissioner, is satisfied that by this means an epidemic has been prevented.

College of Physicians of Philadelphia.—A stated meeting of the section on general medicine of the College of Physicians of Philadelphia was held on May 10th, Dr. J. P. Crozer Griffith in the chair. Dr. D. J. Milton Miller exhibited the patient and reported a case of myxœdema in a woman, forty-eight years old, in which marked improvement followed the administration of thyroid extract. The patient was a small woman, of short stature, in whom, however, the myxœdematous symptoms had been noticed only during the last three or four years. Dr. James Tyson read an account of and exhibited a patient presenting fine crepitation over a wide extent of both lungs, together with emphysema, feeble heart, and inspiratory retraction of the intercostal spaces. There had been considerable loss of weight, but there was absolutely no cough and no expectoration. Respiratory frequency was increased, but there was no elevation of temperature or increased frequency of pulse. There was a difference of opinion as to whether the condition was pleural or vesicular. Dr. Tyson detailed also the report of a case of cirrhosis of the liver with enlargement and gall stones, characterized clinically by attacks of biliary colic, jaundice, chills and fever, and sweating.

Politics in State Asylums.—The governor of Missouri recently appointed three homœopathic physicians to the board management of State Lunatic Asylum No. 1, near Fulton, turning out the regular physicians on the board to make room for them. It is claimed that there was no popular demand for this change, and that it was made against vigorous protest solely for political reasons.

Dr. John B. Hamilton, formerly of the Marine Hospital Service under Surgeon-General Wyman, has gone to the Illinois Northern Hospital for the Insane at Elgin, to assume the duties of superintendent. We understand that, while abandoning his extensive surgical practice in Chicago, he will still be retained as editor of the *Journal of the American Medical Association.*

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending May 8, 1897. May 3d.—Medical Inspector J. C. Wise detached from marine headquarters, Washington, May

15th, and ordered to Columbus, Ohio, as delegate to the Association of Military Surgeons; Medical Inspector J. C. Wise, after duty at Columbus, ordered to the *Philadelphia* as fleet surgeon; Medical Inspector J. A. Hawke detached from the *Philadelphia* on relief, and granted three months' leave; Passed Assistant Surgeon C. H. T. Lowndes ordered to duty at marine headquarters; Surgeon C. U. Gravatt ordered to United States steamship *San Francisco* (fleet) per steamer, May 22d; Medical Inspector H. J. Babin detached from the *San Francisco*, on relief, ordered home, and granted three months' leave. May 5th.—Passed Assistant Surgeon G. T. Smith ordered to the naval hospital, New York, temporarily, May 15th; Assistant Surgeon M. S. Elliott detached from the *Columbia* and ordered to the *Indiana*. May 6th.—Medical Inspector J. M. Flint ordered to examination for promotion, Washington, May 12th.

Obituary Note.—Dr. Elizabeth Gable, one of the assistant physicians in the insane department of the Philadelphia Hospital, died on May 7th, at her home in York County, Pa.

Priority in Medical Degrees for Colored Women.—Dr. George T. Brown, of Euclid, N. Y., writes: "With regard to the matter of priority in the granting of medical licenses to colored women, I would say that Dr. Sarah M. Logum, daughter of the late Bishop Logum of the A. M. E. Church, received the medical degree from Syracuse University in February, 1876, thus antedating Dr. Wakefield by more than twenty years."

The Next Hosts of the American Medical Association.—Denver has nearly raised the $15,000 in promises needed to entertain the American Medical Association if it accepts the invitation to meet in that city in 1898. The other cities which hope to entertain the association that year are Columbus and Omaha.

Prof. Albert v. Kolliker, of Würzburg, hopes to celebrate, on July 6th next, the eightieth anniversary of his birth and also his fifty-year jubiläum as a medical teacher.

The German Public Health Association.—The twenty-second annual meeting of this association will be held at Carlsruhe on September 14th and three following days. Among the subjects on the programme are a discussion on the abuse of alcohol, on the adulteration of foodstuffs, on the disinfection of dwellings, and on the hygiene of baths and health resorts.

Resignation of the Health Commissioner of Cincinnati.—Dr. J. W. Prendergast, in a letter written on April 22d to the board of administration of Cincinnati, said he felt that, in view of the charges of blackmail preferred against him by a drug manufacturer of New York, his usefulness as health officer of the city was impaired, and he therefore, although innocent, resigned. The resignation was accepted and Dr. J. M. Withrow was appointed to the vacancy. Dr. Prendergast was charged with attempting to extort a bribe from the manufacturer, on the ground that certain of the latter's preparations were impure, and that as health officer he could protect him from prosecution by the Pure Food Commission.

Dr. Otto G. T. Kiliani has been appointed surgeon to the German Hospital in this city.

Pension Examining Surgeons.—Commissioner of Pensions Evans holds that every pension examining surgeon in the United States, irrespective of the amount of fees he receives, is beyond the pale of the civil service law and may be removed at the pleasure of the commissioner. The consequence of this decision will be, the Washington *Post* says, the removal of six hundred Democratic physicians from two hundred examining boards all over the country, and the appointment in their stead of six hundred Republicans.

The Medical College of Alabama, in Mobile, has united with the University of Alabama, and will henceforth be known as the Medical Department of the University of Alabama.

Guy's Hospital in London has received $5,000 from Baroness de Hirsch toward the cost of building a nursing-home in connection with the hospital, in memory of the late Baron de Hirsch, who died on April 21, 1896.

The New Hampshire Medical Society.—The one hundred and sixth annual meeting of this society will be held at Concord on May 24 and 25, 1897. The president of the society is Dr. Abel P. Richardson, of Walpole; and the secretary, Dr. Granville P. Conn, of Concord.

The New York Celtic Medical Society will hold its regular monthly meeting on Thursday, May 27th, at the residence of Dr. Manly. The society proposes to increase its limit of membership to thirty, and to establish an honorary membership.

Strange Organs.—Israel is reported to have recently removed, on account of sarcoma, the entire intestinal reproductive organs of a girl aged but seven months. Perfect recovery resulted in about forty days.—*Medical Age.*

From Chicago to Moscow.—A correspondent of the *British Medical Journal*, writing from Chicago, says that about fifty of the leading medical men of that city have made up a party to make a tour of the leading cities of Europe, Moscow being the principal objective point.

A Society for the Repression of Infectious Diseases has been founded in St. Petersburg by Princess Eugenie Maximilianovna von Oldenburg.

A Gift to a Hospital.—Mr. Charles H. Senff donated $10,000 to the Flushing (L. I.) Hospital, at a meeting of the trustees of that institution held a few days ago, for the construction of a surgical operating-room. This is Mr. Senff's third donation to the hospital. Several years ago he gave $5,000 for the construction of a babies' ward, and three years ago he contributed $1,500, when the institution was in need of that amount to meet current expenses.

Society Reports.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FOURTH TRIENNIAL SESSION.

Held in Washington, D. C., May 4, 5, and 6, 1897.

WILLIAM H. WELCH, M.D., OF BALTIMORE, PRESIDENT.

(Continued from page 713.)

AMERICAN ORTHOPÆDIC ASSOCIATION.

Thursday, May 6th—Third Day.

Treatment of Deformities of the Knee Resulting from Tumor Albus.—DR. JOEL E. GOLDTHWAIT, of Boston, read a paper with this title, in which he considered especially cases in which the patella has become adherent. The author said that the conditions to be met in ankylosis of the knee with deformity were very different from those at the hip. In the latter the treatment was practically the same, viz., an osteotomy, while in the knee frequently a simple osteotomy was not sufficient. In certain cases there was complete ankylosis with flexion; in others flexion with subluxation and the patella adherent to the femur, but no true bony ankylosis. In these cases forcible straightening and dislodgement of the patella by means of the genioclast were all that was necessary. Occasionally we saw cases of bony ankylosis and flexion due to neglect of treatment after excision. In these cases a wedge-shaped osteotomy was indicated. There was another set of cases, in which with flexion there was subluxation of the tibia and a displacement outward with rotation, so that the outer end of the bone fitted in between the condyles of the femur. Those cases which had interested him most were those in which the patella was adherent to the femur, but a certain amount of motion, say, 20° to 40°, existed in the joint. The limit of motion was due to the tibia striking against the patella. If in these cases sufficient force were exerted to tear the posterior capsule the limb could be straightened, but the tibia would be subluxated unless the patella were removed. In one case, that of a girl of fourteen, with 35° of motion, he had used the genioclast and then removed the patella and part of the condyles. The result had been a very long convalescence, a discharging sinus, a weak limb, and a loss of all the motion. In the last three cases, to avoid these unfortunate results, he had not touched the joint, but had gone in above and done a Macewen operation, correcting also the lateral deformity, and then putting up the limb in slight hyperextension. The convalescence had been rapid and the results very satisfactory, as the flexion was overcome and the slight motion at the knee retained. One patient, who had been obliged to wear a brace, was now going about without apparatus and only a moderately high shoe.

Excision of the Hip.—DR. R. W. LOVETT, of Boston, reported the work which had been done at the Children's Hospital during the last eighteen years. During that time eleven hundred new cases had come for treatment, and excision had been performed fifty times, or in about five per cent. of all the cases. The indications for the operation had been: 1. Failure of the general health. 2. Rapid destructive local processes, not influenced by efficient mechanical therapeutic measures. 3. Excessive pain and tenderness at a late stage of the disease. 4. The formation of sequestra in the joint. The mortality of these cases of late excision had been at least fifty per cent., and the results in the cases which could be traced were much more satisfactory than might have been expected from the extent of the disease for which the operation was done. Mechanical treatment was advocated up to the last possible moment, but attention was called to the fact that excision furnishes a possibility of excellent results even when done very late. One of the cases reported had practically normal motion, even though a large amount of bone was removed.

DR. W. R. TOWNSEND, of New York, reported the results of the operation of excision of the hip performed at the Hospital for the Ruptured and Crippled during the years 1888 to 1895 inclusive. In this time 2,295 persons with hip-joint disease applied for treatment, and 121 excisions were performed upon 119 patients, which showed what a small proportion was subjected to operation, and explained the position of the institution in regard to excision. In no case was excision done except with the view of saving life. It was never done in the first stage except in one case of double hip disease, and all but six cases were complicated by an abscess or sinus. It was resorted to only when other means had apparently failed. In some the treatment had been thorough and efficient; others had had no proper home care. A large majority of the cases was septic before the operation was done, which probably affected the ultimate result. Many of the cases he thought would have done better if amputation at the hip had been performed. Of the 121 excisions he had been able to trace 101—number of patients, 99. Of these, 52 were known to have died, 51 in consequence of the disease and 1 from drowning. Of the 52 deaths, 28 were from exhaustion, 9 from shock, and 9 from tuberculous meningitis, and in only 1 could the operation be held responsible, in which the symptoms appeared twelve days after. Thirty-seven died within six months, and 47 within one year. Of the 47 patients living, 26 were cured with varying degrees of shortening and deformity, and of the remaining 21 fully one-half was in bad condition and would probably die.

DR. SHAFFER stated that as a result of continued experience he felt that excision of the hip was rarely called for, and he appealed for more time in these cases; also for climatic change in apparently desperate cases. He had found that his country patients did much better than the city patients, and he thought every orthopædic hospital ought to have a country home.

DR. BURRELL said that in his opinion excision was indicated when the clinical evidence showed that the patient was irredeemably losing ground.

DR. SHERMAN, of San Francisco, remarked that his position on this question had changed somewhat: that formerly he had done excision much earlier than the time stated by Dr. Burrell, but now he had children under conservative treatment on whom he would have operated a few years ago. Relapses, infection, and the continuance of the disease; the shortening, and, worse than the shortening, the adduction, which frequently followed excision, had led him to take a rather more conservative position than formerly.

The Prognosis of Hip Disease under Efficient Treatment.—DR. LE ROY W. HUBBARD, of New York, read a paper with this title. He said that in the beginning of the treatment of any case of hip disease the first questions asked by the parents were: Will my child get well? Will he be deformed and limp for the rest of his life? How long must he be under treatment? These were important questions for the surgeon to answer if possible. He was obliged to confess that the longer he studied this disease the less able he felt to make a definite prognosis in any given case. Two recent cases led him to make this statement. One case seen early and having the best care and treatment, had after eighteen months developed unfavorable symptoms; while the other, which was very unfavorable at the beginning, had progressed rapidly toward a good recovery. It was important to know

whether there were any data or guides by which one could give an approximate prognosis provided the treatment could be carried out thoroughly and efficiently. The published statements were very general and of little value on this point. Regarding mortality, the statistics of Dr. C. F. Taylor and Dr. L. A. Sayre showed that in private practice children with hip disease had a very fair chance of growing up to adult life. While the shortening would vary somewhat in different cases, it would seem that with efficient treatment it ought not to exceed two inches. A subject should never get well with enough deformity to interfere with locomotion or posture. This could easily be prevented by care and attention during the treatment, correcting by rest in bed the slightest malposition as soon as it appeared. From observation and statistics he thought that even in very favorable cases two years' treatment would be required to effect a cure. Full range of motion after hip disease was rare and was not necessary for good locomotion, provided the limb was in a good position.

Laxity of the Ligaments with Congenital Hip Luxation.—Dr. Henry Ling Taylor, of New York, read a paper with the above title, in which he stated that the causes of congenital hip luxation usually given were trauma at or before birth, and anomalies of development of the bones forming the joint, which might be related to malpositions, deficiency of liquor amnii, or precocious or retarded ossification. Professor Wolff, of Berlin, had pointed out, in a case of multiple congenital dislocations reported by him, in which nearly all the joints of the body, even those not dislocated, showed excessive mobility, that the ligamentous structures about the joints were in this instance primarily at fault, and that it was probable that this would be found to be the essential causative factor in a certain number of cases of congenital luxation. Taking this hint, the reader of the paper had tested the mobility of the joints of the limbs in cases of hip luxation presenting for examination, and in two instances—in girls of four and nine years, with congenital hip luxation of the ordinary type, in the former bilateral, in the latter unilateral—he had found abnormal laxity of the ligaments of most of the joints. This was evidenced by excessive mobility and hyperextensibility; many of the fingers and toes, for example, could with little effort be made to touch the back of the hand and foot respectively. There was also considerable lateral motion at some of the hinge joints. The author knew of a similar case in the practice of a surgical friend. He concluded that congenital tenuity, elongation, or defect of the joint ligaments must be recognized, and that this condition was probably the essential causative factor in certain cases of congenital luxation.

Congenital Absence of the Radius.—Dr. Henry Ling Taylor also reported two cases of congenital absence of the radius in female infants. In the first, twenty months old, the absence was bilateral, and had been confirmed by skiagraphs. There was clubhand on both sides, which had been much improved by splinting. The fingers were well formed, and there was no deformity elsewhere except an unnatural mobility of the left knee-joint inward, with a tendency of the head of the tibia to subluxation backward. This was a delicate infant, the fourth child, all the others having been free from defect. In the second case, that of a baby two weeks old and the thirteenth child, the radius was absent on the right side only, and the right hand was clubbed; both thumbs with their metacarpals were wanting. This baby died at the age of a few months. No other case of deformity was known in the family. A *résumé* of the literature was given, with a discussion of fifty-two additional recorded cases, and reference was made to the neuro-archipterygeal and the tight-amnion theories of causation, the latter being preferred on account of analogy with absent fibula, cases of persistent thumb (like the author's first), presence of pseudo-cicatrices, and for other reasons. The paper concluded with reference to the various operations which had been proposed for the condition, and with a recommendation that preliminary corrective splinting be more persistently employed.

AMERICAN NEUROLOGICAL ASSOCIATION.

Wednesday, May 5th—Second Day.

Encephalitis with Changes in the Pia.—Dr. Alfred Wiener, of New York, read a paper on this subject and reported the case of a child, three years of age, who, after meeting with an accident, suffered from an attack of acute (non-suppurative) meningo-encephalitis. The child recovered after six months of illness. It remained perfectly well, and after an interval of three years, just subsequent to an attendance of three months at school, had a second attack which proved fatal. The autopsy and microscopical examination showed an involvement of the pia as well as the brain, and the characteristic picture of acute non-suppurative hemorrhagic encephalitis. He believed the first attack due to traumatic influences. The second attack was due either to influenza on account of the suspicious catarrhal symptoms present at the beginning of the attack, or as a result of mental strain in a child predisposed to such an attack. Special attention was called to the involvement of the pia, which represented a pathological condition often found in simple fibrinous pleurisy.

Dr. Collins spoke of a young man with encephalitis. Speech was lost. His mental condition deteriorated, and he ultimately became helpless. The left side of the body was spastic and paretic; there was no cranial-nerve palsy. The autopsy revealed cerebral œdema, some localized softening, and acute non-purulent encephalitis.

Dr. W. G. Spiller, of Philadelphia, said that the spinal form is similar to acute polio-myelitis and acute polio-encephalitis. He referred to a case with symptoms of typhoid fever, which subsequently developed eye symptoms and proved to be encephalitis. In another case with choked discs, etc., and supposed to be due to tumor, encephalitis was found post mortem.

Dr. F. X. Dercum, of Philadelphia, asked if evidence of general infection was discovered or if the kidneys were involved.

Dr. Wiener replied that there was only acute congestion of the kidneys.

Dr. Patrick presented some specimens from a similar case, in which there was external ophthalmoplegia.

Dr. Sachs called attention to the practical difficulty of differentiating between encephalitis and meningitis. The greatest difficulty seemed to be in substantiating the early diagnosis of encephalitis; not only the pathology should be made clearer, but also the diagnosis. In the majority of cases both forms may be combined.

Dr. J. J. Putnam spoke of the importance of a toxic cause. In view of the favorable prognosis in the majority of cases, he thought that this element should be considered in the etiology.

Dr. Herter mentioned the case of a child with convulsive seizures, which seemed like infantile cerebral palsy, but microscopical examination showed encephalitis.

Dr. Angell believed the differential diagnosis could be made if we bore in mind the symptoms of inflammation. When the membranes are affected, there is rigidity of the cervical muscles.

Dr. Wiener, in closing the discussion, thought with

Dr. Putnam that the violence of the symptoms was very likely due to toxic conditions.

Little's Disease—Shall We Retain the Name?—Dr. B. Sachs, of New York, said that the use of the term "Little's disease" has led to great confusion. German and French authors have criticised English and American writers for not recognizing the disease as a distinct clinical entity. The name has not been adopted by the latter for the simple reason that Little's disease cannot be considered as anything more than a mere etiological group, comprising those cases of early infantile spastic palsies which are due to difficulties during labor resulting in asphyxia neonatorum. It cannot even comprise all spastic palsies that are in evidence from the time of birth, for many of them are not due to asphyxia, but to developmental defects, more particularly of the cortical or cortico-spinal division of the pyramidal tract. Some authors would make a distinction between general rigidity and cerebral diplegias, and would call the cases of the former Little's disease, but he is of the opinion that there is no rigidity without paralysis, and the difference is simply one of degree and not of kind. The division which the reader made into pre-natal and birth palsies, which has been indorsed by Freund, should be continued, and the name Little's disease should be dismissed, since it represents no distinct clinical group, and since a number of different morbid conditions are responsible for the infantile spastic palsies or the cases of general rigidity appearing at the time of birth or shortly thereafter.

Dr. Frederick Peterson, of New York, differed from Dr. Sachs, as he had found that the greater the extent of the paralysis the greater the mental defect and the epilepsy. At times he had found extensive paralysis without mental defect or epilepsy. He referred to one hundred and thirty cases as having been reported, in which there were thirty with hemorrhage into the spinal canal.

Dr. J. W. Putnam, of Buffalo, said that cases varied in the symptoms according to their etiology. He spoke of two children in one family, in whom there was extensive paralysis. One had marked mental defect, and the other very little. Both pregnancies were attended by prolonged periods of vomiting.

Dr. Sachs, in his closing remarks, said he had not entered into the pathology of the subject, but agreed with Dr. Peterson. There is often an association of cerebral and spinal lesions, but he was not ready to believe that the majority of these cases is due to spinal defect.

The Nature and Treatment of Spasmodic Torticollis.—Dr. G. L. Walton, of Boston, read this paper. He considered spasmodic torticollis as an affection of the cortical centres for rotation of the head. The pathology is not settled. The fact that it is sometimes easily inhibited does not establish a mental origin. Gross organic lesion is not present. Long-continued habit may merge into spasm, as seen in certain occupations. Eye strain sometimes plays a part through causing faulty position (oblique astigmatism, muscular insufficiencies). In one case it followed the wearing of a glass which increased instead of relieving an oblique astigmatism. The course of the disease is progressive. The principal muscles affected are the sterno-mastoid, splenius capitis, complexus, trachelo-mastoid, and inferior oblique. The commonest form implicates the sterno-mastoid of one side and the posterior rotators of the other; less frequently the spasm is limited to the sterno-mastoid, occasionally to the posterior rotators of both sides (retrocollis), and rarely to the sterno-mastoid and posterior rotators of the same side. Treatment other than operative is ineffectual in well-established cases. Simple nerve section and nerve stretching are unavailing. The only operations to be considered are resection of nerves and section of muscles. Operations are generally too limited rather than too extensive. In most cases it will be necessary to resect the spinal accessory and the first three posterior branches of the cervical nerves. It will generally be wise to cut also the affected muscles. Muscle section alone has given good results (Kocher), but there is no reason to abandon nerve resection. Absolute cure cannot be expected in over half the cases; there are improvement in a greater proportion and failure in a certain proportion.

Dr. Dercum thought we should be conservative as to our view of the pathology. He did not regard it as limited to the cortex. In some cases the torticollis seems to simulate the occupation neuroses, and is often cortico-spinal. He did not know of a case of absolute cure following operation. He referred to a case in which the spasm recurred after extensive operation. Some were benefited by rest and the use of gelsemium in increasing doses. His habit was to advise surgical operation at once in the majority of cases. He had never seen much benefit from resection of the spinal accessory nerve.

Dr. C. L. Dana, of New York, said there were three different types or phases of the disease—one occurring in early life associated with neurasthenic or hysterical manifestations; another more serious type in middle life, which he looked upon as a degenerative neurosis; the third occurred in children at about the age of fifteen years, and was gradually progressive and incurable. The type must be considered in the treatment. He agreed with Dr. Walton as to the pathology. In a patient with the progressive type the autopsy showed degenerative process and chronic leptomeningitis of the convexity. He thought that many cases were primarily a cortical degeneration. The best treatment was prolonged rest and careful massage. Some patients are cured and others relieved. He did not believe drugs did permanent good. Surgical treatment was irrational in theory, and not of practical value in his experience, but he had never had the combined operation performed.

Dr. C. K. Mills had seen many cases. In the only successful one the patient recovered under the use of the actual cautery frequently applied and the administration of iodide and bromide of potassium. Gelsemium was the best drug. He had had various operations done, but had never seen good results. Nerve stretching was of value. He laid great stress on absolute rest. He did not believe all cases were of cortical origin. At times they might be of nuclear and degenerative origin, and partly irritative.

Dr. Richardson, of Boston, discussed the subject from the surgical standpoint. He operated only under the advice of the neurologist. There had been a sufficient number of cures to justify the operation. He referred to a patient treated by a helmet with benefit, but such a method is generally intolerable. Surgical methods should be undertaken only after all other measures have failed.

Dr. W. W. Keen, of Philadelphia, also spoke from the surgical point of view. His experience was the same as that of others. In one patient after the usual operation he proposed operation on the cortex, which was refused. However, improvement subsequently occurred. Before surgical interference we must be certain that medical treatment (particularly absolute rest) has been properly and faithfully but ineffectually carried out. In his experience operation had failed as to absolute cure. In a considerable proportion of cases relief was obtained. These operations are not dangerous to life. He was disappointed in resection of the spinal accessory nerve.

Dr. V. P. Gibney, of New York, continued the dis-

cussion from the viewpoint of the orthopædic surgeon. His experience had been largely in torticollis in young children and adolescents from injury to the sterno-mastoid. These are easily relieved. In the class of cases under discussion he knew of no form of apparatus that would take the place of operation. Apparatus might supplement operation. He had obtained no benefit from gelsemium.

Dr. J. J. Putnam believed that the essential thing in the treatment was methodical education of the muscles. He knew of one patient who cured himself by voluntary efforts. These methods required many months.

Dr. Langdon mentioned the case of a young man who recovered. The treatment was absolute rest and stupefying doses of bromide and chloral for three weeks.

Dr. W. M. Leszynsky, of New York, after briefly referring to his successful use of increasing doses of atropine injected into the spasmodic muscles, mentioned the case of a lady, thirty-five years of age, who had been under constant observation for the last eighteen months. The clonic spasm had previously existed for six months, and involved the sterno-mastoid, trapezius, and complexus. The sterno-mastoid was hypertrophied to about four times its natural size. Atropine treatment could not be carried out, owing to idiosyncrasy. Conium and gelsemium failed. After prolonged rest and tonic treatment, together with local massage, passive movements, and educational gymnastics faithfully carried out, the clonic spasm was absolutely cured, it now having been absent for nearly ten months. This had, however, been replaced by a mild form of tonic spasm, which was remittent. A peculiar feature in the case was the high specific gravity of the urine, which was due to urates. Whenever the gravity rose to 1.030 or 1.034 the spasm increased, seemingly indicating an autotoxic irritative element in the case. He believed that if these cases were treated early by the foregoing method very little would be left for the surgeon.

Dr. Prince had tried atropine without benefit. The only case treated by massage and rest ended in recovery. Some patients improved with apparatus. He thought this condition analogous to the occupation neuroses, and recommended education of the muscles.

Dr. Wharton Sinkler, of Philadelphia, considered this disease under three types: 1. Hysterical. 2. Disease or irritation of nerves. 3. Cortical. The hysterical closely simulated the organic form. In the second type he advised rest and massage, gelsemium or conium. If these measures failed, he concluded they were cortical. Therefore operation on muscles or nerves was useless.

After-Care of the Insane.—Dr. H. R. Stedman, of Boston, presented the report of the committee on the after-care of the insane.

The Definitive Encephalic Segments and Their Designations.—Dr. Burt G. Wilder, of Ithaca, read a paper with this title, the general object of which was to induce anatomists not to concur hastily in the interpretation and nomenclature of the encephalic segments that were adopted by the Anatomische Gesellschaft in 1895. The speaker urged the maintenance of the schema that has appeared in the last three editions of Quain's "Anatomy," with or without the two modifications embodied in the table on page 326 of his recent paper, "Neural Terms, International and National," viz., the use of diencephalon in place of thalamencephalon, and the recognition of the olfactory bulbi and certain other parts as the rhinencephalon. The paper was illustrated by many colored diagrams of the brains of representative vertebrates. Certain features of the German schema were strongly reprobated, and the paper concluded with the following words: "Never in the history of anatomy has there been an occasion calling more emphatically for the exercise of deliberation and independence; for the display of what Dr. F. P. Foster has so happily denominated the scientific suspension of judgment as distinguished from its popular precipitation; for the leadership of those who have regard for all and for the future rather than of them that consider only themselves and to-day."

Thursday, May 6th—Third Day.

Brain Tumor.—Dr. Philip Zenner, of Cincinnati, reported three cases of brain tumor.

Case I.—Male, aged thirty-four. Severe headache in the left parietal region: double optic neuritis: only one convulsion. Complete relief of symptoms followed trephining of left parietal region. Seven months later headache returned, left eye blind, muscles paralyzed. Eye enucleated and orbital tumor removed. Relief of all symptoms for nine months. Growth is returning.

Case II.—Male, aged thirty-three. Chief symptoms: Jacksonian attacks in left side of face, paresis of left arm and leg, left facial paralysis. Tenderness to percussion over left side of skull. Post mortem, large tumor in left hemisphere pressing upon left central convolutions. The symptoms were on the left side of the body. Sections of the medulla revealed an absence of the crossing of the pyramids.

Case III.—Tumor in right arm centre. Chief symptoms, Jacksonian attacks and slowly progressing paralysis of left arm and leg. On operation the middle part of the central convolutions was exposed, but the tumor could not be seen or felt. Autopsy revealed a deep-seated tumor (glioma) in the anterior central convolution, encroaching slightly upon the first and second frontal and the posterior central convolutions. The incision in the brain had barely missed the tumor. There was at no time optic neuritis and there were no manifestations of increased intracranial pressure. No vomiting, headache not intense, and intellect clear. There was no impairment of sensation before the operation, but hemianæsthesia immediately followed it.

It would seem that very slow destruction of the cortical motor area causes no sensory disturbance, while sudden lesions produce anæsthesia. Such facts seem to indicate that the central convolutions have sensory functions, but are only a part of the sensory area. The Jacksonian attacks in the second case were of a tonic character only. This was of importance in connection with the fact that the tumor was subcortical, such attacks occurring chiefly when the tumor does not involve the cortex.

Dr. C. A. Herter, of New York, reported a case of sarcoma of the midbrain, associated with asymmetrical hydrocephalus.

Dr. Angell had seen a similar case, but the asymmetrical hydrocephalus was secondary to a cerebellar tumor. The child is still living and the disease is quiescent. Circumference of head, twenty-two inches.

Dr. E. D. Fisher, of New York, cited cases in which the usual symptoms of brain tumor were absent. No paralysis and no optic neuritis. He had frequently seen relief of symptoms from operation without removal of tumor. Localization of tumor by percussion of skull he thought was unreliable. In slowly growing tumors the displacement of fibre tracts was so slow that paralysis did not take place.

Dr. Pershing, of Denver, related the history of a middle-aged man. General convulsions, loss of consciousness, defective vision. Quadrantal hemianopsia. No headache, no optic neuritis. All symptoms increased. Paraphasia, word deafness; coma, death.

At autopsy, tumor of left sphenoidal lobe and infiltrating growth in pulvinar.

Dr. Langdon referred to a case with many symptoms of tumor. Nothing was found at operation. All symptoms improved. He had seen tumor of pons and cyst of cerebellum with absence of decussation of motor tracts.

Dr. Fry mentioned an instance of asymmetrical hydrocephalus in which the diagnosis of cerebellar tumor was made. There was decided difference in the percussion note on the two sides. At the autopsy there was ventricular distention. In tumor of the cerebellum with ventricular distention, the peculiar cracked-pot resonance was probably due to vibration of bone separated at the sutures.

Dr. Patrick said that the majority of cases of brain tumor were of irregular type. General convulsions usually precede focal convulsions in deep-seated tumors. In operating it was proper to continue and go below after the surface of the brain was reached. Careful examination of the visual field and of speech defects were of much value in diagnosis.

The President reported four subjects recently operated upon. Three came to autopsy. The percussion note was altered in three.

Case I.—Infiltrating sarcoma in temporal fossa. Progressive motor aphasia, right hemiplegia. Aphasia was the first symptom. Headache and optic neuritis. At operation nothing was found.

Case II.—Woman under observation two months; all general symptoms. Unilateral and general convulsions. Operation. Very large infiltrating gliosarcoma over entire motor area. Removal followed by extensive hemorrhage. Death on the third day.

Case III.—Man; general symptoms and diagnosis of cerebellar tumor. At operation, cerebellum well exposed; seemed perfectly normal. Opening enlarged upward to occipital lobe, and then lateral ventricle tapped and large amount of fluid withdrawn. All general symptoms relieved for two weeks. At autopsy, tumor found in cerebellum below surface of normal tissue.

Case IV.—Child with all symptoms of cerebellar tumor, blindness, etc. At operation, occipital bone found eroded and softened. Operation discontinued on account of extensive venous hemorrhage.

General symptoms were often due to effusion in the lateral ventricles. The percussion note was not a reliable sign, and afforded no differentiation between cortical and subcortical tumors. He had seen two cases, with operation on postcentral convolution, in which ataxia of the right hand developed but gradually disappeared. He had not seen ataxia as a permanent symptom of tumor, nor had he seen asymmetrical hydrocephalus.

Dr. Herter did not regard a marked degree of asymmetrical hydrocephalus as indicative of tumor, in all cases.

Epilepsy Following Infantile Cerebral Palsy; Improvement after Craniotomy and Evacuation of Subcortical Cyst.—Dr. W. M. Leszynsky, of New York, read a paper on this subject, and reported the case of a boy, fourteen years of age. At second year left hemiplegia, preceded by convulsions and unconsciousness. Epilepsy developed at twelfth year. At first, conjugate deviation of eyes and head toward the paralyzed side, with transient loss of consciousness, increasing in frequency. Later, attacks accompanied by rigidity of left arm, then of arm and leg, and ultimately general convulsions and increasing mental enfeeblement. No clonic spasm at any time. After ineffectual medicinal treatment, exploratory operation. A large subcortical cyst was found under the Rolandic area. The cortex was extremely atrophied. The cyst was evacuated. Absence of all epileptic attacks for three and one-half months. The patient then had seven general convulsions within eighteen hours. The cyst was again emptied, and the attacks disappeared for more than three months. Again the cyst was evacuated. Since then he has had occasional mild attacks, despite the use of bromide. The speaker considered the advisability of permanent drainage.

Dr. J. W. Putnam spoke of a boy in whom convulsions followed traumatism, sixty to eighty attacks daily. Fluid was evacuated from the cyst, and for a week bandages were frequently soaked by the discharge. The wound healed, and there was no attack for several weeks. More fluid was withdrawn, and continued drainage allowed. The convulsions ceased. The patient has had no attack in two years.

Dr. Angell referred to a case of hemorrhagic meningeal cyst in a child having fifteen attacks daily. Cyst evacuated, and no attack since operation three years ago.

Dr. Pershing spoke of a man with epileptic attacks following a blow on the head. A cyst was found over the face centre and drained. No attack in a year.

Dr. Worcester had made seven autopsies in cases of infantile cerebral palsy. In six there was great asymmetry of the hemispheres. In one the lateral ventricle was greatly dilated.

The President had had no experience with permanent drainage. He had always seen symptoms return after evacuation of the cyst.

Uncommon Nasal Paræsthetic Neurosis.—Dr. Samuel Ayres, of Pittsburg, reported the case of a lady, twenty-three years of age, recently married, and of a neurotic temperament. The nasal disturbance began eight years ago, and was characterized by periodic flushings over the end of the nose. The attacks have increased in frequency, and now consist in a sense of burning in the integument of the end of the nose or over the entire cartilaginous portion. At the same time there are general restlessness and considerable mental depression. No cause can be discovered. Various remedies have been used, such as local applications and the internal administration of bromides, cannabis indica, ergotin, etc., with only temporary benefit.

Steps toward Insanity.—Dr. Smith Baker, of Utica, read a paper with this title. He said that the biological doctrine that structure determines function is as applicable to the neuron as to other basal elements. Applied to insanity, psychiatry properly becomes an important branch of it. The primary presupposition of every instance of true insanity is that it is based upon arrest of development and a nurture too faulty to correct this. One step which initiates the degenerative tendency is unphysiological marriage, and the perversive tensions and reactions which grow therefrom. Another step is vitiation by sexual overstress or nutritional perversions during the childbearing period. With the individual, defective home conditions play a most prominent part in fixating degenerative tendencies. Frequently the ordinary educational course, the universal leaning on proxies and various kinds of stimulants, are but ways of confirming all that is degenerative. Diseases and accidents are important, because of the emotional stress involved. Arrest of development at puberty is serious always. The immediate causation of the structural change seems to come through exhaustion and auto-intoxication. This must interfere with the characteristic activity of the neurons, which activity seems to be on the point of discovery as an amœboid movement of the cells or their processes. Dissociation, confusion, systematization may thus come to be founded in actual structural defect, itself the result, primarily, of emotional stress in ancestry.

Honorary Member.—Dr. E. C. Seguin, of New York, was elected to honorary membership.

New Members.—The following-named gentlemen were elected to membership: Dr. William G. Spiller, of Philadelphia; Dr. H. M. Thomas, of Baltimore; and Dr. William Hirsch, of New York.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. Graeme M. Hammond, of New York; *Vice-Presidents*, Dr. Philip Zenner, of Cincinnati, and Dr. J. J. Putnam, of Boston; *Secretary and Treasurer*, Dr. F. X. Dercum, of Philadelphia; *Council*, Dr. H. T. Patrick, of Chicago, and Dr. Charles K. Mills, of Philadelphia.

THE AMERICAN OTOLOGICAL SOCIETY.

Tuesday, May 4th.

Goutiness in Its Relation to Diseases of the Ear.—Dr. A. H. Buck, of New York, read the first paper (see page 726).

Dr. J. O. Tansley, of New York, opened the discussion by taking issue with a statement made that eczema was pathognomonic of gout. He had seen in children numerous cases of eczema that could have had no connection with that disease. He always recognized cases of gouty tendency by a spot of redness in the upper posterior part of the membrana, which was not due to the congestion of the mucous membrane of the middle ear, but to the trouble in the articulations of the ossicles.

Dr. E. B. Dench, of New York, had seen one case of true hyperostosis of the canal due to eczema. He had obtained a very good effect by the use locally of cantharidis acetum.

The Differential Diagnosis between Diseases of the Sound-Conducting and Sound-Perceiving Apparatus.—Dr. E. B. Dench read a paper with this title. He stated that a physical examination alone was no guide to the state of the hearing. An ear looking considerably disorganized might have very fair hearing, while one looking nearly or quite normal might have scarcely any hearing at all. For diagnosis he divided the ear into two parts: First, the conductive; second, the perceptive. Obstruction to or interference with the conductive apparatus always gave rise to the same signs—quantitative audition it might be called. Qualitative audition was estimated by musical tones. In difficulty with the conductive apparatus the lower tones of the scale were the first lost. In perceptive difficulty the lower tones were not lost. In conductive difficulty high notes were good; in perceptive difficulty they were not. In mixed cases in which impairment was extreme air conduction was better than that by bone, except for the very lowest notes.

Dr. Theobald, of Baltimore, had been puzzled by the varied results obtained by him with the tuning-forks on the mastoid and the vertex.

Dr. Alderton, of Brooklyn, had noticed the same trouble, and had had the best results from the tuning-fork on the central incisor teeth.

Dr. Clarence J. Blake, of Boston, had found differences in different parts of the same vertical region, due to differences in thickness of the skull at different points. He thought the paper an excellent one to be read before the society on account of its treatment of physics as applied to the subject. He thought the Galton whistle was not reliable for the very high tones.

Ear Complications of Influenza.—Dr. W. P. Eagleton, of Newark, N. J., read a short paper on this subject, giving statistics of the proportion of cases of ear disease to those of influenza, and pointing out the differences in tractability between those following influenza and those uncomplicated with this disease.

Mastoid Disease.—Dr. Bacon reported synopses of twenty cases of mastoid disease in children and adults, in a paper entitled "What Symptoms Should We Consider Most Important as to the Advisability of an Operation in Mastoid Disease?" He had never seen a case without some elevation of temperature. The temperature might range lower in adults than in children. High temperature did not necessarily indicate extensive destruction. In estimating tenderness pressure should always be made over both mastoids. Redness and œdema he did not consider necessary factors and they were not to be waited for. Bulging of Shrapnell's membrane he thought always indicated mastoid disease, and was an indication to open the cells. When mastoid symptoms develop in chronic suppurative otitis media he would operate at once. He advised the following treatment in acute cases: leeches, followed by the Leiter coil and free incision of the membrana tympani, with frequent douching as long as the discharge was profuse and symptoms were acute. If the symptoms continued urgent, he would open the mastoid at once.

Dr. W. B. Johnson, of Paterson, N. J., believed that after free incision of the drum it was not advisable to use politzerization. He uses peroxide of hydrogen to wash out the discharge.

Dr. Dench stated, in regard to the matter of the temperature not always falling after operation, that it might be due to the fresh inoculation of the cut surfaces. He had not seen the least harm result from politzerization.

Dr. Tansley used normal salt solution in cleansing the ear, and thought it acted by promoting exosmosis.

Dr. Buck spoke of one of Dr. Bacon's cases, in which the continued high temperature was due to pneumonia, and mentioned a case in which the high temperature was accounted for by endocarditis.

In closing the discussion, Dr. Bacon stated that he inflated only when the inflammation had practically subsided and there was a free opening in the membrana.

Thrombosis of Lateral Sinus with Mastoid Abscess.—Dr. Alderton, of Brooklyn, N. Y., reported a case of this kind, with presentation of specimen. When the wall of the sigmoid groove was opened, horrible pus welled up and was evacuated. The case was left for twenty-four hours; then the sinus was slit up and cleaned out, upward and downward. Some improvement occurred during the next twenty-four hours; then metastatic pneumonia developed, and the patient died. On autopsy the antrum and aditus were found packed with cheesy pus. There was no congestion of the tympanic membrane. He wished to emphasize the importance of gaining access to the antrum and tympanic attic, and also of ligating the jugular vein to guard against extension of the sepsis.

Dr. Dench did not agree as to the proposal always to ligate the jugular vein. He would not do so without additional indications.

Dr. Bacon agreed with Dr. Dench in not always ligating the jugular vein, but would rather force septic material out of the vein by pressing upward.

Dr. Alderton, in closing, said he would not ligate when there was only a small localized spot on the wall of the sinus, but would do so if there was much disease of the sinus wall.

Pilocarpine in Deafness.—Dr. Bacon read a paper describing a case of extreme deafness, in which great and permanent improvement of hearing followed the use of pilocarpine hypodermatically. After removal of the ossicles the hearing was further improved. The best results of pilocarpine had been seen in cases due to syphilis, and lack of success in other cases might have been due to insufficiently long use of the remedy.

Dr. Tansley agreed as to the excellent results of pilocarpine in these cases, but did not agree as to the

absolute necessity for exhibiting the remedy hypodermatically. Many could not spare the time necessary, and equally good results might be obtained by administering it by the mouth.

Deviated Septum.—Dr. Tansley described a new method of operating on a deviated septum, which he believed simplified the procedure and was accomplished in two sittings ten days apart, and with a minimum of traumatism. He accompanied the paper with a blackboard demonstration.

Simulation of Labyrinth Disease.—Dr. Robert C. Myles, of New York, read a paper on the synechial bands of the Eustachian tube and fossa of Rosenmüller, producing symptoms simulating labyrinth disease, relieved by breaking up the adhesions with the finger, with immediate relief of the symptoms.

Dr. J. E. H. Nichols, of New York, exhibited an operative electric ear speculum, which left both hands free for manipulation.

The officers of the society were all re-elected, also the following as associate members: Drs. E. E. Doble, of Boston, Mass.; W. B. Marple, of New York; J. F. McKernon, of New York; and Eugene A. Crockett, of Boston, Mass. *Committee on Membership*, Drs. Gorham Bacon, J. Orne Greene, and J. S. Prout.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Second Day—Wednesday, May 5th.

Tumor of the Nose.—Dr. J. H. Bryan, of Washington, exhibited a case of intranasal tumor. The patient was a man of twenty-two, who had had a growth in the nose causing stenosis for four years. It first appeared in the left anterior naris, but was now visible in the right posterior. As the septum was intact in the nasopharynx, it was evident that the neoplasm had attacked and perforated the septum. An examination of a bit removed showed fibro-sarcoma, though from simple inspection he had made a diagnosis of simple fibroma. Within the past few weeks giddiness and double vision had appeared. There was no spontaneous hemorrhage, but the growth bled freely upon manipulation. Dr. Bryan invited the opinion of those present as to the most feasible operation for removal.

Dr. M. R. Ward, of Pittsburg, had operated in one case of fibro-sarcoma of the nose four years ago, and in spite of the fact that an early recurrence was prophesied his patient was well at the present time. In view of current views as to fibro-sarcoma, he thought that this long continuance of life somewhat invalidated the original diagnosis.

Dr. J. E. Boylan, of Cincinnati, thought that mere continuance of life ought not of itself to invalidate the accuracy of diagnosis.

Dr. W. E. Casselberry, of Chicago, had reported a case of simple fibroma some eight years ago. It was impossible to remove the tumor entire, so he had slit it up into segments with the galvano-cautery knife, and then snared it off piecemeal. It was harder to the feel than was the growth in Dr. Bryan's case.

Dr. Jonathan Wright, of Brooklyn, thought that the fact that in Dr. Bryan's case the nasopharynx was not invaded would point to fibro-sarcoma rather than simple fibroma, which, confined to the middle or anterior part of the nose, was practically unknown.

Dr. J. Solis Cohen, of Philadelphia, would advise, in the present case, the performance of Rouge's operation.

Dr. Thomas Hubbard, of Toledo, thought that the eye symptoms in the present case should suggest the query whether it was advisable to operate at all.

Dr. C. C. Rice, of New York, had seen one case during the last winter. He would strongly condemn cobbling in these cases with the snare. A more radical procedure was necessary.

Dr. J. N. Mackenzie, of Baltimore, said that the Rouge operation frequently failed to afford the necessary exposure of the involved area. He would therefore advise the modified Langenbeck operation, whereby the superior maxilla is separated from its median attachments and rotated outward.

Suppuration of the Frontal Sinus.—Dr. J. H. Bryan reported this case. The writer thought that frontal sinus suppuration was much more common in this country than was generally supposed. Recent grippe epidemics had brought to light a large number of cases. Many were undoubtedly due to propagation from the maxillary sinus, owing, in some instances at least, to an abnormal communication between the two cavities. Dr. Phillibroun, of Boston, had recently reported the results of examination of skulls in which the infundibulum had been prolonged to the actual entrance of the antrum, as a half-tube terminating in a valve-like fold, so that secretions from the frontal sinus would pour into the antrum and secondarily involve the latter.

Dr. Bryan then described the anatomy of the frontal sinus, and exhibited photographs illustrating its peculiarities. He said that the size of the supra-orbital ridges was no guide to the size of the sinuses. He would advocate in such cases the operation known as Luc's, whereby a drainage tube is inserted from the sinus down into the nose and the external wound on the forehead hermetically sealed up.

He then gave the clinical history of a case occurring in a woman, aged fifty-eight years, in which the Luc operation had been done. The antrum was also affected and was previously operated upon by the alveolar method. After the Luc operation on the frontal sinus, the clinical course had been uneventful for a while, but the drainage tube slipped out of the nose and soon evidences of sepsis began to show themselves. The dressing over the forehead wound was removed and a small abscess found. Pus was evacuated, and the wound was stuffed with gauze and allowed to heal by the open method. The further course was uneventful. The sepsis was probably due to retained discharge consequent upon the slipping out of the tube.

Dr. Casselberry was pleased to hear such strong advocacy of the Luc method. Intranasal management of these cases had in his hands proved very unsatisfactory. Symptoms were improved, but the discharge was not checked.

Dr. Mackenzie thought that strong antiseptic solutions should be carefully avoided in all such cases. It had been shown that bichloride solution as weak as 1 to 10,000 caused a necrosis of a thin layer of tissue. He would prefer Thompson's fluid as used in the bladder, or even a normal salt solution. The same thing could be said of drainage tubes. They should be avoided as much as possible, as they are liable to act as pus producers and carriers of infection.

Dr. Wright thought antrum disease from sinus disease a very common sequence.

Dr. J. E. Nichols would agree with Dr. Mackenzie as to the danger of using strong solutions. He thought it possible to make a differential diagnosis between primary antral disease and that secondary to frontal sinusitis. In the latter the antral pus appeared as long worm-like shreds, while in the former it was compact or in small masses.

Discussion on Atrophic Rhinitis.—The nature and symptoms of this affection were considered by Dr. W. E. Casselberry. No one theory of causation would account for all the cases observed. The disease as seen in the young child seemed to contravene Fraenkel's theory, which, however, was borne out by

the appearances found in old people. There were fetid and non-fetid cases. The atrophy might be due to one cause and the fetor to another. Two groups might be made—one of simple dry cases and the other of ozæna or fetid cases, as had been done by Greville McDonald. All stages of atrophy were observed, from a very slight grade up to a condition characterized by degeneration of the mucous glands and crust formation. The non-fetid variety occurred more frequently in old people. Ozæna was seen in early life, and as a rule the fetor was persistent, but in some instances the two types seemed to blend. There might also be a local affection of the peripheral sensory nerves. The nostrils became less sensitive to all irritants and the pharyngeal reflexes were sluggish. In some cases the process seemed to involve the nasal bones and cartilages as well as the turbinates, so that there was a suggestion of the saddleback nose. The tip of the nose is elevated, so that the anterior nares look forward rather than downward. Again, there might be a primary central trophic neurosis. A deviated septum might cause the change to be more marked on the concave side, but a correction of this deformity would often cure the affected nostril. Congenital malformations seemed to be a causative factor in some cases. They led to atrophic rhinitis from poor nasal ventilation, and consequent stagnation of secretion. Syphilis, tubercles, alcohol, and gout undoubtedly played a predisposing part. In both types of the disease the trophic changes varied in degree and distribution. Some cases were undoubtedly the sequels of preceding hypertrophy, but hypertrophy need not exhaust itself before atrophy begins. The middle turbinate might be hypertrophied and the inferior atrophied. Grünwald had referred the condition to preceding sinus disease; Bosworth to an earlier purulent rhinitis. More recently Belfanto and Della Vedova had found in the mucosa bacilli resembling those of diphtheria; Fraenkel and Loewenberg, a coccus; Abel, a bacillus named by him bacillus mucosus; Wyatt Wingrave, various hyaloid bodies. As regarded symptoms, in addition to those referable to the nose proper, impaired hearing and voice were often the first things noticed. The speaker would advise against a too free use of the cautery in hypertrophic cases, as atrophy might thereby be induced.

Dr. J. N. Mackenzie spoke of the pathology. In considering this topic one should consider, first, the nature of the structural changes; and second, the order of their occurrence. It must be remembered also that we are dealing with changes in a respiratory organ as well as in a mucous membrane. At present there is a haze of opinion regarding the matter, because of the loose manner in which the term atrophy is used, and, second, because we fail to discriminate between the different forms of atrophy and the causes which produce them. We may have simple atrophy and the atrophy of degeneration. The best term to indicate the condition we have in mind when we speak of atrophic rhinitis is sclerosis. This may result from a blood infection, such as tuberculosis or syphilis, or may come from an intoxication, particularly that of alcohol. It probably does not arise from purulent catarrh, for we have nothing parallel to such a sequence in any pathological process with which we are acquainted. The task of the future is to determine the origin of this sclerotic process. It is possible that the process may be sclerotic *ab initio*, and that it may begin in the periosteum. It is impossible to prove this. It is improbable from the lack of proof in clinical history, from the lack of anatomical observations on this point, and also from the fact that we frequently see a rapid transition in a given case from a hypertrophic to an atrophic condition.

In reply to Dr. Casselberry's objection to the theory of this transition, he would say that ozæna and atrophy are not convertible terms. In regard to the ozæna neonatorum, so-called, this might be due to intra-uterine changes, with the nature of which we are unacquainted. It is true that hypertrophy does not always terminate in atrophy, and in a given microscopical section we may see the two side by side. Atrophy is, as a rule, more pronounced when the catarrh has originally developed.

Dr. C. C. Rice, of New York, discussed the treatment. He would divide therapeutic measures into constitutional and local. Under the former he would include climate and general hygiene. He had seen several cases greatly improved by a transfer of residence from the city to the country. Sea air was undoubtedly better than mountain air. As to local measures, cleanliness and stimulation were probably the methods most generally employed. To affect the latter, electricity (both currents), cataphoresis with salts of copper and countless drugs, had been used. The latter had been used in bougie form. Stimulating inhalations and massage had their advocates. Resorcin, ethyl alcohol, peroxide of hydrogen, etc., were all used. Great care should be taken to avoid destruction of tissue. The oily preparations were of great service, both as vehicles and as lubricants. He would therefore cleanse and polish the nose with the oils. In very young children with excess of thin secretion powders might be used.

Dr. Jonathan Wright called attention to the fact that the disease was far more common in women than in men, and that its development seemed coincident with the menopause. After the menopause the condition generally improved. It had been suggested that the bacteria found in the nose in this affection might produce some ptomain, which by continued action on the nasal mucosa produced eventually the condition with which we are all so familiar.

Dr. S. O. Vander Poel, of New York, alluded to the serum therapy of Belfanto and Della Vedova. He had seen one subject of atrophic ozæna who contracted laryngeal diphtheria. Antitoxin was injected at three different times, and the patient recovered. It was a remarkable fact that thereafter the ozæna was also greatly improved, the amount of discharge having been most markedly lessened.

Dr. J. H. Hartman, of Baltimore, had for some years used the galvanic current, and was disposed to attach great value to it. It was, however, a tedious method of treatment, and it was difficult to make patients persist in its use.

Dr. James E. Logan, of Kansas City, had found the middle turbinate more frequently atrophied than the inferior, and was disposed to attach much importance to pre-existing sinus disease as a causative factor. He thought that the middle turbinate might act as a drain or dripstone for the sinus secretions. In severe cases of atrophic rhinitis, he had curetted the sinuses, with a remarkably good effect upon the atrophic rhinitis.

Third Day—Thursday, May 6th.

Simulated Sarcoma of the Tonsil, with Case.—Dr. D. Bryson Delavan, of New York, reported a case of a man of forty-three years, with a good family history and no suspicion of syphilis. For two months he had had a soreness in the left tonsil, with a moderate enlargement of the same. Later there ensued a breaking down of the tissue, leaving a central erosion, while the remainder was indurated. The cervical glands below the tonsil were somewhat enlarged. There was pain on palpation and deglutition. The patient was placed on the iodide of potassium, while a small piece of the tonsil was removed and submitted

to Dr. Hodenpyl for examination. Several other pathologists also examined the growth and pronounced it a sarcoma. Dr. Hodenpyl, however, was not sure of this, and was inclined to doubt the correctness of this view. The glandular enlargement cleared up under the iodide, while the tonsil still remained enlarged. It was removed with the cold snare. The microscope showed chronic hyperplastic changes, with a large number of endothelial cells. There was a strong suggestion, in the arrangement of the histological elements, of sarcoma, but the tonsil was only a little enlarged. Under the continued administration of the iodide the disease entirely disappeared, and the patient has remained well.

A New Method of Permanent Relief of Certain Enlargements of the Turbinated Bones.—Dr. Delavan also presented a short communication with this title. He said that the use of the cautery often produced too great loss of mucous membrane, while affording no permanent relief. Our aim should be to reduce the volume of the congested turbinates. He therefore would advocate the method of submucous incisions. For this purpose he used a small knife, first applying cocaine in the usual manner and then passing the blade under the mucosa, making a sweep through the submucous tissues and then withdrawing it, care being taken to avoid any additional enlargement of the original opening. The instrument employed was a needle rather than a knife. It was better to repeat the operation than to overdo it. There was but little pain and only slight bleeding. It was a good plan to keep the cocaine in contact with the tissues for several hours, and to let the slight hemorrhage stop of its own accord. This method of operating possessed the advantages of ease of execution, freedom from bad effects, preservation of the mucosa, and a practical adaptability to the desired end. In advocating this measure Dr. Delavan would lay no claim to originality, though he had never heard it before described. As to its ultimate results, he could not speak positively. He had one case now under observation, in which the good results had persisted to the present time and were all that could be desired.

Dr. Wright thought that this was a very reasonable procedure. He presumed that the good effects were due to the breaking up of the vascular coats, and the causation of clotting in the cavernous tissue was analogous to what was sometimes sought to be brought about in cases of aneurism.

Dr. Casselberry saw many cases in which the congestion was posterior. In such this operation would hardly do. He was willing to admit, however, that sometimes the removal of an anterior enlargement would cause a posterior one to disappear without further treatment. He also alluded to the method of submucous linear cauterization recently advocated by Dr. Norval H. Pierce, of Chicago.

Dr. Wright said that the importance of Dr. Delavan's first case should not be overlooked. Practitioners were apt to make sport sometimes when they gave a bit of tissue to a pathologist for examination and his report turned out to be untrue, as shown by the subsequent history of the case. There should be fair treatment of the pathologist by the clinician. The latter should acquaint the former with the full history of the case and every fact possibly bearing on it.

A Case of Subglottic Tumor Causing Great Dyspnœa; Removal by Tracheotomy and Curetting.—Dr. John W. Farlow, of Boston, reported the case of a woman of thirty-seven years, who four years before had suffered from severe dyspnœa. Three years ago she had come under the observation of Dr. H. W. Loeb, of St. Louis, who found a thickening of the nasal septum. The dyspnœa was so severe that a tracheotomy was done, and it was found that there was a tumor, sessile, about one and one-eighth inches long and three-eighths of an inch in transverse measurement, situated on the posterior wall of the trachea and bulging into the œsophagus. It had the thickness of a pencil, and was of a brownish color and soft consistency. At this time an operation was deemed unadvisable, owing to the supposed danger of the formation of a tracheo-œsophageal fistula. After the tracheotomy the dyspnœa greatly improved and she remained fairly well, with occasional periods of discomfort. She came under Dr. Farlow's observation in January, 1897. She then had dyspnœa and great wheezing in respiration. She had lost thirty pounds. The voice was not hoarse and the vocal cords moved freely. There was a tumor visible below the cords, filling up the trachea to a great extent, so that there was only a very small passage for the tidal air. The tumor presented as two masses on the right side and as a single one on the left, and was apparently connected with the trachea. A diagnosis of non-malignancy was made, and the growth was regarded as an enchondroma. On February 4th a tracheotomy was done (low operation), and the trachea opened above. Free access to the tumor was thus obtained, and it was removed with the curette. Bleeding was only slight. In closing the wound, the skin was sutured while the tracheal rings were not. Examination of the growth showed it to be a fibroma. Dr. Farlow alluded to the possibility of some relation existing between the thickened septum and the tracheal growth. The coexistence of the two suggested a constitutional tendency to the development of fibrous material.

Papillary Œdematous Nasal Polypi and their Relation to Adenomata.—Dr. Jonathan Wright, of Brooklyn, discussed a series of tumors, some of which had come under his own observation and others of which had been reported by writers. Full details of histological structure were given, and the general aim of the paper was to show that all grades of transition could be seen, from the simple nasal polyp up to the true adenomata.

A Case of Adeno-Carcinoma of the Nose was reported by Dr. F. E. Hopkins, of Springfield, Mass. His patient was a man of eighty-three years, with a negative family history as to tumors, but with a tuberculous taint. For twelve years he had had nasal obstruction with a watery discharge, but no pain or bleeding. A tumor was discovered in the nose, and a rough attempt at removal was made. The attempt had to be given up on account of the hemorrhage it caused. Later some masses were removed by the forceps. These were regarded as polypi. He was seen by Dr. Hopkins in April of the present year. There had been no operative interference for the past three years. He was now suffering from a sanious discharge, occasional epistaxis, and offensive odor. The eye was displaced outward. The septum nasi was forced over to the right side posteriorly. The mass was removed with the cold wire snare. Bleeding was profuse. The microscope showed cylindrical cells in tubular arrangement, but here and there arranged as acini. There were a few irregular cell masses. In general, it could be said that there was a tendency to a concentric arrangement. The amount of connective tissue was scanty.

Dr. Swain, of New Haven, called attention to the similarity of structure between the papillary adenomata seen in the nose and that of the ordinary aural polyp. He believed that the fibrous tissue present in these growths, as well as the cell elements, contributed to the papillary appearance.

Primary Lupus of the Larynx.—Dr. Emil Mayer, of New York, reported two cases that had been under his observation.

"Case I.—Male, aged thirty; born in Russia; pre-

sented himself for observation on July 18, 1896. His history was that he had been in good physical condition, excepting an attack of malaria seven years ago, until one year before the date of presentation. At that time, after a very short cough, he brought up about a wineglassful of blood. There were no further signs of hemorrhage until July 10, 1896. While sitting up at night he had a short cough, and brought up half a cupful of blood. From this time he had daily hemorrhages until he presented himself. During this time he was under the care of his family physician. There was no cough, no pain in deglutition, no pyrexia, no hoarseness. His physician, finding no evidence of pulmonary disease, referred him for laryngoscopic examination. There was a large ulcer in the centre of the epiglottis, extending over the entire laryngeal face. The edges of the ulcer were granular, covered with a grayish-white deposit, many small nodules existing on the free edge, the whole presenting a gnawed appearance. The width of the ulcer at the upper border was about eight millimetres. In the deepest portion of the ulcerated surface there was an eroded spot, presenting the appearance of the open mouth of a vessel. There was a tumefaction on the upper border of the epiglottis on each side of the ulcer. The arytenoids and the interior of the larynx were normal. Careful examination and investigation gave no evidence of syphilis. Sputum examined showed no bacilli. There was a slight consolidation at the apex of the left lung.

"Diagnosis: Primary lupus. Under applications of lactic acid, alternating with menthol and the internal applications of creosote, he improved markedly, the hemorrhage ceasing on the third day and never returning. His weight increased and he resumed his daily vocation, passing from observation August 5, 1896.

"April 16, 1897, patient present at my urgent request. States that he has been entirely well these eight months past, that he has steadily gained in weight, and excepting a slight cough of a few days' standing has no complaints. His voice is clear and strong, appetite good; he has no pyrexia and no pain, and there is no difficulty in deglutition.

"Examination: The epiglottis is thickened in every diameter; a piece is excavated out of its central portion, extending to within one-eighth of an inch from its free border. The portion of the epiglottis that is visible in this excavation is nodulated in appearance, a fresh nodule being visible on the site of the old cicatrix. The mucous membrane of the border of the epiglottis adjacent to the ulcer is puffy and very œdematous. Its œdematous folds form pouches hanging over the arytenoids, and tend to obstruct the view of the larynx. No abnormality can be detected in the larynx.

"Examination of the lungs: Besides a slight bronchial catarrh and the consolidation at the apex of the right lung, which is *in statu quo*, there is no other pulmonary affection.

"Case II.—This case was one of primary lupus of the pharynx and larynx, and was reported to this association in the year 1881 by Dr. Morris J. Asch, through whose courtesy the patient has been under the observation of the writer ever since. The history then given was:

"'Nora H—— came to me in February, 1879, complaining of sore throat and hoarseness. For four years she has suffered with it during the winters. During the past winter she has been much worse, deglutition becoming difficult, fluids passing out through the nose on her attempting to swallow them. There was a pricking sensation in the parts.

"'Examination: The uvula was destroyed. The free border of the velum and the posterior pillars were ulcerated. The anterior pillar of the right side, the right tonsil, and the roof of the mouth were thickened and covered with small fleshy tubercles and nodular masses. The anterior pillar of the left side was thickened, while the whole diseased surface presented a deeper tint than normal. On the posterior wall of the pharynx was a large radiated cicatrix, of the origin of which the patient could give no history. Patient is dysphonic; hearing is diminished. The epiglottis is thickened, with ulceration on the left side and with its cushion much infiltrated. The aryepiglottic folds and the ventricular bands are covered with small tubercles and thickened, so as to prevent a view of the vocal cords. There is also a large papillated mass at the base of the tongue on the right side.'

"Under cod-liver oil, iron, and applications of nitrate of silver the patient improved until October of that year, when she complained of a choking sensation in damp weather. There was pain in the throat. The growth had increased and there was an appearance of ulceration on the right side of the larynx. There was a white spot on the right posterior pillar, and the granulations, which had almost disappeared from the roof of the mouth, had returned. Under applications of perchloride of iron the patient improved steadily, and in May, 1881, there were no further indications of active disease.

"Two years after the case was described it was found that the epiglottis was sunken and flattened. This was believed to be due to subsequent cicatrization. About five years ago a new nodule appeared, extending from the centre of her distorted epiglottis and directly upon a cicatrized spot. This remains and protrudes like a spur. Before this an attack of pneumonia, and later an attack of pleurisy occurred, from which recovery was complete. No other throat affections save those noted have presented in all these years. Her life history has been that she has been twice married. Her first husband died of endocarditis. She has been pregnant twelve times and aborted seven. The abortions all were due to causes referable to the uterus. The children that were born were normal in every respect. Her skin and body were carefully examined from time to time. Her teeth were singularly perfect, nor has there appeared any diseased state of the eyes, ears, or scalp. No mercurials or iodides have ever been given or required. In the month of February, 1896, she began to cough and failed rapidly. Tubercle bacilli were found in large numbers, and cavities at the apices of both lungs. Under creosote and rest she improved sufficiently to go to Sullivan County, N. Y., on April 15, 1897. From time to time there appears over the right temple a lupus eruption, sometimes very red and at others almost gone."

The writer quoted from the literature of the subject, calling especial attention to the statements made that primary lupus of the larynx does not exist. The literature, however, contains fourteen other cases besides the ones here presented. These cases are all reported by competent observers, one of whom states that lupus may originate as a primary deposit in the mucous membrane without any external disease whatever. This is now established beyond all doubt. It was also shown that lupus is dependent upon the tubercle bacillus for its origin.

"The most important point is the question of diagnosis. Lupus must be differentiated from tuberculosis, syphilis, carcinoma, and leprosy.

"Symptoms: Primary lupus produces no symptoms for a long time, often occasions no inconvenience, no fever, only after a time and frequently after a long time the voice becomes husky, and sometimes dyspnœa may occur, and these bring the patients under observation; hence Marty truthfully said that lupus of the larynx must often be divined. The glands may or may not be involved. Clinically speaking, the pri-

mary disease resembles the secondary in appearance. There are four processes in this affection: The mucous membrane is pale, it is œdematous, there is ulceration, and cicatrices form. These may all be present at the same time.

"The course of the disease is chronic, without fever, a cure may be spontaneous, and often the disease reappears in the scar. The course of the disease may be rapid. Death ensues from complications, rarely from œdema of the glottis.

"Prognosis is good as far as temporary recovery is concerned.

"In regard to the cases here presented, the most important question is that of diagnosis. In the first case there were no symptoms of a throat affection; the epiglottis presented a worm-eaten appearance, with nodules. There were no bacilli and no cough, no fever, no evidence of syphilis; and finally a subsequent cicatrization and formation of the nodule in the cicatrix led to the diagnosis of lupus.

"In the second case the main point of interest is that at the time of its presentation the diagnosis of lupus was questioned, and it was declared to be syphilis. After careful observation for sixteen years, no evidence of syphilis presented in any way. The presence of a large nodule directly on the site of the old cicatrix and the eruption on the temple so absolutely excluded syphilis that the writer believes that the original diagnosis has been amply verified."

The writer's conclusions were: 1, That primary lupus of the larynx does exist; 2, that it is a painless affection and may go on for years unnoticed; 3, that tubercle bacilli are present in small numbers, although difficult to find; 4, that its similarity to syphilis in appearance is greater than to that of tuberculosis; 5, that the absence of adhesive bands is characteristic of lupus, while they were always present in late syphilis; 6, that the prognosis as to life is reasonably good.

Dr. Swain related the history of one case. It occurred in a girl, who presented in the larynx old scar tissue, of the existence of which she was totally ignorant. Tuberculin was injected, and after each injection the scars took on a pinkish color, though there were no adverse reaction and no therapeutic benefit from the tuberculin.

Dr. Wright thought that it was difficult to draw any hard and fast line between lupus and tuberculosis. Cases seemed sometimes to run over from one to the other. Many cases at first supposed to be lupus would clear up under the iodide, thus showing their true specific nature. In one particular instance in which this was the case, a few bacilli were found in the sputa, but later the case developed tuberculosis of the lungs and larynx and ran the usual fatal course. Such cases were regarded as cases of mixed infection, but the speaker was not a believer in the truth of this theory.

A Contribution to the Study of Laryngeal Phthisis.—Dr. T. Morris Murray, of Washington, reviewed the various advances made in the treatment of this affection since the publication of a paper read by him in 1894. He called attention to the good effects of a digestive preparation called enzymol, which he had applied to the larynx for the purpose of digesting off the diseased tissue. In one instance the result had been quite remarkable. He advocated the use of creosote, which he regarded as a *sine qua non* in the therapeutics of this affection.

Dr. E. Fletcher Ingals, of Chicago, stated that he had given up the use of creosote itself, and had substituted therefor carbonate of creosote. It was much better borne than creosote, and the dose could be run up even to one drachm three times daily.

Four Cases of Sarcoma of the Nasal Cavity.—Dr. J. E. H. Nichols, of New York, reported the cases, giving the clinical histories in deail.

The following papers were read by title: "The General Health and the Upper Respiratory Organs," by Dr. J. C. Mulhall, of St. Louis; "A Case of Angioma of the Tonsil, with Recurrence of the Same Three Years after Removal," by Dr. J. H. Hartman, of Baltimore; "The Advantage of Bromide of Ethyl in Adenoid Operations," by Dr. T. Melville Hardy, of Chicago; "Surgical Treatment of Acute Inflammation of the Tonsillar and Peritonsillar Regions," by Dr. H. L. Wagner, of San Francisco.

At the executive sessions the following were elected to active fellowship: Dr. J. Payson Clark, of Boston—thesis, "Nasal Polypi;" Dr. J. Edwin Rhodes, of Chicago—thesis, "Atrophic Rhinitis;" Dr. Richard Frothingham, of New York—thesis, "Benign Retropharyngeal Tumors," with a report of cases: Dr. James E. Logan, of Kansas City—thesis, "Laryngitis Rheumatica," with a report of cases. For corresponding fellowship, Dr. H. Luc, of Paris, France.

Officers.—The annual election of officers resulted as follows: *President*, Dr. Thomas R. French, of Brooklyn; *First Vice-President*, Dr. Alexander W. McCoy, of Philadelphia; *Second Vice-President*, Dr. Herbert S. Birkett, of Montreal; *Secretary and Treasurer*, Dr. Henry L. Swain, of New Haven; *Librarian*, Dr. J. H. Bryan, of Washington.

Brooklyn was chosen as the next place of meeting. The date will be selected by the council of the association.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Wednesday, May 5th.

Enucleation of Both Eyes in a Case of Exophthalmic Goitre.—Dr. J. A. Spalding, of New York, read a paper describing "The Enucleation of Both Eyes Owing to Panophthalmitis in a Case of Exophthalmic Goitre." The case was marked by sudden onset of diplopia and dizziness, followed by protrusion, first of the left, later of the right eye also; then enlargement of the thyroid, protrusion becoming excessive; pain extreme; temperature, over 100° F.; and pulse, 120. Pus in places behind cornea, iris, and choroid. Finally enucleation. The left eye improved for a while under thyroid extract, but later the protrusion returned and the eye was finally lost. On section the eye was found to be the seat of a purulent choroiditis, with swelling of the optic disc and nerve, extending some distance back from its entrance into the eye.

Exophthalmus.—Dr. Aiken reported a case of exophthalmus which appeared to have its origin in the stage of excitement during the administration of ether for a gynæcological operation. The vision was normal with correction. There was gradual improvement of the condition during two years, not due to medication in the opinion of the patient. Dr. Aiken thought the difficulty might be due to a hemorrhage in the fourth ventricle.

Pulsating Exophthalmus.—Dr. W. H. Wilder reported three cases of this nature. In the first, one eye projected twelve millimetres in front of the other and pulsated freely; pulsation was increased by bending the head forward. The heart sounds were normal, except a slight accentuation of the second sound. It had continued over one year without change. The second was a case of Dr. Ralph Isham's, originating in a crushing injury to the head by being caught between cars. A day or two after the injury it was noticed that the right eye protruded. Diagnosis, aneurism. Ligation of the right carotid was advised and performed, with temporary relief. On the return of the symptoms the left carotid was also ligated, resulting in general

improvement. The third case was one of Dr. Beard's after a similar injury, which was accompanied by bleeding from the nose and ears, and later a watery discharge. The patient had diplopia, which afterward disappeared. A bruit could be heard over the eye and vessels of the head, which disappeared on pressure on the carotids. In these cases ligation of the common carotid promises the best results the speaker thought.

Sarcoma of the Clinoid Processes.—Dr. S. M. Burnett, of Washington, D. C., reported a case of extensive swelling between the ear and the right eye, with loss of vision in that eye, followed later by total loss of sight in the left eye, with no macroscopic change in that eye. Later, exophthalmus in both eyes, gradually increasing, with emaciation in spite of good appetite, and death. Autopsy revealed sarcoma near the clinoid processes.

Dr. J. O. Fansley had had several cases of exophthalmus, of which two had been most interesting, and one of which had already been reported to the society. The other was that of a physician, and supervened on an attempt to remove dead ethmoidal tissue, which resulted in a profuse hemorrhage, controlled by packing the nasal space. Immediately the left eye began to bulge and pulsate, and a bruit developed in the head. First the left, later the right carotid was ligated, with only temporary relief. With a return to full diet and removal of the nasal plug, the subject got well.

Chronic Pseudomembranous Conjunctivitis.—Dr. Lucien Howe, of Buffalo, N. Y., exhibited a case of chronic pseudomembranous conjunctivitis, with some remarks on the pathology and bacteriology of the affection, and offered an improvement in the classification, based on the bacteriological appearances. He would divide conjunctivitis into four classes: First, catarrhal exudate, easily removed and with no special bacterial forms; second, conjunctivitis due to staphylococcus; third, conjunctivitis due to streptococcus; fourth, that due to the Loeffler bacillus; and he would make a further subdivision between the third and fourth, which would be characterized by the presence of the diplo-streptococcus.

Dr. Myles Standish, of Boston, Mass., reported a case of diphtheritic conjunctivitis. He was always suspicious of those gray infiltrations of the cornea with comparatively little conjunctivitis. The effect of antitoxin was extremely happy, the corneal erosions leaving no leucoma. A second case, with spots like phlyctenulæ near the sclero-corneal margin, later developed infiltration of the cornea near the phlyctenulæ and threatened total necrosis corneæ, but this was averted by the use of antitoxin.

Dr. G. E. de Schweinitz, of Philadelphia, Pa., stated that he had seen a case with extensive destruction of the cornea, not clinically indicative of diphtheria, but in which the presence of the Loeffler bacillus was demonstrated and antitoxin was not used. He confirmed the conclusions of Dr. Standish.

Dr. John E. Weeks, of New York, believed that the suggestions on classification were in the right direction.

Prosthetic Operation in Cicatricial Orbit.—Dr. G. C. Harlan, of Philadelphia, Pa., reported a new operation for prosthesis in cases of cicatricial orbit. Burrowing under the cicatricial tissue, he introduces a lead wire forming a complete circle under that tissue about the orbit in the line where the retrotarsal folds should be. Having thus formed a sinus, he lays it open and places in the groove a perforated lead shell. Later a glass shell is introduced and worn with comfort, the groove thus made not closing. He exhibited the lead-wire circle and lead shell; also photographs of the lead wire in place.

Ivory Exostosis of the Orbit.—Dr. W. F. Norris, of Philadelphia, Pa., described a case of ivory exostosis of the orbit, in which there was no difference in the appearance of the optic nerves, but the vision was somewhat better in the fellow eye than in the one affected. There was diplopia only in one position, none in the primary position of the eyes. On removal the tumor proved to be a large ivory exostosis springing from the os planum of the ethmoid. Fourteen months afterward all dizziness and double vision had disappeared, but an epiphora previously existing still continued.

Dr. Robert Sattler, of Cincinnati, Ohio, made a supplementary report of a case of ivory exostosis of the orbit, he having previously reported the case to the society. Eight months later the opening showed signs of necrosed bone, and an extensive opening of the sinus and neighboring parts disclosed in a cavity another tumor as large as a pigeon's egg. This was removed, and the subsequent progress of the case was all that could be desired. He exhibited the specimen.

Intra-Ocular Tumor.—Dr. Edward Jackson, of Philadelphia, Pa., reported a unique intra-ocular tumor. The eye showed changes in iris, lens, and vitreous. By illumination with strong sunlight concentrated on the eye by a nine-inch mirror and a lens, detachment of the retina was seen and a yellowish tumor. Diagnosis, probable sarcoma of choroid. Enucleation of the eye was proposed and performed. On examining the eye hardened in formalin, he found a gray tumor imperfectly stained with any reagent; it turned the knife aside almost like bone, and was evidently partly of calcareous consistence.

Retinal Angiosarcoma.—Dr. W. B. Johnson, of Paterson, N. J., exhibited a specimen, gelatin mounted, of angiosarcoma of apparent retinal origin. The patient had something the matter with her eyes when a baby, described as inflammation of the right eye. After her first parturition the eye became prominent. Two months before being seen she had pain, swelling of the eye, and no vision. When she was first seen the area of the cornea was increased, being one-eighth inch in diameter greater than that of the fellow eye, with staphylomatous elongation of the cornea and thinning of the anterior part of the sclera. The eye was enucleated. Macroscopical and microscopical examination was reported.

Dr. Sattler asked whether the growth involved any part of the orbit, and was answered in the negative.

Dr. Weeks thought that the description was enough to cause the tumor to be called a glioma. The cells were gliomatous and the foxtail remains of the vessels were characteristic of glioma.

Dr. Lucien Howe remarked on the readiness with which small intra-ocular growths are sometimes removed, and related a case in which a small growth projecting into the anterior chamber was cut away, with very good final result.

Removal of a Foreign Body.—Dr. William Thomson, of Philadelphia, Pa., related a case of the removal of a piece of steel embedded in the crystalline lens, the lens being removed in its capsule with the steel in it. He also exhibited a foreign body removed encapsulated in a connective-tissue band in the vitreous, and which was located as to position by means of the *x*-rays, the foreign body not being visible in any other way.

Dr. William M. Sweet, of Philadelphia, Pa., demonstrated on the blackboard the method of triangulation adopted in determining the position of the foreign body.

Dr. C. A. Oliver exhibited a series of radiographs demonstrating his method of triangulation, and objected to Exner's method, as being not so practicable with the human eye as on the model.

The society re-elected the present officers for another year.

(*To be continued.*)

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SENILE TUBERCULOSIS—MEAT DIET IN GOUT—POSTERIOR BASIC MENINGITIS—HOSPITAL REFORM ASSOCIATION—ANTI-QUACKERY LEAGUE—WOMEN AND HOSPITALS—DEATH OF DR. JAMES ANDREW AND MR. J. W. TEALE—INFLUENZA AND DIPHTHERIA.

LONDON, April 30, 1897.

TUBERCULOSIS in the aged is a much graver disease than in the young. It may affect the joints or viscera, and in the former simulates for a time rheumatic or gouty affections. Later suppuration and disorganization clear up the diagnosis, but too late for interference. I find very few notices of the disease in the text-books, so that a paper read by Mr. Howland Marsh before the Medical Society on Monday, recording illustrative cases, must interest many readers. He had not seen recovery when the disease attacked a large joint in a patient over fifty-five. The treatment advised was rest, building up the general health, opening abscesses under rigid asepsis, and, when disorganization occurred, amputation. He also described cases of "subcutaneous ulceration," in which the tuberculosis spread in a horizontal plane, giving rise to extensive undermining of the skin by tuberculous granulation tissue. For this he advised free incisions and scraping.

Several fellows made remarks on the cases, and mentioned others more or less similar which had come under their notice.

Mr. Armstrong, of Buxton, then read a paper on red meat as an exclusive diet, with water at a temperature of 120° F., for the treatment of gout, of chronic gouty arthritis, recurrent renal calculi, migraine, and gouty dyspepsia. He related cases in which he had obtained excellent results from this regimen after other modes of treatment had failed. He attributed the bad effects commonly believed to be due to the ingestion of meat by gouty patients to the carbohydrates and sugar consumed. Fermentation and putrefaction were, he said, checked by his treatment, and although it was very disagreeable it should be carried out strictly under close supervision. Of course, therefore, it is only applicable to severe and difficult cases, but in these he had found it very successful.

Dr. Haig admitted that a meat diet now and then seemed to do good in gout, though the disease was really due to the uric acid ingested with meat. He assumed that the action was that of a stimulant, which provoked elimination of the acid.

Dr. Luff joined issue as to the statement that uric acid was ingested in meat, on the ground that its presence in this food has never been proved. His own researches go to show that uric acid is never a normal constituency of the blood or tissues.

Dr. Haig rejoined that if uric acid had not been demonstrated in meat, other bodies which he considered equivalent had, viz., the xanthin class.

Dr. Luff retorted that these bodies belonged to a different class, their properties and reactions differing widely.

Mr. Buxton Browne attributed the results to the exclusion of injurious articles, and said renal calculus may be cured by excluding sugar, alcohol, and starch.

Dr. Thorowgood thought the treatment corrected the flatulent dyspepsia which attacked gouty patients who indulged too freely in starchy foods.

The discussion was adjourned.

On Tuesday the adjourned discussion on Dr. Carr's paper on "Non-Tuberculous Posterior Basic Meningitis in Infants" took place at the Medico-Chirurgical Society meeting. The paper was noticed in my last letter. Dr. Barlow congratulated the author on his carefully analyzed cases and statistics, though he did not indorse his proposed etiology. He thought it probable that cases of alleged recovery from tuberculous meningitis were examples of this group. The fluid was cerebrospinal, not dropsical or inflammatory. Obstruction of the foramen of Magendie was by no means universal, and when present was probably due to inflammatory adhesions. He thought otitis media, so frequent in children, played a part in producing the disease. He mentioned a case in which the patient recovered after being tapped, and hoped early operations might be successful. Mr. Battle was also in favor of early operation. Mr. Raymond Johnson, who had operated in two of Dr. Carr's cases, thought if tapping was to be done it should be early, for in marked hydrocephalus the escape of the fluid could not be limited and convulsions set in. Drs. Lees, Moore, Church, and Abercrombie joined in the discussion, and Dr. Carr replied and said he had given up the idea that obstruction of the foramen of Magendie was the cause, since it was shown that the foramen was sometimes open.

The Hospital Reform Association held a successful meeting at Birmingham last week. Mr. Jordan Lloyd took the chair, and in his speech remarked that the time of a distinguished man ought not to be taken up by trivial cases nor by patients who could afford to pay for medical aid. He advocated also central control of charities, chiefly on the ground of economy, though it may be questioned whether this would be effected. A resolution was passed in favor of the recommendations of the association for the better regulation of the out-patient and casualty departments. The association is only six months old, but it has certainly made some impression. Dr. Honder, the founder, traced to its influence a distinct reform in one of the London hospitals. Now Birmingham has been moved, and her daily papers, which are of a very high order, are giving a good deal of space to the subject. The next move is to be a meeting at Liverpool or Manchester, which both need awakening on the subject. The plan of exciting discussion in various places seems to me a good one.

An Anti-Quackery League has been founded, and will find plenty of work in disseminating information about the frauds on the public committed by the great army of quacks. This league is not to be a doctors' organization, but is to represent the public, and persons of various callings are on the committee. That the public needs enlightenment is obvious from the manner in which advertisements of transparent frauds are found to pay. Some quacks have registered their business as companies of limited liability. This week "Mother Seigel's syrup" is offered to the confiding public for a cool million sterling, and the prospectus admits that £40,000 is enough for working the business, and the vender is to have the £960,000.

The women's journals are attempting to get up another case of oppression. The new grievance is that men have monopolized the management of hospitals. Women have done good on boards of guardians and would very likely be useful on hospital committees. The staff of the new hospital for women are all women; so are the secretaries. I am not sure about the committee. It would seem that women's hospitals should be the first to be blamed for any grievance, if it really exists, as to the exclusion of the sex. I know hospital managers who would be glad enough to retire in favor of women who would assist with money and brains.

Society papers are fluttering over the news that a sister of a lord has become a medical student, and hopes to obtain some day an appointment as a medi-

cal officer to an Indian rajah. A reasonable ambition perhaps, but not so remarkable in these days, when royal personages have entered the profession.

The death is reported of Dr. James Andrew, consulting physician to St. Bartholomew's Hospital, aged sixty-seven. He retired from practice some time ago, with the esteem of all his confrères and the gratitude of the many students he had trained during his long services at the hospital and school. He was censor of the College of Physicians, 1886–87; Lumleian lecturer, 1884; Harveian orator, 1890. Few men have been followed with more kindly feelings into their retirement, and many will feel his death as a personal loss.

Mr. John William Teale, of Scarborough, died on the 19th. He was an Oxford M.A. and F.R.C.S. Eng., and a magistrate of the town where he had long been a highly esteemed surgeon. He was seized with pneumonia during a holiday he was taking for salmon fishing, a sport of which he was an ardent follower.

Influenza and diphtheria are both on the increase in London. The fatal cases of the former registered in the last four weeks were 28, 34, 22, 37. The deaths from diphtheria rose last week to 40, being 10 above the average for that week in the last decade.

OUR PARIS LETTER.

(From our Special Correspondent.)

END OF A CAUSE CÉLÈBRE—CONDEMNATION FOR CRIMINAL ABORTION—DEMANDS FOR GOVERNMENTAL ACTION AGAINST IRREGULAR GYNÆCOLOGICAL CLINICS—OPHTHALMOLOGICAL CONGRESS—DEATH OF DR. MAISONNEUVE, ETC.

PARIS, May 1, 1897.

THE condemnation of Drs. Boisleux and de la Jarrige to five years each of penal servitude for performing criminal abortion on Miss Thomson, a fitter at Redfern's, whose death from infectious peritonitis was caused directly thereby, has had a very wholesome effect. The French public not only endorses the finding of the jury, but "doctors" having private and irregular gynæcological clinics of the kind in which Miss Thomson was killed, and I am told there are still such here, have been very forcibly shown the risks they run and the danger in which they stand. It is to be hoped that the chamber of deputies will now pass such draconian laws as will force all these clinics to abandon their nefarious traffic and oblige all private clinics to be legalized and placed under direct municipal or governmental control or supervision. The case, which was particularly flagrant and only one of a fatal series occurring in Dr. Boisleux's clinic, resulted in three deaths—those of the mother and fœtus and that of the seducer, who shot himself from remorse. Under the circumstances the sentence was a very light one. It has, however, been productive of much good in the way above mentioned, and is a step in the direction of causing the disappearance altogether of criminal abortion—an evil which is prevalent in all large cities.

The French understand the words "liberal profession" to mean exactly what they say and interpret them in their broadest sense, especially that of free education in general and as far as compatible with the medical budget and expenses. Witness the gratuitous courses at the École de Médecine.

The following additional free courses are announced: 1st. Technical and practical bacteriology and microbiology, by Dr. Latteux, chief of the histological laboratory at the Broca Hospital. This course has the advantage of being not only technical and theoretical but also essentially practical, and is destined to put students as well as practitioners in a position to carry out all the researches required in every-day medical practice, by individual exercise and repetition by themselves of all the experiments with the principal normal and pathological microbes. 2d. Gynæcology. Dr. Charles Fournel, laureate of the Faculty of Medicine and member of the Obstetrical and Gynæcological Society of Paris, will begin on April 27th a public and gratuitous course of medico-chirurgical gynæcology at the École Pratique. 3d. Ophthalmology. Dr. Kœnig is continuing his work as director and chief of the Ophthalmological Clinic in the Rue Monge.

It may be said with truth that Paris is the city of clinical work and research, and were I to attempt to list the clinics they would run well up into the hundreds. No wonder then that among so many good ones an occasional *louche* one should be found. "Louche," which really means ambiguous, has become a professional word with the French police and signifies with them loose, irregular, and shady—such clinics as the one alluded to at the beginning of this letter, into which innocent people are decoyed and operated upon for money solely. The more the better is the word with them, but operate anyhow: time is short and a dead woman more or less matters not; as for the fœtus, why, that does not count anyhow. Happily there are very few of these, even in so large a centre as Paris, and it is to be hoped that the tremendous outcry and stir that have been raised about the case in question will result in the prompt suppression of all such.

The French Society of Ophthalmology will hold its congress of 1897 at the Hôtel des Sociétés Barantes. The first sitting will take place on Monday, May 3d; the others, of which there are four, will be held respectively as follows: Tuesday, May 4th, at 8 o'clock in the morning, business sitting at 11 A.M.; third sitting Wednesday, May 5th, at 8 A.M.; fourth sitting at two o'clock the same afternoon; fifth and final sitting on Thursday morning, May 6th. Professor Panas, of Paris, will read a report on the "The Rôle of Autoinfection in Ocular Affections;" Dr. Fage, of Amiens, will read a paper on "Rupture of the Choroid;" Dr. Terson, of Toulouse, on the third day will present the most important report of the congress, that made in the name of the committee on the proposition formulated at the last session by Dr. Lucien Howe and adopted by the society: "Is it desirable to propose to the government to make a law for the prevention of blindness resulting from ophthalmia in the newborn and what is the best form for such a law?" Dr. Bull, of Paris, will be heard at the fourth sitting on "The Value of the Ophthalmometer from a Practical Point of View." On the fifth day Dr. Teillais, of Nantes, will make a communication on "Sarcoma of the Orbit."

The congress will listen to sixty-four reports and papers during its session, and there will also be an exposition of instruments, apparatus, dressings, and appliances used in ophthalmic surgery, optics, and electro-therapeutics. It is to be an up-to-date congress, and the large volume that its proceedings will make will be a valuable and standard book of reference in ophthalmological literature and practice.

Calcareous and sandy formations in the different parts of the body, but more especially in the appendix and intestines, occupy the professional mind just now as much if not more than other matters. Thus, at a recent meeting of the Société Médicale des Hôpitaux, Dr. Mathieu presented a sample of intestinal sand, obtained from a man affected with simple constipation and in whose case there was no muco-membranous enteritis. This sand, mixed in the fæcal matter, had been expelled, accompanied by lively pains, simulating those of appendicular colic.

One of the surgical celebrities of the second empire

has just passed away in the person of Dr. Maisonneuve, founder of the French Society of Surgery, the last meeting of which adjourned in honor of his memory as soon as the announcement of his death was made. Dr. Maisonneuve spent the last few years of his life at his native town, remote from Paris, and seemed to have been entirely forgotten. He was a brilliant and daring operator in his day, and was best known through his urethrotome and his advocacy of *écrasement linéaire*.

"EXPENSIVE SANITATION."

To the Editor of the Medical Record.

Sir: My attention was called to a letter signed "A. B. C.," entitled "Expensive Sanitation," in the issue of your paper of the 8th inst.

The writer of this letter does not intend to convey the idea that the facts there stated are based upon his own knowledge, but upon alleged information obtained from a morning newspaper.

It is untrue that it will require ten million dollars in bonds to be issued by the city for payment of damages to owners of rear tenement houses which have been condemned by order of the board of health. Condemnation proceedings are instituted pursuant to chapter 567 of the laws of 1895, as amended by chapter 37 of the laws of 1897, and re-enacted by the charter of the Greater New York, known as sections 1,315 and 1,316.

It has been the policy of the board of health since the adoption of these laws not to condemn rear tenement houses unless the facts show that the premises are unfit for human habitation and are not reasonably capable of being made fit for human habitation, and by the provisions of section 3 of the foregoing law it is provided that the compensation to the owners shall be the value of the materials of the buildings.

Seven rear buildings have thus far been taken by the board of health, at a total cost to the city of $1,078, or an average cost per building of $154.

The owners of eleven rear buildings voluntarily removed them, after proceedings were instituted under the law, and received no compensation from the city authorities.

Henry Steinert,
Attorney and Counsel to Board of Health.

New York, May 10, 1897.

"TRANSITORY DISTURBANCES OF CONSCIOUSNESS IN THEIR MEDICO-LEGAL ASPECTS."

To the Editor of the Medical Record.

Sir: In his able paper on "Transitory Disturbances of Consciousness in their Medico-Legal Aspects," published in your number for April 24th, Dr. Hirsch gives an importance to the simulation of unconsciousness by criminals at the time of the commission of their crimes which seems to me unwarranted. It is common, indeed, for those whose motives have been criminal, to deny such consciousness and all memory of their criminal act, just as they deny the act itself whenever there can be the least doubt of the fact. But this denial can have only the slightest value in determining the mental condition of the accused. The consciousness and memory of others are so far beyond our reach that the lowest grade of cunning is often sufficient to baffle the shrewdest expert upon this point. I cannot agree then with the learned writer, that "the psychiatrical expert should be able to give a definite answer to the question of insanity" through an inquiry into the fact of simulation.

The fact of delirium has, however, its objective tests, which appear in the words, looks, and actions. For myself, a large experience in the examination of those who have attempted to commit homicide, suicide, and other crimes has convinced me that most of these persons remember more or less perfectly the feelings and impulses which led up to their crime, and were conscious when it was committed. The primary question, then, in these cases is as to the existence of delirium. In that delirium which precedes or follows epileptic seizures, and which has strongly marked features of its own, there can be no doubt of unconsciousness and irresponsibility. But we must often go beyond the simple fact of delirium to find the tests of a medico-legal insanity. Intoxication and other causes may induce a temporary delirium, but when this has been brought on by the voluntary act of the criminal the law does not admit it as an excuse for his crime. On the other hand, when delirium is due to causes beyond the volition of the subject, the law will excuse him from responsibility for crime committed under its influence.

In the recent case of Maria Barberi it was impossible either to affirm or to deny the theory of epileptic insanity upon any scientific grounds. It is plain, indeed, that neither judge nor jury gave any weight to this theory upon her trial. But that she was delirious at the time of the homicide, and that this delirium was produced by an intense feeling of shame and despair in view of her ruin was a probable conclusion. It was due then, in fact, to the base and criminal passion of her seducer, and she could not be held responsible for the homicide which proceeded from it. If this was indeed the ground of the jury's verdict, it seems to have had a better foundation in mental science and in common sense than if it had been based on the theory of psychical epilepsy or unconscious fury.

L. A. Tourtellot, M.D.

Utica, N. Y., May 3, 1897.

CRIMINAL ABORTION.

To the Editor of the Medical Record.

Sir: In the issue of April 10th Dr. H. P. Beirne presents an article on criminal abortion which can be criticised to some extent. In my experience with pregnant women I find many who desire abortion, but I have yet to find the individual who is capable of producing abortion on herself. I have questioned them on the subject time and again as to their method of procedure, and their answers were so plainly absurd that I did not hesitate to place these women outside the possibility of this act. 'Tis true there are many criminal abortionists, but unless they have had much information from professional sources they are of little account in that line of business.

Abortions are spoken of as being performed with great frequency and great success among the most unenlightened on this subject, but the medical profession does not find it so, even among accidental miscarriages. The physician has to use his utmost skill in the treatment of a miscarriage. How can the unprofessional be so successful in their forced abortions? I do not believe these abortions take place so frequently, because people don't know how to produce them. This talk about mothers teaching their daughters is rank nonsense, as the mother knows nothing more than what she has heard. There is but one possible method of producing abortion open to the laity, namely, by the introduction of a sound into the uterus, and I'll defy the vast majority of women to accomplish it. Dr. Beirne speaks of a medicine to bring women around. The doctor may know of such a medicine, but I'll challenge him to the world that he can't name it or obtain it. It has never existed. The life and soul of the im-

pregnated ovum are not at the mercy of any mother. They are beyond her reach, and within the reach only of physicians and criminal abortionists, who must have received previous instruction from professional sources.

T. F. CONNOLLY, M.D.

WATERTOWN, N. Y., April 29, 1897.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 15, 1897:

	Cases.	Deaths.
Tuberculosis	168	89
Typhoid fever	13	1
Scarlet fever	192	14
Cerebro-spinal meningitis	1	8
Measles	303	10
Diphtheria	281	37
Laryngeal diphtheria (croup)	10	10
Small-pox	2	1
Chicken-pox	25	1
Leprosy	1	0

Ray to the Rescue.—An English lady in making a cake lost her diamond ring in the dough, but did not discover the loss until the baking was complete. Rather than sacrifice her production or run the risk of having a guest swallow the ring, she sent the cake to an *x*-ray studio. The ring being located by the shadowgraph without spoiling the form of the cake, extraction was readily accomplished.

Transposition of the Viscera, with a Tricelian Heart.—Jellett (*Lancet*, March 27, 1897, p. 878) reports the case of a newborn child that he found in an asphyxiated condition, respiring feebly, with a weak and irregular heart and the face and body cyanosed. Schultze's method of artificial respiration was instituted, hot baths were given, and the lips and mouth rubbed with whiskey. Upon feeling for the heart in the usual manner, *i.e.*, by pressing the fingers upward under the ribs a little to the left of the middle line, pulsation could not be felt, owing to the presence of what was supposed to be a greatly enlarged liver. Upon palpating the abdomen on the right side, to determine the size of the liver, the fingers could be pressed upward beneath the ribs, and the pulsation of the heart was felt to the right of the middle line. All attempts at revival failed, and the child died in the course of ten minutes. Upon post-mortem examination, in addition to complete transposition of the viscera—the position of lungs, heart, liver, stomach, and spleen being reversed—the heart was found to be almost twice the normal size, and when opened it was found to possess but three cavities, two auricles which opened into a common ventricle.

Suicide by Auto-Extirpation of the Larynx.—The remarkable case is recorded by Szigeti (*Vierteljahr. f. gerichtl. Med.*, 1896, H. 4; *Wien. med. Wochenschr.*, April 10, 1897, p. 680) of a woman, forty-two years old, who committed suicide by extirpating her larynx. She was found dying on the floor of a bathing compartment, with her larynx lying in a pool of blood near by. Death took place eight or nine hours later, amid symptoms of cerebral anæmia. The woman had taken a sharp table knife in her right hand, had extended her neck strongly backward, and with numerous incisions from left to right had opened the neck between the hyoid bone and the thyroid cartilage. She probably next grasped the larynx with her left hand and cut it out. An incised wound was present upon the dorsal aspect of the third phalanx of the middle finger of the left hand. The soles of both feet were bloody, so that it is probable that the woman walked a few steps after completing her act of destruction.

Prophylaxis of the Puerperium.—Dr. Puls (*Annals of Gynæcology and Pædiatrics*, January) concludes: 1. Puerperal septicæmia is the result of contact infection. 2. Subjective antisepsis prevents infection. 3. Objective antisepsis should be practised only in cases of operative interference, but the prophylactic vaginal douche is not a safeguard against infection; the vaginal surfaces must be cleansed similarly as before a gynæcologic operation. 4. The secundines must be delivered *in toto*, since the health of the lying-in depends upon a complete evacuation of the uterine cavity and a further source of infection is wanting in the absence of placental or membranous remnants. 5. A normal lying-in period is unnecessarily tampered with by irrigating the genital tract. 6. Obstetric nurses ought never to nurse contagious diseases.

A New Diphtheria Antitoxin.—The *Archives des Sciences Biologiques*, issued by the Imperial Institute of Experimental Medicine of St. Petersburg, contains some interesting information respecting the researches carried out by Dr. Smirnow on a new method of obtaining a diphtheria antitoxin of considerable therapeutical activity. The object which Dr. Smirnow had in view was to reduce the time and the expense involved by the present method of preparing the serum, and the method which he alighted upon was the electrolysis of virulent diphtheria broth cultivations. By this means he has succeeded in obtaining an antitoxin of great power which gives excellent results even when employed in much smaller doses than those at present found necessary with the ordinary horse serum. He states that even in advanced cases of the disease the injection of from one-half to one cubic centimetre enables the animal to resist the inoculated disease without marked reaction, either general or local. It seems that the new antitoxin is itself quite innocuous, for guinea-pigs can withstand with impunity doses ten times as strong as those required for curative purposes. —*The Medical Press.*

The American Gastro-Enterological Association.—The initial meeting of this association will be held at Philadelphia, June 3d, 1897, at which the following papers are to be read: "Gastro-Intestinal Diseases as a Speciality," by A. L. Benedict, Buffalo, N. Y.; (*a*) "The Diagnosis of Gastric Carcinoma," (*b*) "The Cause of the Digestion and Absorption of Rectal Nutritive Enemas," by J. C. Hemmeter, Baltimore; "The Chemistry of Foods and their Relation to the Chemistry of Digestion," by A. P. Buchman, Fort Wayne, Ind.; "Further Remarks on Erosions of the Stomach," by Max Einhorn, New York; Clinical Histories: (*a*) "Impacted Gall Stone Simulating Cancer of the Pylorus," (*b*) "Cancer of the Colon (near Sigmoid Flexure)," by Henry L. Elsner, Syracuse, N. Y.; "Stomach Washing in Infancy and Childhood," by Henry E. Tuley, Louisville, Ky.; "The Relation of HCl Secretion to Indicanuria," by Allen A. Jones, Buffalo, N. Y.; "Atrophy of Stomach with Exhibition of Specimen," by Julius Friedenwald, Baltimore; "Some Indications and Contraindications for the Employment of Abdominal Massage in Diseases of the Stomach and Intestines," by Boardman Reed, Philadelphia; "Gastro-Enteritis Infantum," by H. Beck, New York; "Gastric Disturbances Caused by Hernia of the Linea Alba in the Epigastrium," by Charles D. Aaron, Detroit, Mich.

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Original Articles.

CONGENITAL DISLOCATION OF THE HIP-JOINT, WITH SPECIAL REFERENCE TO THE NEW NON-CUTTING OPERATION OF LORENZ. FOR REPOSITION OF SAME—PRESENTATION OF PATIENT UNDER TREATMENT.[1]

BY GEORGE R. ELLIOTT, M.D.,

INSTRUCTOR IN ORTHOPÆDIC SURGERY, NEW YORK POST-GRADUATE MEDICAL SCHOOL.

THE object of this paper is the consideration of the unbloody or non-cutting operation of Lorenz, of Vienna, for congenital dislocation of the hip-joint, with partial demonstration of the same and presentation of the patient under treatment. It may not be amiss to mention briefly the essential pathological findings of congenital dislocation of the hip, as we know them to-day.

1. Acetabulum. This is rudimentary, usually small, slightly concave or flat, triangular, with its base directed backward and upward. In very young children hyaline cartilage is found. Sometimes the acetabulum presents a convex contour that may be bone, or fat and residual ligamentum teres.

2. The upper end of the femur is atrophied, becoming markedly so as age advances. Since we have chiefly to do with the first years of life, I will confine what I have to say regarding the findings to early life. The head of the femur is small and flat. The neck is short, often reduced to a mere groove between the flattened head and trochanter, resembling the upper end of the humerus.

3. Ligamentum teres. Occasionally absent, always perishes eventually and usually as early as the fourth year.

4. Capsule. This usually hugs the head and neck like a close-fitting cap. Its anterior wall is tightly drawn over the anterior acetabular wall and is more or less adherent to it. The capsule frequently presents a purse-like constriction.

As a rule, the dislocation of the head is backward and upward. Occasionally it is dislocated forward and upward. Phelps has reported two such cases.

We come now to the main object of the paper and will deal at once with the operation for the unbloody reduction of the congenitally dislocated hip-joint.

Those of you familiar with the cutting operation of Hofa-Lorenz know that the object sought for in that operation is:

1. To bring to the level of the acetabulum the head of the thighbone dislocated upward. This is accomplished by extension kept up in bed several days prior to the operation and at the time of operation.

2. To enlarge the rudimentary acetabulum after free incision by a process of gouging.

3. To implant the head of the thigh bone into this enlarged socket.

4. To render this artificially formed joint in course of time mobile by a properly applied system of massage and gymnastics.

The unbloody operation is along the same line with certain modifications. Anatomical difficulties, however, so easy to remove with scalpel and gouge in hand, offer problems which are to be overcome in a manner now to be described.

The first step of the operation consists in the reduction or bringing the head of the dislocated thigh to the level of the acetabulum. The patient is anæsthetized to a degree of extreme muscular relaxation. If manual extension is insufficient, which is frequently the case, a band is passed around the perineum, protected by padding, and a soft band is put about the ankle. This latter band is attached to a screw-extension apparatus. The extension is now very carefully and evenly exerted. The operator grasps the muscles of the thigh with one hand while the other is kept on the dislocated joint. As the extension gradually goes on, the operator manipulates the thigh muscles, increasing their tension by intermittent pressure against the femur beneath, while with the hand upon the joint he appreciates the descent of the trochanter. The extension is stopped at the moment when the upper margin of the trochanter is at or just below the Nélaton line. While the extension goes on the pelvis on the diseased side is drawn down, causing some abduction of the thigh. This abduction is desirable to exert increased extension of the adductor muscles abnormally

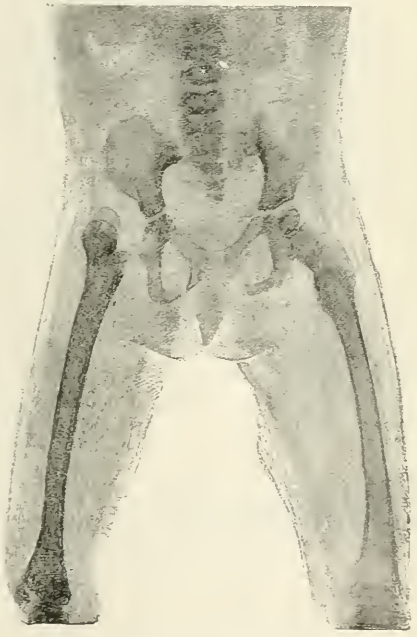

FIG. 1.—Hip-Joint of Patient prior to Operation, Showing Anatomical Peculiarities of Congenital Dislocation.

[1] Read before the New York Post-Graduate Clinical Society, April 2, 1897.

contracted. Fracture is to be avoided through care in having the extension uniformly exerted.

When we are satisfied that the head of the femur has reached the level of the acetabulum—and this is readily apparent to the touch by noting the relative position of the trochanter to the Nélaton line and to the anterior superior spine of the ilium—the extension that has taken but a few minutes is suspended, and we proceed to the second step in the operation, the wedging of the reduced head of the thighbone into the pocket of the acetabulum. This is styled reposition.

Here is the chief difficulty of the operation, due in main to the changed anatomical findings. The chief anatomical barrier is the anterior fibrous wall of the capsule hugging closely the surface of the acetabulum and rendered more taut by the extension that has just been exercised in the reduction. The acetabular

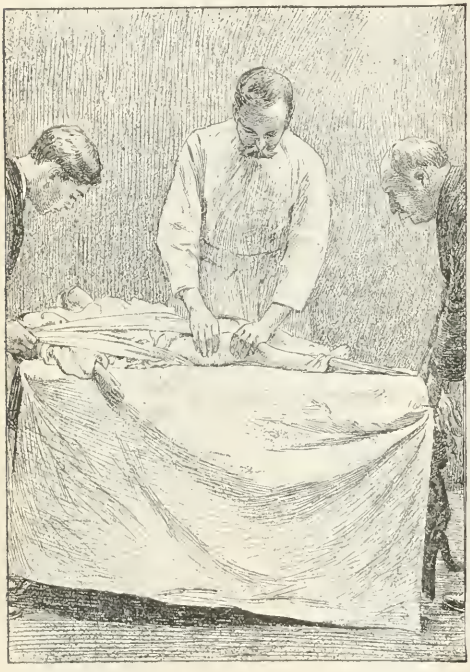

Fig. 2.—First Step, or Reduction.

space must be opened as much as possible. This is largely accomplished by flexing the leg on the thigh and the latter at right angles, which relaxes the anterior capsular wall.

The head of the femur must now be given an approximately frontal direction, thus turning it toward the hiatus of the now relaxed capsular pocket. Although the head is in the proper position to enter the acetabulum, no amount of manual force will drive it in. The operator standing on a stool seizes the thigh, flexed at a right angle to the trunk, with one hand, and, with the other grasping the head of the femur, he, by a system of extension combined with rotation and gradually increasing abduction, opens the way into the dormant-lying acetabulum pocket. When the abduction, which must be gradually exerted, has reached a considerable degree, the head of the femur, still manipulated by one hand, is felt to leap over the posterior edge of the acetabulum, and the surgeon feels at once that reposition has taken place.

Hear what the enthusiasm of Lorenz leads him to exclaim at this juncture: "This event, always expected with great tension of the mind and deep longing, is accomplished like the triumphal entrance of a princely lord through the doors of his hereditary residence from which he has been excluded for a long time, through stress of circumstances, amid the chiming of bells, the beating of drums, and firing of cannon which shakes the foundation of his castle. And yet this plaintive music of nature is for the parched ears of the operator a sound-intoxicating song of the spheres; as long, at least, as he preserves during his laborious work a receptive soul for such enjoyment." In plain Anglo-Saxon the successful reposition produces at this point a distinct noise that may be heard some little distance from the patient, but is chiefly appreciated by the operator.

Having accomplished then a real and true reposition, owing to a great disproportion between the rudimentary acetabulum and the head of the femur the reposition is not stable—a redislocation readily occurs. This takes place when you lessen the extreme abduction and the head goes back into its dislocated position. It can be reposed and dislocated at will. This I have had occasion to observe over and over again.

In the usual case, in order to retain the reposed head, it is necessary to keep the angle of abduction not far from ninety degrees. When the head is properly reposed, it can be felt anteriorly midway between the symphysis and anterior superior spine of the ilium and the hollow space so diagnostic of the difficulty is obliterated.

The third step in the operation has for its object the formation of a solid acetabulum. Only a small part of this can be done by the operator; the chief part belongs to the after-treatment. By manipulation the soft parts of the acetabular cavity may be moulded, considerable patience and strength being exercised, but the substantial changes occur gradually when the patient with properly fixed joint is allowed to go about. In order to retain the head of the bone in contact with the acetabulum and thus reawaken the process of growth so long dormant, the thigh is fixed at about an angle of ninety degrees of abduction—in favorable cases a somewhat lesser angle. The fixation is made with a plaster-of-Paris bandage carefully applied about the pelvis and extending to the knee-joint of the affected side.

The pains due to the operation subside in a day or two, and the patient is urged to walk. It is advisable to add a few inches to the shoe of the foot of the diseased side and give some support at first; but this walking about constitutes one of the most important parts of the treatment. Every step tends to drive the head of the bone deeper and deeper into the rudimentary acetabulum. Growth is reawakened, the parts are reactivated and a nearthrosis is gradually built up. Lorenz styles this part of the treatment—the loading the head of the bone with the body weight, together with the reposition, that is, the real entrance of the head of the femur into the rudimentary acetabulum—as the two chief points in the operation decidedly original with him.

It is surprising how soon these children learn to walk. If they do not learn to walk, even with support, nothing can be hoped for from the operation.

The first fixation is left on three months and then removed. If the joint is found good and the reposition stable, the patient is allowed to go about with the sole on the sound foot raised from two to four inches, so as to keep up a tendency to slight abduction in the previously dislocated member. Massage and gymnastics are advised.

As a rule, it is advisable to subject the patients to a second fixation period of three months, and here the

abduction may be markedly reduced, say, to an angle of forty-five degrees, and the sole of the healthy foot now slightly raised. In double congenital dislocation Lorenz operates upon one leg at a time, and when the stabilization of one joint is good the second operation is performed. He formerly operated upon both at one *séance*, but found walking so difficult that he abandoned it.

The operation is practically limited to young children, as a rule not to exceed seven years, preferably under four.

The little patient I present to-night is, I believe, the first reported case of this operation in this country. She is five years of age, and prior to the operation had a well-marked congenital dislocation of the right hip, presenting the usual objective symptoms. There was a three-quarter-inch shortening of the affected leg; the trochanter was markedly above the Nélaton line. A depression existed on the anterior surface of the thigh, the contour of the hip-joint was changed, the adductors were contracted, the pelvis was tilted, a compensatory scoliosis was present—in short, the classical picture of the difficulty. Some difficulty was met with in making the reposition. The adductors were so contracted that even under chloroform the thigh could not be abducted more than fifteen degrees. The extreme degree (about ninety) of abduction you now see was obtained only by exercising considerable modelling force. As the head of the femur passed over the posterior wall of the acetabulum, the sound Lorenz so enthusiastically refers to was quite marked. In performing the operation the details enumerated to you were carefully followed.

I have witnessed Professor Lorenz perform this operation in twelve cases, in all of which he succeeded in making a true reposition. I saw also the fixation splint removed from five cases that had been operated upon previously, and in four of them the joint appeared stable. In three of them, however, the second fixation was applied at a considerably reduced angle of abduction. The stabilization of the joint was so good in one case that it was not deemed necessary to apply further fixation. In one of these five cases there was considerable mobility after removal of the bandage. A second fixation splint was applied, but I believed he looked upon an ultimate good result as somewhat doubtful.

Now, a word regarding the priority of this operation. At the twenty-fifth congress of the German Association of Surgeons, held at Berlin, May, 1896, Lorenz presented four cases of congenital dislocation of the hip-joint, upon which he had operated, as he claimed, by an entirely new method. His first public allusion to this operation, I believe, was made in January of the same year before the Royal Imperial Society of Physicians at Vienna and published the following April (one year ago). Considerable discussion followed Lorenz's presentation before the German congress, and the originality of the operation was questioned, especially by Mikulicz and Schede. It was said closely to resemble the method of Paci, of Italy, described by him in 1888.

Bergmann, president of the congress, called upon Lorenz to make a demonstration the following day before that body. This was done, and it was generally agreed that a new principle in treatment had been discovered. Paci, however, in two communications to the *Berliner klinische Wochenschrift*, attempted to show the similarity of the operation to his, and attempts still further to substantiate this in communications to the *Berliner klinische Wochenschrift*, June and August, 1896. These communications have met with crushing rejoinders from Lorenz, and I do not well understand how an unbiassed mind after carefully studying the two methods can fail to see that the principles of treatment in the two operations are radically different.

In 1888 Paci described a treatment that aimed at restoration of the congenitally dislocated hip-joint. This operation is very well known. To show wherein it differs from the operation described above, it will not be out of place briefly to describe its different steps.

Paci divides his operation into four stages, which he calls tempi: 1. Flexion of leg and thigh upon the pelvis quite to the physiological limit. This, combined

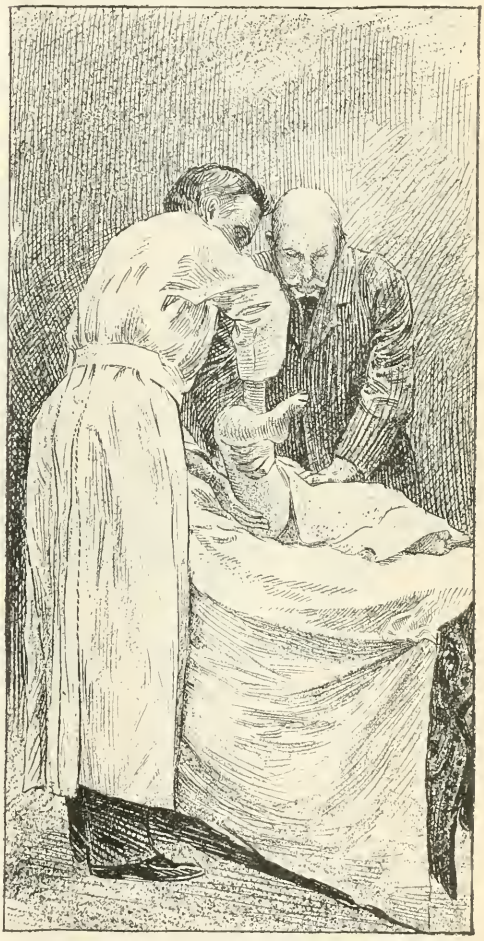

Fig. 3.—Second Step, or Reposition with Modelling of Acetabulum.

with pressure on the knee-joint, is said to bring the head of the femur out of the ext. iliac fossa to a point under the acetabulum. 2. Moderate abduction. The leg is abducted to the extent of fifteen centimetres from the lateral line of the body. 3. Outward rotation. 4. Slow extension in bed. The after-treatment consists in fixation every four weeks with slightly preserved abduction. Extension is continued three months in bed. After four months the patient walks about on crutches, and for months afterward is cautioned not to place too much weight on the disabled limb.

To use Paci's own words, he says: "The result is often excellent, because the head has occupied its natural position in the acetabulum in such a manner that we appear to have before us a true reduction. But

often the head contents itself by taking position quite in the neighborhood of the rudimentary acetabulum, or beneath the anterior iliac spine." This is as strong as he expresses himself in his reply to Lorenz, published in the *Wiener klinische Wochenschrift* for June, 1896, and with the object in view of attempting to show that Lorenz's operation was practically identical with his own.

Carefully analzying the two methods, we find but little really in common. The end product of Paci's operation is undoubtedly a nearthrosis formed in the vicinity of the rudimentary acetabulum, and not a true reposition. As has been pointed out, a reposition is absolutely impossible at the slight degree of abduction, viz., fifteen centimetres, that he makes. Any one who will make a true reposition can satisfy himself on this point. After a reposition, requiring, as it does usually, an abduction of about ninety degrees, a redislocation occurs long before the thigh reaches the fifteen centimetres limit of Paci.

This extreme degree of abduction is a *sine qua non* of a true reposition; and it is the true reposition, the actual putting the head of the femur into the rudimentary acetabulum, that Lorenz insists upon as one of the chief features of his operation. It is complete reposition or nothing. Not resulting thus, the operation is a failure. No attempt is made to establish a nearthrosis in the neighborhood. Lorenz gets the reposition and immediately loads the joint with the body weight, and usually in three months has a well-working joint. Paci, on the other hand, gets only an approximate reposition, continues his treatment over many months, and finally gets a nearthrosis in the neighborhood.

I am not prepared to deny that Paci's demonstration at the Roman congress in 1895 may not have set Lorenz thinking, but I feel quite positive that the numerous bloody operations that Lorenz has performed (two hundred and thirty up to September 25, 1896) so thoroughly familiarized him with the pathological findings that he was led to attempt a true reposition, the result being the complete treatment that he has given us. The bloody operation now so well known is surrounded by many difficulties that interfere with good results. It requires a long, careful after-treatment, that the surgeon is so prone in his busy life to neglect, and stiff joints and contractures too frequently follow. On the other hand, the treatment following the non-cutting operation is almost entirely done by the patient in walking about. While this operation is restricted rather to quite young children, yet with our rapidly increasing knowledge of diagnosis it will not be many years before the congenital difficulty in question is recognized sufficiently early by the general physician to render the operation practicable.

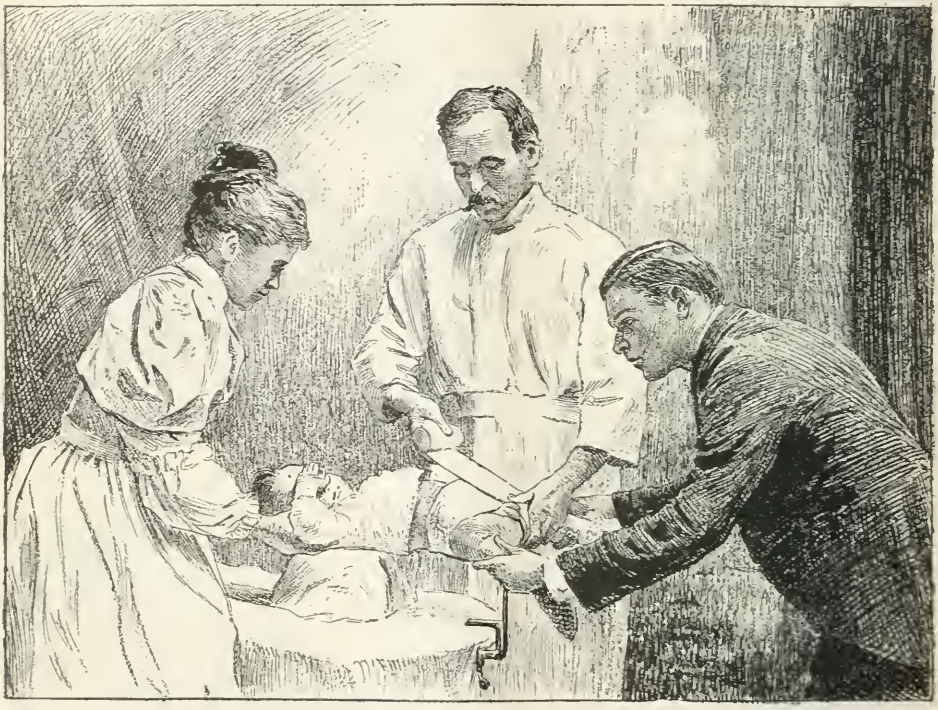

Fig. 4.—Fixation at 90° of Abduction.

This dislocation is not uncommon. Lorenz, up to September 25th of last year, in a period of about one year, had operated upon eighty-three cases. Many patients now, with our insufficient diagnostic knowledge, go travelling about from doctor to doctor, from clinic to clinic, and either a faulty diagnosis is made or the patient is told that nothing can be done.

Finally, the operation we have just considered is a real addition to surgery, and, throwing all enthusiasm aside, I feel confident that it will soon be performed with strikingly good results in all civilized parts of the world.

48 East Twenty-sixth Street.

The Lingual Tonsil should be examined in instances of hæmoptysis which are not explained by the state of the respiratory organs. — *The Laryngoscope*, No. 4.

ATAXIA IN A CHILD.[1]

By MARY PUTNAM JACOBI, M.D.,

NEW YORK.

I HAVE purposely called the case I have the honor to present to the section this evening "a case of ataxia," because this purely symptomatic title is noncommittal in regard to the precise diagnosis of the disease, and I desire to have the diagnosis I have myself made submitted to the opinion and control of the members of this section.

The family history of the patient offers tragical peculiarities. The parents are Jewish peddlers, first cousins. I have been unable, during an acquaintance extending over eight or ten years, to elicit any evidence either of syphilitic history or of tuberculous diathesis; but my information in regard to the father may easily have been imperfect. The mother has certainly been in fair health since marriage, except during a period of suffering from laceration and ulceration of the cervix uteri. This was remedied by an operation, and she has since remained well. Three children have been born in the family, all girls, and the tragic peculiarities to which I have referred lie in the fact that both the eldest and youngest child are congenital idiots, with spastic paraplegia. The eldest, aged fourteen, is now at Syracuse; the youngest is at Randall's Island. The second child is the patient, a pretty and extremely intelligent child, who until her present illness has always been in good health. She is eleven years old. This illness began in the middle of April, 1896, with severe fever, during which, as the mother put it, the child "talked very old-fashioned-like" but was not exactly delirious. On the third day there is said to have been diplopia; the neck became very stiff; the child lay flat in the bed and could not sit up, but could move all four limbs. She screamed with the violence of the pain in her head, and also complained of shooting pains all through her body. She vomited frequently. There was no eruption. After five weeks the fever left her, and then for three weeks the child lay in bed quite motionless; could not even speak, because she had no strength to move her lips, and indicated her wants by movements of the eyes and a slight grunt. During this time there was, for a week, paralysis of the rectal sphincter and involuntary evacuations, which had not occurred before. There was no other paralysis, and sphincter control returned at the end of a week. The patient was treated at home by a physician who diagnosed a cerebro-spinal meningitis. After nine weeks' illness, the patient got out of bed, and had to learn to walk; she was extremely feeble, and her head would drop forward on her chest. In three months from the beginning of the illness, she came down stairs, and tried to help her mother in sweeping and other housework. This was in August; but before the Jewish New Year in September, she suffered a relapse, beginning with shooting pains through head and trunk. These pains recurred in paroxysms, during which the patient would go to bed until the paroxysm subsided, then get up again and go about. There was no fever at this time. The neck would become stiff, also the legs, but much less so. At this time the child was sent to a hospital in Woonsocket, Rhode Island. While there she vomited constantly. After two weeks she was sent home, and the mother alleged that the doctor suggested hysteria as a cause of the vomiting.

The child remained at home until December, when she was received into the children's ward of the New York Infirmary, December 9th. She was then pale, thin, and evidently very weak. She lay flat on her back, and any attempt to move brought on pain in the head. This was most marked if the head itself were moved. There was no hyperæsthesia of the scalp to touch or to pressure. The cervical spine was somewhat stiff, and forward flexion of the neck caused pain in the cervical spine, a point painful on pressure persisting at the level of the seventh vertebra.

There was no paralysis either of limbs or of cranial nerves. The pupils were normal in appearance, contracting to accommodation but sluggishly to light. The visual field was not examined at this date, the 9th of December, but a first examination, made on January 25th, found the field much contracted, especially in its upper quadrant. A subsequent perimetric observation, taken by myself and Dr. Alice Wakefield, while the child's pupils were still somewhat dilated from atropine, showed a much larger field. A watch could be heard not farther off than a foot from the right ear, though much farther from the left.

On the first day of examination I found thermo-anæsthesia over the right side of the body, including the face, arm, and leg, while both pain and tactile sensibility were preserved, and some degree of hyperæsthesia was noticed over the same area. The test was made by means of a test tube full of very hot water, whose temperature was readily and painfully perceived on the left side, but not noticed on the right at all. This aberration of the sensibility was noticed only on a single occasion. The hamstring muscles of both legs were moderately rigid. The knee jerks were entirely absent, but at the time the fact was attributed to the rigidity of the flexor muscles, which prevented the free movement of the legs. It was also impossible to obtain the gluteal, abdominal, or epigastric reflexes. The pharyngeal reflexes were, however, perfect. At the time of admission to the hospital, the child was suffering chiefly from marked asthenia, moderate headache, persistent nausea, and slight vomiting, which at the time had no cerebral character. Attempts to sit up in bed were followed by vertigo, which increased the distress. The bowels were constipated, but the abdomen was not at all retracted. There was no fever; the pulse was normal: no meningitic streak could be obtained on the skin. For four days after admission, the patient suffered from retention of urine and needed the catheter; then the function became normal.

The diagnosis of cerebro-spinal meningitis made during the previous summer was accepted, and it was supposed that exudations formed during the acute disease were still persisting at the base of the brain. Iodide of potassium was given with the hope of facilitating reabsorption. On the 9th of December the medication was begun with a minimum dose of five grains three times a day. On December 18th a considerable improvement was noticed in the patient's headache; vertigo, nausea, and hyperæsthesia had disappeared; there was hardly any tenderness at the cervical spine to pressure or movement; the child had left the bed and was walking about the ward. The hamstring muscles were still rigid and the knee jerks then, as has been the case ever since until to-day, were absent. The iodide was increased to thirty grains a day. The child continued to improve, suffering only from constipation and occasional slight nausea, and on January 17th was dismissed feeling fairly well.

On the 18th of January the patient was brought back by her mother, complaining of still being weak and miserable, and worse than when in the hospital. It was then noticed for the first time that her gait was not simply that of weakness from a long illness, but staggering and distinctly ataxic. The feet were placed far apart; it was not possible for the child in walking to keep to a straight line; every little while she clutched at some support. She could stand for a

[1] Read before the pediatric section of the Academy of Medicine, March 11, 1897.

couple of seconds with closed eyes and feet near together and parallel, and then invariably swayed and fell over. There was no high raising of the foot nor flopping on the heel, as in locomotor ataxia. Recumbent, no ataxia was perceptible in any of the movements of the legs.

There was no morbid symptom of the upper extremities at all. The hamstring muscles were still rigid, the knee jerks absent, and there was marked diminution of electrical sensibility and contractility in the quadriceps and anterior tibial muscles of both legs. It was necessary to advance the secondary coil to eighty millimetres to obtain contraction, and with this strong current from a battery that was in perfectly good order, the child made no complaint of pain. She claimed to feel much better after the electrization. There was some relative weakness of the right leg, for she could not stand on that alone, as she could on the left, nor readily cross the right thigh over the left, while she could easily cross the left over the right.

This paresis, however slight on the right side, may possibly have been associated with the hyperæsthesia and thermo-anæsthesia which were observed limited to the right side, on one occasion, and the lessened hearing in the right ear.

Two days later, in the horsecars, the child was seized with a violent paroxysm of projectile vomiting. After this she seemed almost collapsed, her face was drawn and pinched, her limbs were numb, her legs gave way under her, so that she could not stand. The numbness was promptly relieved by faradization, and the color returned to the child's face. She began to laugh, and said gleefully: "Oh, I feel good." On the 25th, the rigidity of the hamstring muscles was entirely gone, but the knee-jerk reflexes were still absent. Faradic contractility had greatly improved, though unequally in the two legs. On the left side contractions of the quadriceps and tibialis were obtained at twenty millimetres, on the right at thirty. On the 27th, the reaction again changed; contractions were obtained on the right side with the coil at ten millimetres, on the left side at twenty—thus the reverse of the previous proportion.

On the 29th, the child was readmitted to the infirmary, suffering from asthenia, from occasional attacks of vomiting only rarely violent, from transient vertigo, and with ataxia and reflex conditions which have been sufficiently described. The temperature was 99.4° F., the pulse 90. An ophthalmoscopic examination was made for the first time, by Dr. Alice Wakefield, who discovered an optic neuro-retinitis. A second examination was subsequently most kindly made at my request by Dr. Webster, who confirmed the observation of Dr. Wakefield in every particular. Like her he noted that the condition was not one of choked disc, with an abruptly limited prominent papilla, but a descending neuritis. "The outlines of the optic discs," he writes, "are still traceable, but veiled or blurred by exudation. The discs are slightly swollen, but probably more than half this apparent swelling is due to hypermetropia. The retinal vessels are somewhat distended and slightly tortuous, the result of pressure upon the blood-vessels by exudation into the nerve substance. The same obstruction accounts for the multiplicity of the vessels running off from the discs, the smaller ones being distended so as to be of noticeable size."

The excitement of the visit and the fatigue of the examination seemed rather to exhaust the child and bring on a recurrence of the vomiting or gastric crisis, associated with pains about the head and neck, and a sensation of a fatty substance lodged in the throat. The temperature rose to 104° F., the pulse to 128. The fever subsided in the course of thirty-six hours, and in two or three days the child again seemed pretty well.

Two days ago, however, she again took to her bed, this time with a new symptom. She complained of severe shooting pains, starting from the level of the lower dorsal spine, to course along the track of the last dorsal, ilio-hypogastric, and ilio-inguinal nerves, and to be apparently disseminated all over the abdomen and at the vulva. There was no pain in any part of the trunk on pressure, except over a limited area on the right side just below the ribs and over the last dorsal nerve. The pains occurred in brief paroxysms at intervals of from ten to thirty minutes or longer, the child suddenly screaming out, and, pressing her hands over the abdomen, complaining bitterly of "pain in her belly." The temperature rose to 102° F.; the pulse was accelerated in proportion. The paroxysms seemed to point distinctly to an irritation of the posterior root zones. These pains lasted for a day, and then on the evening of March 10th subsided spontaneously. To-day, March 11th, for the first time since the child has been under observation, the knee jerks have reappeared, being even a little exaggerated.[1] It would seem as if this return were in some way associated with the spinal irritation, otherwise indicated by the shooting pains.

By isolated grouping of different symptoms in the case of this child, several different diagnoses would be suggested. I have mentioned that the physician at the Rhode Island Hospital decided in August that the vomiting, which was then the most prominent symptom, indicated an hysterical neurosis. The active intelligence and alertness of the child, her ready susceptibility to emotional impressions, and also ideas, do, indeed, suggest hysteria much more than any organic disease of the central nervous system. The same diagnosis might also be suggested by the frequent variation in the intensity of all the symptoms: by the single observation of right hemi-thermo-anæsthesia, right hemi-paresis, and diminution of hearing; by the marked diminution of electrical sensibility observed once; by the great contraction of both visual fields observed January 25th, and the greater limitation of the visual field of the right eye, which was still found by Dr. Webster on February 28th; possibly also by the contraction of the flexor muscles of the thighs, which, after persisting for some weeks, have now disappeared. The most noteworthy variation, however, is that of the knee-jerk phenomenon, which has been negative to repeated tests from December 9th till to-day: and yet this evening, after the child has suffered for several days from severe spinal pains attended by fever, the knee jerks have reappeared.[2] On the other hand, the child, though emotional, is not in the least affected or inclined to exaggerate her illness. On the contrary, she shows a pathetic eagerness to note and emphasize the least sign of improvement in her condition, and when by herself, practises trying to walk on a straight line in order to cure, as she imagines, the unsteadiness of her gait.

Further, there are no fixed hysterical stigmata; the contraction of the visual fields first observed, was largely contradicted by two subsequent observations, and was, therefore, either a transient phenomenon, or due to inaccuracy of the observation from imperfect responses of the child when questioned during the testing. It is noteworthy, however, that even at the third test the visual field of the right eye was smaller than that of the left. The persistence of the pharyngeal reflexes counts strongly against constitutional hysteria[3] and there are various positive symptoms of organic disease.

[1] This was shown at the section meeting, when, at my request, Dr. Sachs tested the patellar tendon. The reaction has continued to be manifest ever since, though it is no longer exaggerated.

[2] They remained restored on the following days.

[3] See paper by Egger (Archiv für Psychiatrie), who, in one hundred cases of undoubted hysteria, found loss of the pharyngeal reflexes in ninety-eight.

My own conclusion is that what hysterical symptoms are present are the superficial consequences of the organic disease. The ataxia, especially marked in station with closed eyes, the presence of Romberg's symptom (sluggishness of ocular light reflex with preservation of reflex to accommodation), and especially the loss of the knee jerks, which, until to-day, has seemed the most fixed symptom of the disease—conditions occurring at an age of election and in a patient with the family history of this child—strongly suggest the possibility of Friedreich's disease in its incipient stage. The seventh and eighth years, *i.e.*, the period of the second dentition, from the eleventh to the fourteenth, the period of puberty, are the most frequent epochs for the first manifestations of this hereditary disease. This child, aged eleven and one-half, is just entering upon the second period of liability. The slightness of the present ataxia, and its strict limitation to the functions of the lower extremities, might be attributed to the incipiency of the disease, which is known to be extremely variable in its rate of progress, often pausing for years at certain stages. In *The Lancet* for 1893 is given the history of two sisters and a brother out of a family of six, in whom a peculiar irregularity of walk began to develop at puberty, followed by weakness and constantly increasing ataxia, which gradually progressed to the upper extremities, and then became associated with indistinctness of speech. There was some loss of muscular sense in the legs, but no rigidity of any muscles. The knee jerks were absent in two cases, preserved in the third. The intellectual development was preserved in all, and in the brother was said to be high. At the time of the report, the patients were aged, respectively, forty-two, forty-nine, and fifty years, and enjoyed good general health. Menzel relates, in the *Archiv für Psychiatrie* for 1891, the case of a man in whom the first symptoms began in his seventeenth year, being then limited to some uncertainty and weakness of gait and ataxic unsteadiness of the hands. The symptoms did not progress further for thirteen years. The patient died at the age of forty-six.

With a march as slow as in these cases, it would be conceivable, in a case like that here presented, that the symptoms should remain at their present status for many months longer, and yet be destined ultimately to progress into the completely developed disease. The absence of the knee jerks, though said to be observed in the majority of cases of hereditary ataxia, is not universally so. I have found records of several cases in which this phenomenon persisted, and this was the case with Menzel's patient and with one of the three English patients I have cited. Finally, as has been noted in Dora, the knee jerks have just reappeared in a somewhat exaggerated form.

Contraction of the knee flexors does sometimes occur in Friedreich's disease, but late, and associated with muscular weakness and malposition. It was an early symptom in this case, and, moreover, transient, for it has now disappeared. The decisive reasons, however, for setting aside the hypothesis of hereditary ataxia in Dora Nathan's case, are: first, the origin of the present condition in an acute febrile illness with symptoms as severe as have been described; and, second, the appearance of cerebral symptoms while as yet there is not the slightest disturbance of function in the upper extremities. The most important among these cerebral symptoms is the double neuro-retinitis; but there are also headache of varying severity, vertigo, diminished ocular reflex to light, and frequent paroxysmal vomiting. The latter might be interpreted either as encephalic or as a visceral crisis, but such interpretation would not incline the diagnosis toward Friedreich's disease, for in this visceral crises do not occur.

The form of ataxia in this case is distinctly cerebellar; but, in the assumption of cerebellar disease, the prolonged absence of the knee jerks becomes a puzzling and exceptional feature. Whatever the precise nature of the lesion, it must be, at its present stage, irritative in character—should, therefore, be expected to increase the muscular tonus habitually controlled by the cerebellum, and thus be attended by an exaggeration of myotatic irritability. In eight cases of tumors of the posterior fossa, lately analyzed by Jacobsohn in the *Archiv für Psychiatrie*, the patellar reflexes were preserved in all. In six of these cases a tumor was found involving the middle lobe of the cerebellum. On the other hand, in 1892, Henry Handford reports to *Brain* a case of cerebellar tumor of the size of a large walnut, growing from the middle lobe, in which the knee jerks were completely absent on both sides. The plantar and abdominal reflexes were present, and there was a very slight ankle clonus. The author was so much puzzled by the loss of the knee jerks in this case that, although very decided symptoms indicated an intracranial tumor, he found "great difficulty," he says, in accepting this diagnosis.

A recent discussion before the Medico-Chirurgical Society of London has tended to make prominent a view long advocated by Hughlings Jackson, though not generally accepted. According to this view, muscular tone, and the tendon reactions dependent on that, are maintained by cerebellar influence, which is, normally, more or less antagonized by the influence of the cerebrum. This influence reaches the cord circuitously, by the way of the cerebrum and the pons, to which the cerebellar influence is transmitted through the superior and middle peduncles respectively. "We may note," observed Gowers in 1888, "that the path from the sensory muscle nerves, on which the myotatic irritability immediately depends, probably goes to the cerebellum, and the centripetal impressions from the muscles influence cerebellar co-ordination. The loss of muscle reflex action in cerebellar disease is to be compared with the loss of superficial reflex action in disease of the cerebral hemisphere; each is the result of an influence exerted on the spinal reflex centres."

"When," to quote Hughlings Jackson, "the influence of the cerebrum is cut off by any lesion, the unantagonized influx of cerebellar energy becomes the cause of an increased muscular tonus, of muscular rigidities, and of exaggerated tendon reflexes. Conversely, if the paths transmitting to the cerebellum the centripetal muscle impressions be cut off, the necessary stimulus to cerebellar co-ordination is lost, and with it muscular tonus and myotatic irritability."

These views of Dr. Jackson have recently been recalled to prominence in a discussion held before the Medico-Chirurgical Society of London. Cases were cited by Bastian, Bowlby, and Buzzard, in which a total transverse lesion of the dorsal cord, due to severe traumatism, fracture of the spine, was followed by flaccid paraplegia, and total loss of knee jerks. This was attributed to loss of cerebellar influence over the cord, when its centripetral paths had been completely interrupted. Similar observations were mentioned in certain cases of Potts' disease paraplegia, by Dr. Collins in a recent discussion before the New York Neurological Society.

In Handford's case, the tumor was large enough to have disintegrated the middle lobe of the cerebellum, upon which, according to Nothnagel's law, the maintenance of equilibrium exclusively depends, since ataxia is not observed unless this special part of the cerebellum be affected, by either intrinsic or adjacent disease. Ferrier,[1] as a result of experiment rather than of clinical observation, contradicts this law, saying with Luciani that in animals the effect of extirpation of the middle

[1] Brain, 1894.

lobe is not more pronounced than that of one lateral hemisphere. As the author admits in animals a much greater independence of the spinal centres than in man, it is possible that the results of his animal experiments would not apply to human beings.

However, on this hypothesis, the maintenance of muscular tonus and of equilibrium should constitute the double portions of a single function, and thus persist or fail together.

In the case now presented, if it be really due, as seems probable, to some form of cerebellar disease, the two functions are very unequally affected. The inco-ordination is relatively slight, the loss of knee jerks was for a long time complete. Gowers, in the first edition of his great treatise, admits as an anomaly difficult to explain, the occasional loss of the knee jerks in cerebellar disease. In an essay on the functions of the cerebellum, which he published in the *Neurologische Centralblatt* for 1890, the same writer observes: "There is no reason to suppose that the action of the middle lobe of the cerebellum is transmitted downward. Both paths from the spinal cord, the inferior and the lateral peduncles, conduct upward. There is no proof that any fibre from the cerebellum passes down to the cord. . . . An irritation of nerve cells in the cerebellar hemispheres is irradiated to the thalamus opticus and corpus striatum. The middle lobe has the same structure as the hemispheres, but a different function. It is a regulating centre for those centripetral impulses which have a special relation to the motor processes upon which equilibrium depends. . . . The mortor cortex has an inhibitory action on the reflex muscular centre on which the tendon phenomenon is dependent. The cerebellum has an inhibitory action on the cells of the cerebrum. . . . The knee jerk is sometimes lost in disease of the middle lobe of the cerebellum, because, owing to this, the habitual muscular tonus is defective. Similar loss in tabes is, like the coincident ataxia, the consequence of disease or interruption of the paths traversed by the ascending muscle nerves."

Thus Gowers seems substantially to adhere to the theory of Hughlings Jackson and Bastian. Ferrier, however, as late as 1894, rejects the theory—observes that abolition of the knee jerk in cerebellar disease is the exception and not the rule, and that the cerebellum or its middle lobe may be extirpated in monkeys without abolishing myotatic irritability. He refers this to the spinal centres. Ferrier admits, however, that these have more independence in the lower animals than in man, and, in regard to his first contention, it is evident that lesions which are not completely destructive must be irritative, and therefore, by the very hypothesis, should exaggerate and not abolish the knee jerks.

This consideration does not, however, remove all the difficulties in the diagnosis of the present case. If abolition of the knee jerks implies an especially destructive lesion of the cerebellar vermis, other symptoms would, we should suppose, be especially severe. A destructive lesion means a tumor of some size. The middle lobe of the cerebellum is a favorite seat for one form of tumor frequent in children. I mean, of course, tubercle. A solitary tubercle embedded in the vermis, superior or inferior, might not for a long while exercise enough pressure to excite the extremely severe headache characteristic of intracranial and especially of cerebellar tumor. The ophthalmoscopic examination does not, however, point to tumor: not a choked disc, with prominent abruptly limited papilla, but a neuro-retinitis was found, indicating rather a creeping process initiated by a basilar meningitis. Yet such a lesion, superficial in situation and irritative in character, should be expected to cause a condition of the knee jerks exactly opposite to what here obtains.

Another explanation might be found in the coincidence of a spinal lesion, a posterior sclerosis, with intracranial disease.

In the *Archiv für Psychiatrie* for 1890, Wollenberg relates a case, diagnosed as tumor of the cerebellum, on account of titubation, ataxia of the left arm, and other symptoms characteristic of intracranial growths, but in which the total loss of the tendon reflexes was held seriously to cloud the clearness of the diagnosis. The difficulty was met by assuming the coincidence of a spinal tabes. This explanation was justified by the autopsy; a tumor was found in the left hemisphere of the cerebellum, but in addition, an extensive degeneration of the columns of Goll, of the tissue intervening between them and the columns of Burdach, and also of the posterior root zones. In the discussion of this interesting case, the author does not consider the question whether there were any causal relations between the posterior spinal sclerosis and the lesion of the cerebellum, the upper station in which so large a portion of the posterior spinal tracts terminate.

The case related by Menzel, which I have already cited, shows the coincidence of cerebellar lesion and spinal sclerosis, but introduces other perplexities. The cerebellar lesion consisted of a congenital (?) atrophy. Upon this was grafted a posterior sclerosis of the spinal cord. Ataxia began at the age of seventeen, increased very slowly for thirteen years, then more rapidly, and became complicated with the usual cerebral symptoms, until the death of the patient at the age of forty-six. In this case, the paths transmitting muscular impressions and also the organ for the maintenance of muscular tonus (on the theory of Jackson and Bastian) were both defective, and yet the patellar reflexes were preserved throughout, the disease occasionally becoming exaggerated. In my own case, the spinal pains which have occurred on several occasions, and of which the patient has just suffered a severe attack, seem to indicate that the disease, whatever its precise nature, has involved the spinal meninges, or nerve-root zones, or both. A meningeal lesion extending to the cord in the form of a slight sclerosis of the posterior columns would, through this secondary condition, determine the abolition of the knee jerks, and in a temporary exacerbation would almost inevitably set up just such shooting neural pains as those from which the child has just suffered for a short time. In the acute illness of May, and also during the relapse in August, "shooting pains all through the body" constituted a prominent symptom. The return of the knee jerks at the moment of this acute exacerbation of spinal irritation might be attributed to the influence of the latter, or else to a substantial improvement in the whole condition of the patient under the influence of the medication.

It is difficult to explain all the symptoms in the case by any one lesion. Ataxia, vertigo, vomiting, and asthenia suggest a tuberculous tumor embedded in the cerebellum, the absence of severe headache and of choked disc being explained by the small size of the tumor. The absence for several months of the patellar reflexes, though unusual in cerebellar disease, is not unprecedented, but such an explanation almost necessitates the presence of a tumor of considerable size, destroying a large part of the tissue of the middle lobe. But the previously noted conditions indicate that if a tumor really exists it must be quite small. Again, the neuro-retinitis seems to indicate a basilar meningitis of some kind: but a basilar meningitis occupying the usual locality at which it affects the optic tract, namely, the interpeduncular space, should also involve some other cranial nerves, notably the third and the fourth. None of the above diagnoses suffices to explain the spinal symp-

toms, the stiffness and pain at the cervical spine which existed in December, the attacks of shooting pains which, prominent in the original febrile illness, have recurred several times since; nor the bilateral rigidity of the flexors of the knees.

Isolated patches of meningitis, with involvement of the subjacent nervous tissue, if disseminated at several points, could, however, account for all the symptoms. Such a patch over the inferior vermis, the roof of the fourth ventricle, might suffice to explain the cerebellar symptoms, while remaining too superficial to disturb the medulla, as a tumor in this locality soon does through pressure. Similarly superficial and localized patches about the optic tracts, or chiasma anterior to the nerves of the interpeduncular space, would serve to initiate the neuro-retinitis. Other patches in the spinal meninges would account for the spinal symptoms, and even, through some degree of posterior sclerosis secondarily induced, for the loss of the knee jerks. The attack of thermo-anæsthesia also belongs here. The frequent variation in the intensity of the symptoms, which has been so striking a feature of the case, could on this hypothesis be explained by variations in the vascularity of the tissues around the chronic meningo-cerebro-spinal lesions, variations in the degree of congestion, consequent irritation. Another explanation of this variability in the symptoms has been offered, namely, that it depends upon variations in fluid effused into the ventricles under the influence of the meningitis. In regard to this explanation it is important to note that the child has never shown the least sign of stupor or even dulness, such as is habitually associated with ventricular effusion.

The nature of such cerebro-spinal meningitis remains a problem—whether it be the chronic residue of an infectious cerebro-spinal meningitis, whose acute stage was traversed ten months ago; whether it be tuberculous, whether syphilitic, or whether the meningitis serosa of Beninghaus. No positive signs exist elsewhere of either syphilitic or tuberculous diathesis, and the case lacks many characteristic features of cerebro-spinal syphilis, though possessing some. The paradoxical ocular reflex resembles that observed in syphilis, but the absence of paralysis in either cranial or spinal nerves differs greatly from syphilis. The prolongation of the affection, and the almost steady improvement which has now been observed for some weeks, are opposed to any form of tuberculous disease, except possibly a solitary cerebellar tubercle, and that does not suffice to explain all the symptoms. There remains the hypothesis of residual disease from an ordinary infectious cerebro-spinal meningitis. This was the diagnosis made on first assuming charge of the case. I have felt inclined to change it on several occasions, as new phases of the disease were unfolded, but at its present stage this seems to be, on the whole, the most probable diagnosis.

At the present time the child receives twenty grains of iodide of potassium and one-twentieth grain of biniodide of mercury three times a day, and is continuing to improve.

Note.—By April 10th, just a month from the date of the above paper, the child, though delicate, seemed almost well. There was no ataxia on locomotion, and even the static ataxia with closed eyes had almost entirely disappeared. A month later, May 10th, the patient seemed quite well, and an ophthalmoscopic examination showed only some œdema of the discs.

Rebellious Neuralgia of the right arm was wholly cured, and without motor or sensory trace of the operation two years after, by intradural resection of the eighth posterior cervical root upon the right side.—CHIPAULT, *Gaz. Méd. de Paris*, February 13th.

ASTHENOPIA AS A FORERUNNER OF NEURASTHENIA.

By D. B. ST. JOHN ROOSA, M.D., LL.D.,

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It has long been known that the inability to use the eyes on near objects, without discomfort, is one of the early symptoms of locomotor ataxia. This form of asthenopia is easily recognized, if attention has once been turned to it. It depends upon irregularities in the action of the external muscles of the eye, and these in turn are dependent upon the general muscular weakness, which is one of the early symptoms of the disease. I desire carefully to distinguish what I am about to say from a discussion of the asthenopia, or, better said, the weakness of the external muscles of the eye, characteristic of grave disease of the spinal cord. I mean a well-defined asthenopia, entirely different from the paresis of locomotor ataxia—one that has all the subjective symptoms of true asthenopia, but which lacks one essential part of this condition.

The patients who are unable to use their eyes upon fine and near work, such as reading, writing, sewing, and the like, without ocular discomfort, are, in large proportion, found to have a positive error in the refraction, such as a considerable degree of hypermetropia or astigmatism, or both. On correction of this, the asthenopia is almost invariably relieved. But in the cases I am now classifying, there is no considerable error of refraction; none, at least, that of itself produces asthenopia. The greater part of the human race which is not myopic is hypermetropic. It cannot be said that a low degree of hypermetropia is, of itself, a sufficient cause of asthenopia. Just so with corneal astigmatism. Unless it reaches a diopter with the rule, or a quarter of a diopter against the rule, it does not, of itself, produce asthenopia. In addition to hypermetropia and astigmatism, presbyopia, with a considerable degree of astigmatism occurring in conjunction with it, is very often a source of true asthenopia in early middle life.

But there is a large class of people with asthenopia who consult an oculist who have, as to their refraction, a normal eye—at any rate, an eye which has no intrinsic conditions which may cause weak sight.

The cases of which I am about to write must not be confounded with those seen by every ophthalmic practitioner, in which, although there is need for glasses, and they are properly fitted, the patients are still not able to work, without asthenopia. In these instances, asthenopia occurs simply because the subjects of it are using their eyes beyond the capacity of the eyes themselves, or of their nervous or muscular system, or both. This is true asthenopia complicated with a neurotic or debilitated constitution. While writing this article I received a letter from a presbyopic patient, who has suffered from neurasthenia for some years, and who is adequately provided with glasses, but who cannot use her eyes as fully as she desires, in poring over volumes pertaining to a subject in which she is greatly interested, from morning till night, to the neglect of all proper open-air life. She asks for an eye wash that will enable her to do what she wishes to accomplish, or else she desires her glasses changed. With such cases as these we are all perfectly familiar. I am writing of people who clearly do not need any glasses whatever, and who yet cannot use their eyes.

Given a normal refraction in the two eyes, there can be no such thing as want of muscular equilibrium, except in cases of paresis. The irregular action of the muscles in locomotor ataxia is not to be classified with the so-called "muscular insufficiencies." It is a weakness of all the muscles, and varies from day to

day. It is a very different thing from the weakness of the interni seen in myopia, which is almost an invariable accompaniment of a high degree of that error of refraction.

When a patient comes to me having normal vision, a low degree of hypermetropia—that is to say, hypermetropia of from one to three diopters, and either no astigmatism at all, or half a diopter with the rule, I conclude that there must be something besides the eye which is at fault in the production of the asthenopia. Repeatedly I have found this condition of things to be the premonition of neurasthenia, or general nervous breakdown. To give such patients glasses is at the best to give them a placebo. The result of such a prescription is sometimes disastrous, since it veils the true condition and encourages them to continue to think of their eyes as the cause of all their troubles. We should be inflexible in our exact conformity to the principles laid down so clearly by the results of ophthalmoscopic and ophthalmometric investigation, and not prescribe glasses for those people in whose cases there are no scientific indications for their use. There is an idea prevalent in the mind of some general practitioners, and I fear also in that of some ophthalmologists, that there is virtue in a convex spherical glass of a low degree—in resting the eyes for distant vision, although the vision is perfect without it, and is at the best made a little less distinct with it. In my judgment no one is ever the better for glasses unless he or she sees better with them, or is much more comfortable with them. In the latter case, when the vision is not improved, there is usually facultative hypermetropia, or a low degree of astigmatism, and the patient will see as well at a distance with the glasses as without them. Even then, when the vision for the distance is perfect, I do not urge or advise such patients to wear glasses, except for the near. Careful observation on this point is of importance in the diagnosis, and in the conditions that I am writing about, for if an expert believes that glasses will be of service to a person when there are no positive indications in the eyeball itself for their use, he will often endeavor to do the impossible—that is, try to relieve a jaded nervous system by putting useless and troublesome lenses before the eyes.

In the early stages of neurasthenia the eyes are sometimes indexes of how much the general system is overworked. When the examinations result negatively, or we find that there is only myopia, which very seldom is the cause of true asthenopia—although it may be of inflammatory conditions—which prevent the eyes from being used with comfort, then we should very carefully abstain from ordering a glass, but endeavor, by the aid of a neurologist or general physician to find out what really is the trouble with such a patient. A careful search into the habits and environment of daily life will often determine this. I could multiply the instances, chiefly occurring in young men and young women, for whom the whole gamut of glasses is run in vain by those who believe strongly in the curative value of convex, cylindric, and prismatic lenses for constitutional disease, even when no error of refraction exists, until the breakdown from neurasthenia, or, in the case of women, sometimes from uterine or ovarian disease, makes the matter plain to every one except to him who is possessed with the idea that the human economy revolves around the muscular action of the eye.

Malaria also produces asthenopia, and this fact, it seems to me, is also often overlooked. In New York City it is always necessary in obscure cases of asthenopia to secure a history as to the previous or present existence of malaria. I have cured many cases of asthenopia with Warburg's tincture. In view of the fact that various maladies are often erroneously ascribed to malaria, it may be well for me to say that I do not admit the diagnosis of malaria unless there is a positive history of intermittent or remittent malarial fever. In three recent cases in which the asthenopic symptoms were relieved by antimalarial treatment, two were from notoriously infected places on Long Island, and the other from Staten Island. In the latter case excavations for a building adjacent to the residence were the cause of the outbreak. I hold that if malarial fever has once occurred in a subject, subsequent diseases are either modified by the reappearance of the malarial parasite or uncomplicated malarial disease may again arise. I am thus particular on the subject, because the general exaggeration in regard to the frequency of malarial disease sometimes leads the medical observer to forget that it may crop out again if it has once actually existed.

The point I make in what I have been saying is that whenever in a case of asthenopia the refractive conditions do not clearly justify from an optical standpoint the prescription of a pair of glasses, they should not be advised, but a thorough investigation of the whole train of symptoms should be undertaken. An incidental advantage in such a course is that the expert in ophthalmology will demonstrate to the general profession that there are rules for the prescription of glasses, and show that we do not, like an optician with a customer, change from one to the other at every new ocular symptom, or upon every whim of a nervous patient. The ophthalmologist who does this is forever floundering in a bog.

The ophthalmologist may find it interesting in this connection to recall the definitions of neurasthenia, as given by the standard writers. That of Dana[1] seems to me especially clear and comprehensive. "Neurasthenia is a morbid condition of the nervous system of which the underlying characteristics are weakness and excessive irritability. . . . Neurasthenia," he continues, "occurs most often between the ages of eighteen and thirty." Every ophthalmic observer who will refresh his memory by turning to his case books for his unsatisfactory cases of asthenopia will, I think, find that a majority of them belongs between these years, and that some of them traced the first signs of their nervous breakdown to inability to use the eyes continually.

THE TREATMENT OF LARYNGEAL TUBERCULOSIS WITH CUPRIC INTERSTITIAL CATAPHORESIS, WITH REPORT OF CASES—THE ADVANTAGES OF DIRECT LARYNGOSCOPY IN THIS METHOD.[2]

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One of the gravest diseases that demands the attention of the laryngologist is tuberculosis of the larynx. The gravity of this affection lies not only in the fact that the disease itself is intrinsically of a most serious nature, but also that it is usually a complication of pulmonary tuberculosis; the patient has, therefore, little of the vital resistance necessary to battle against the encroachment of the tuberculous disease in the larynx, this condition being aggravated by the fact that the parts are continually reinfected by the tuberculous expectorations from the lungs.

Primary laryngeal tuberculosis is exceedingly rare; in fact, many authors have even disputed its existence. Statistics, however, prove that, while it is of infrequent occurrence, it sometimes exists without disease of the

[1] Text-Book of Nervous Diseases, p. 446. New York, 1892.

[2] Read before the meeting of the Southern section of the American Laryngological, Rhinological, and Otological Society, New Orleans, March 3, 1897.

lungs that can be detected by the most scrutinizing methods of examination. *Prima facie*, it is not impossible that the tuberculous disease in the system may develop primarily in the tissues of the larynx as well as in the tissues of the lungs, although the latter, for many reasons, are the usual location for the tuberculous infection.

The treatment of this grave affection has long claimed the attention of laryngologists, especially since the means of laryngoscopic examinations have been perfected; but in the majority of cases the prognosis was so grave that but little hope of a cure has been entertained in the majority of cases. The methods of treatment, both medical and operative, are large in number, and this very fact would seem to indicate the lack of confidence in any individual method.

Heryng, of Warsaw, has advocated the treatment of tuberculous laryngitis by curettage and the application of lactic acid, and the results which he published, while the percentage of cures was small, were still more favorable than those obtained by any method previously tried. The objections to this method are that it is difficult to apply in many cases, and the reaction which follows, but more especially that the surgical removal of the diseased areas exposes the unprotected tissues to constant reinfection from the tuberculous sputum—for, as already stated, primary tuberculosis of the larynx is an extremely rare disease. Heryng does not recommend curettage for all cases, and he advises electrolysis in tuberculous laryngitis when there are hard neoplastic infiltrations of the ventricular band, especially when their extirpation with the curette is liable to be followed by a dangerous hemorrhage. He also advises electrolysis in tuberculous chorditis with or without the formation of tuberculous ulcers.

The galvano-cautery has also been recommended in this disease, and Srebrny,[1] who has treated eleven cases of tuberculous laryngitis with the galvano-cautery, reports the following results: In four cases the result was satisfactory for from one to three months, the further course of the disease being unknown. Four cases ended fatally after six and ten months. The fifth and tenth cases belonged to the most severe form of tuberculosis of the larynx and the lungs. In the first three cases there was a recurrence of the disease in the larynx. Of five cases, in the first the cure was still present two and one-half years after the operation: in the second, two years; in the third, fifteen months; in the fourth, nine months; and in the fifth, twenty months. Srebrny states that the pain after the operation is slight, as also the reaction.

In comparing the surgical and galvano-cautery treatments in this condition, Srebrny believes that the second is equally as efficacious as the first. He reaches this conclusion from the following premises: The number of operations required for the electro-cautery treatment is not greater than that required by the surgical method; the pain after the galvano-cautery applications is not marked in any case, while in two cases in which Heryng's curette was used, and in one in which Krauze's double curette was applied, the pain was quite violent. Srebrny has not seen œdema follow this application, as noted by Heryng. In the galvano-cautery treatment there is no possibility of hemorrhage when it is properly applied, while in the surgical method this takes place quite frequently—a very important point in a patient already suffering from a debilitating disease. Srebrny, however, does not advocate the electro-cautery in infiltrations of the aryepiglottic ligaments, on account of the possibility of œdema consecutive to the application. The results obtained by Srebrny are more satisfactory than those that have heretofore been obtained, but these results have not yet been corroborated by the experience of other operators.

[1] Medycyna, Nos. 2–5, 1893.

The application of the electro-cautery to the larynx requires great manipulative skill, and some of the most prominent writers have advised against its application in this region. While this is not my individual opinion, as I have frequently had satisfactory results from its use in the larynx, still I fully appreciate the difficulty attending its application.

In seeking a treatment for laryngeal tuberculosis, my desire has been to select a method which would be conservative, not especially difficult to carry out, and, if possible, applicable in all cases of this disease; it should not be painful, should be followed by little or no reaction, should be devoid of hemorrhage, and should not expose the parts to reinfection from the tuberculous expectorations.

The application of electricity for the passage of medicaments into the tissues, or cataphoresis, has received a great deal of attention in the past four or five years, and it has been practically and scientifically demonstrated that certain medicines may be carried into the tissues by the action of the galvanic current. This is due to the affinity of the poles for certain sub-

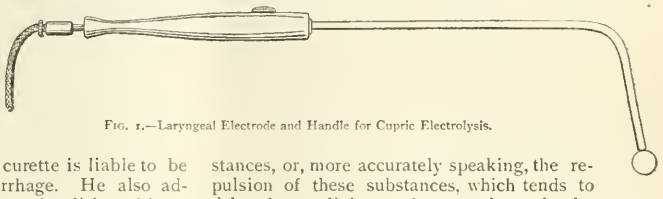

Fig. 1.—Laryngeal Electrode and Handle for Cupric Electrolysis.

stances, or, more accurately speaking, the repulsion of these substances, which tends to drive the medicine to the opposite pole, just as the positively electrified substance will repel the negatively electrified pith ball. This method has already been used for some years for the treatment of goitre in the cataphoric application of iodine, and, while the results in this treatment have not been very satisfactory, I believe this to be due not so much to the inefficiency of the iodine as to the fact that the method has not been scientifically applied.

In the treatment of laryngeal tuberculosis with cataphoresis, we have a method of saturating the diseased tissues with such medicaments as will neutralize the infectious character of the disease, and which will, at the same time, stimulate the tissues to a healthy reaction.

In my investigations with the treatment of laryngeal tuberculosis by cataphoresis, I have tried a variety of substances, especially creosote, guaiacol, iodine, chloride of zinc, and the oxychloride of copper. Creosote I abandoned after a few trials, as it proved to be too irritating to the tissues and caused too much pain and reaction after the application. Iodine I found useful, but not so efficacious as the oxychloride of copper; and guaiacol, which is really creosote deprived of its irritating properties, I found very useful and especially applicable in cases in which there was considerable pain, as its application was usually followed by marked diminution of the pain, and this effect frequently lasted twenty-four hours after the application. I therefore still make use of guaiacol when the relief of pain is the principal object. Cocaine may also be used in this connection, but its effects are too transient and the systemic effects are not well tolerated by the tuberculous patient.

In the oxychloride of copper we have a salt possessing marked germicidal properties, while exerting at the same time a stimulating effect on the pathological tissues, which is very superior to any other medica-

ment which I have used in this treatment. Its microbicidal properties are not so strong as those of the chloride of zinc, but the latter I found to be too corrosive and irritating to be recommended in this disease, although I have found it of special value in the application of cataphoresis to malignant neoplasms in this and other regions.

The method of cataphoresis is simply a development of the principle of electrolysis. When two platinum needles are passed into water and the galvanic circuit is closed, bubbles of gas will be evolved at each of the needles, the water having been decomposed, and oxygen is given off at the positive pole and hydrogen at the negative. If instead of platinum needles we use

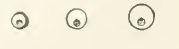

Fig. 2.—Extra Spherical Points.

iron, the nascent oxygen which is evolved at the positive pole will at once combine with the iron, forming oxide of iron, and this process will continue until all the metal in the positive needle is changed to the oxide. If copper is used, a similar result will take place, the cupric oxide taking the place of the pure copper metal.

If these needles are passed into animal tissues, the change is somewhat more complex, as we have not only the electrolysis of the water, but also of the salts and other materials forming the tissues. The decomposition will then result, in addition to the oxygen and hydrogen, in acids and alkalies, the alkalies developing with hydrogen at the negative and the acids with oxygen at the positive pole. When copper needles are used for this purpose and connected with the positive pole, the combination of the copper and acids (principally hydrochloric) will result in the formation of the oxychloride of copper. This salt, formed at the positive pole, is repelled by this pole and is driven into the tissues in its passage toward the opposite pole. Not only will this cataphoric action take place when copper needles are passed into the tissues, but also when these or other forms of electrodes are pressed against the moistened skin or mucous membrane.

The cataphoric application of oxychloride of copper has already been used in ozæna, and the results in this obstinate disease have been unusually satisfactory. In the application of this method to laryngeal tuberculosis, I found it difficult and impracticable to use the needles, not only because the movement of the larynx might cause the loosening of the needles and laceration of the tissues, but also because the punctures made by the needles opened the portals for further entry of the pathogenic microbes. I therefore selected spherical electrodes of pure copper, one-eighth to one-fourth inch in diameter, applied to the diseased areas by means of an insulated handle, and have found these efficient for the cataphoric process, and when properly applied not giving rise to pain, irritation, or reaction after the application. It is of great importance that only pure copper should be used in this method; commercial copper contains zinc in its composition, and I found this to be especially irritating in this treatment. Pure copper obtained by electrolysis is to be preferred.

The galvanic current only can be used in this method, as the faradic and alternating currents possess no cataphoric properties. Weak currents should be used at all times, and I have rarely found more than five milliamperes necessary, and have frequently used much less. A rheostat should always be used, so that the current may be admitted and reduced without pain. The copper electrode must be connected with the positive pole, and the negative pole connected with a large dispersing electrode applied to the nape of the neck.

The throat should first be sprayed with a five-per-cent. solution of cocaine or eucaine, although I have found in several of my cases that after a few applications have been made the anæsthetic was no longer necessary. The applications should be made every second day, as a rule, although the physician must be governed by the strength of the patient and other circumstances in the number and interval of the applications. These applications should be continued until the parts resume their normal condition, or until the conditions no longer justify the exertion of the patient necessary for the application.

I have found the use of direct laryngoscopy or autoscopy, as described by Kirstein, of special value in this treatment. This method, in which the laryngeal mirror is dispensed with and the tongue pressed downward and forward by means of a special depressor, and the head and body of the patient are placed in such a position that the eye of the examiner is in a line with the tracheo-laryngeal axis, is a very useful addition to the methods of our specialty. Unfortunately it is not applicable in all cases, and the irritability of the throat of most tuberculous patients makes it still less so in this class of patients. The pathological processes of laryngeal tuberculosis are usually in the posterior part of the larynx, which are the most easily seen and reached by this method, so that it very much facilitates the cataphoric method of treating this disease.

When direct laryngoscopy is used, the electrode, instead of being bent in the usual angle for the larynx, is straight with a slight downward flexion only at the end of the electrode. The applications are then made directly without the aid of the laryngeal mirror.

When the copper electrodes are applied to the tissues, the decomposition of the copper takes place, giving rise to the oxychloride of copper, which passes into the tissues toward the dispersing electrode. It is important when the applications are made that the electrode be slightly rotated or moved about, so as to avoid the adhesion of the electrodes to the tissues, which would give rise to an abrasion which it is desirable to avoid. When an adhesion has taken place, the circuit should be slowly broken with the rheostat, the current reversed by means of a polarity changer, and a light current passed in the opposite direction for a few minutes. The electrode may then be easily removed without laceration of the tissues.

The advantages which I have found in the method of applying cupric electrolysis in the treatment of laryngeal tuberculosis are as follows:

1. There is no real destruction of the tissues, and there are no lacerations of the surfaces which might form a point of entrance for new pathogenic germs for reinfection, as is the case with the method of curettage, and, to a certain extent, also with the galvano-cautery and simple electrolysis. The cure is effected by the

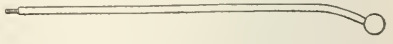

Fig. 3.—Electrode for Direct Laryngoscopy.

healthy reaction of the tissues in the same manner in which we often see specific lesions heal when the system is under the influence of mercurials.

2. In the cases which I have treated by this method there has been absolutely no reaction or hemorrhage following the application—a point of great importance with tuberculous patients.

3. This method does not demand the high degree of manipulative skill required for curettage, or for the manipulation of the electro-cautery in the larynx, and is especially simple when direct laryngoscopy can be used.

4. This method is applicable in all cases of laryngeal tuberculosis.

In concluding this communication, I will give the clinical history of three cases which I have treated by this method with satisfactory results. I have attempted this treatment in a number of other cases, but discontinued it either because the pulmonary disease was so far advanced that the efforts of the patient in undergoing the treatment were not advisable, or on account of too great irritability of the throat of the patient.

In the first case the patient suffered from tuberculous laryngitis complicating tuberculosis of the lung. There was marked infiltration of the arytenoid region, with incipient ulceration of the interarytenoid commissure. In this case the cataphoric treatment was at once instituted, and after seven applications at intervals of three days the case had improved so much that the patient was permitted to go to the mountains for the benefit of the condition of his lungs. The infiltration had very much diminished, especially over the left arytenoid, where only a small amount was still visible. After six weeks' absence the patient returned, with the tuberculous disease of the lungs much aggravated, but the laryngeal condition was but slightly changed, in that the infiltration was somewhat more noticeable, and there were no ulcerations visible in any part. The patient subsequently succumbed to tuberculosis of the lungs, but the treatment had relieved him of all the pain and irritation attending the progress of the laryngeal complication.

In the second case, also complicated by severe pulmonary tuberculosis, the tuberculous lesions were more decided in character, the ulcerations having extended over a considerable portion of the right ventricular band, and both vocal cords being involved. In this case the granulations were reduced, the ulcerations healed, and the infiltration was somewhat diminished, when the application had to be discontinued on account of the weakness of the patient, who subsequently succumbed to tuberculosis of the lungs.

The third patient had suffered for seven months from tuberculous laryngitis, but tuberculosis of the lung was either entirely absent or it could not be detected by the most careful physical examination. The sputum showed the tubercle bacilli, which were found only after repeated examinations. The patient weighed one hundred and ten pounds, was so weak that he could walk only when supported, suffered from constant irritation of the throat which gave rise to a hacking cough, and deglutition was so painful that he could swallow only with the greatest difficulty. There was no history of any specific infection, nor were there any physical evidences of such a condition. The arytenoid region was much infiltrated, with extensive ulceration of the interarytenoid fold, which extended to the left over the ventricular band. The epiglottis was tumefied with an ulceration of the left anterior portion. The anæmia, infiltration, and ulceration presented a typical image of laryngeal tuberculosis. The patient could speak only in whispers, and the pain in deglutition was so severe that he subsisted only on liquids, and even these he could now swallow only with difficulty. The patient had been treated by several physicians without success, one of whom had used antiphthisin, but with no apparent benefit. The cataphoric treatment was at once commenced, at first being applied every third day and afterward twice weekly. Improvement was noted after the third application, and after the ninth the ulcerations had healed so far that the patient could swallow semisolid food with but little pain. After the eleventh application the ulcerations had entirely healed, so that the patient could now take solid food without pain or difficulty, and he at once improved in strength and in appearance. The applications were continued twice weekly, and the infiltration gradually receded, and eight weeks later had entirely disappeared. The voice, which at first had been entirely lost, gradually improved, and at the end of the treatment was restored, only a slight huskiness persisting. His weight had advanced to one hundred and thirty-six pounds, and he was able to resume his regular business occupation. I saw this patient six months after the treatment, and his larynx showed no return of the laryngeal disease and his health was excellent.

THE CLINICAL VALUE OF GLYCOSURIA AS A SYMPTOM OF DIABETES MELLITUS.[1]

By L. C. WADSWORTH, M.D.,

NEWPORT, KY.

When asked by the committee to prepare a paper for this evening, I was somewhat at a loss to find a topic that would be of interest to you. I am sorry to say that my clinical experience with the disease I have selected, so far as the number of cases is concerned, has been limited. Hence much that I can say will be but a repetition of what has been already said by writers on the subject. The fact, however, that it is well for us to bear in mind that the margin between what is known and what is necessary to be known for the good of the patient is often a pretty wide one, tempts me to present the history of a case which probably belongs in this margin.

My observation of this case extends over a period of about six years. It is that of a man, twenty-five years of age, who discovered by accident while making some experiments in a chemical laboratory that his urine had a specific gravity of 1.040 and showed the characteristic reaction for sugar by all the tests. The consultation of an eminent physician, author, and professor of theory and practice of medicine in one of our leading colleges, resulted in a diagnosis of diabetes mellitus, and the usual treatment and prognosis. The diagnosis was made wholly upon the presence of sugar in the urine, there being no other symptom present. The fact that the case was out of the ordinary led me to search for the cause. It was found that the patient was the eldest child in a family of eleven children, of whom all were living, well, and apparently healthy, and had had no diseases except the ordinary diseases of childhood. The examination of specimens of urine from each showed a specific gravity ranging from 1.026 to 1.035, some having a slight sugar reaction, and others a typical sugar reaction. The urine of the father and mother was found to be normal, and both were in good general health. The family history on both paternal and maternal side showed an unusual proportion to have died at advanced age, and in every instance in which death had occurred it was found to have had no relation to the topic under discussion. The father died at the age of fifty-four years of enterocolitis, superinduced by an attack of grippe, after an illness of five months. The patient spoken of above excretes about thirty-two ounces in twenty-four hours, and shows a specific gravity of about 1.040. This has been as high as 1.042, and has been reduced to 1.026 by an absolute milk diet for ten days.

The quantitative tests show the urine to contain about ten per cent. of sugar, or forty-eight grains to the ounce. The patient seems to be well and healthy in every other way, except for an eczema recurring during the winter months on parts exposed to the weather, which has now about disappeared and does not seem to have any bearing upon the topic at issue. The case, as I have said, has been under observation for about six years, and I believe that it is possible for this condition to have existed for a much longer

[1] Read at a meeting of the Northern Kentucky Medical Society, February 5, 1897.

period. Repeated examinations of the urine under various treatments and diets has always shown the presence of sugar, though it can be greatly reduced in amount by the exclusion of carbohydrates, treatment having little or no effect.

Diabetes mellitus is usually recognized by the passage of a large quantity of urine containing an abnormal amount of grape sugar or glucose, usually of a high specific gravity, excessive thirst, perverted appetite, progressive emaciation, and muscular weakness. The disease runs a chronic course, and in the majority of cases terminates fatally in two or three years.

The terms glycosuria and glucosuria are used by some authors to denote diabetes mellitus. I think, however, their proper use should imply merely an abnormal amount of sugar in the urine, which may be temporary or permanent, or may recur at frequent intervals, and they characterize therefore only a symptom of diabetes and not the disease itself. The cause of the disease is still very obscure, and so far as it concerns us in the practice of medicine I may safely venture the assertion that its cause is unknown. It is consequently sometimes classed among diseases of the kidney, on account of the abnormal urine; sometimes among diseases of the liver; among diseases of the digestive system and alimentary canal; or among constitutional diseases.

In the mortality statistics of the United States census of 1880 it is classed among general diseases, along with rheumatism, cancer, and consumption. The disease was recognized by the ancients, and the books tell us that Celsus, in the first century, was probably the first clearly to describe the disease. Galen was the first, 131, to describe it under the name of diabetes. In 1674 Willis first associated the presence of sugar in the urine, which he discovered by the sweetish taste. Subsequent observers succeeded in separating the sugar, and in 1787 Rollo began the dietetic treatment of the disease by withholding vegetable food. In 1823 Gmelin found that sugar was formed by the digestion of carbohydrates. In 1835 Ambrosani demonstrated sugar in the blood. Under normal circumstances the blood always contains a slight amount of sugar, but this ingredient is not excreted by the kidney in any appreciable quantity; if it exceeds a certain limit, however, then sugar will be excreted in the urine, and we have what is known as glycosuria. The amount of sugar in the urine is comparatively slight and it soon disappears again. Its presence under these conditions does not imply any persistent abnormal condition. Excluding the possibility of diabetes mellitus in a given case, a glycosuria may be due to poisoning from various substances, among which I might mention hydrocyanic acid, mercury, amyl nitrite, curare, carbonic-acid gas, and morphine. Von Merhning has recently discovered a glucoside in the bark of the roots of cherry and apple trees, a substance which if given to animals produces sugar in the urine. Temporary glycosuria is frequently met with in acute infectious diseases—scarlet fever, diphtheria, malarial poisoning, typhoid fever, typhus fever, cholera, malignant pustule; and a far more frequent cause is disturbance of the nervous system. Thus, it may result from severe concussion of the brain, fracture of the skull, cerebro-spinal meningitis, cerebral hemorrhage, and in epileptic fits. It is especially apt to occur when there is a disease of the medulla.

This calls to mind the close connection between this clinical fact and the famous discovery of Claude Bernard, who found by experiment that when certain injuries are inflicted upon the floor of the fourth ventricle glycosuria inevitably follows. It has been claimed by some that diseases of the stomach and liver may cause glycosuria. It is, however, an interesting fact that extensive disease of the liver, as seen in phosphorus poisoning or in cirrhosis, causes no glycosuria, even when the patient's diet contains large amounts of sugar. Atrophy of the pancreas seems to have a definite relation to diabetes, as it has been found by some authors that we can produce severe diabetes in dogs by the extirpation of the pancreas. Ligature of the duct to the gland does not produce this condition. There must, therefore, be some special function of the pancreas not yet known, and when this function ceases to be performed the consumption of sugar in the animal economy is deranged.

It is difficult to determine whether all cases of diabetes are identical. In most of the typical cases this question may be answered affirmatively with little hesitation; but, considering the case that I have reported to you to-night, I must with reluctancy say that in some there is ample room for doubt; although as we shall see, the cardinal symptom, glycosuria, is and has been present in abundant quantity ever since its discovery.

In many cases of diabetes, and some of them most severe, no cause whatever can be made out. The disease seems to develop itself in persons previously perfectly healthy. Diabetes occurs everywhere, but certain countries and districts seem to be particularly liable to it; for example, India, Ceylon, and Italy, and some parts of Germany. Jews are very liable to the disease. Most cases occur in persons between thirty-five and fifty years of age. Next in liability to the disease come younger individuals, those under thirty-five years and over twenty years of age. After the fiftieth year diabetes is not very exceptional; in children under ten years it is very exceptional, although we do sometimes find such cases. Males are much more often attacked than females. With few exceptions the symptoms of diabetes come on slowly and gradually. Sometimes the symptoms are merely general and indefinite, such as languor, emaciation, weakness, and deficient endurance. Sometimes we have mild nervous disturbances, including headache, mental depression, wakefulness, neuralgia; and in still other cases gastro-intestinal disorders, including nausea, eructations, and irregularity of the bowels. In most cases the skin is remarkably dry and rough. Some authors claim to have found sugar in the perspiration. We often see a rapid loss of hair and a shedding of the nails. In a great many cases there is a great tendency to furunculosis. At last the patient's attention is called to the altered character of the urine, and particularly to its increased amount. He also notices that he is very thirsty, and that in spite of his enormous appetite he is constantly growing weaker.

I believe that according to our latest teaching, and one that is now followed by physicians, a knowledge of the abnormal condition of the urine must be established, especially the increased amount of sugar, before a positive diagnosis of diabetes mellitus can be made; and I shall therefore proceed to describe these changes as laid down in the recognized text-books on the practice of medicine. Usually the first thing that attracts attention is the increased amount of urine passed. This may vary in quantity from three quarts to three gallons. In some cases the polyuria will almost cease from time to time. In color the urine is a light yellow, proportionate in intensity to the amount. Ordinarily it is clear and without sediment; but after it has stood for some time it may become cloudy, as a result usually of the abundant development of fermentation spores. The odor may be somewhat aromatic. The taste is distinctly sweetish. The reaction is acid, and may be increased on standing, because of the lactic acid and alcoholic-fermentation process which the sugar undergoes. The specific gravity is almost invariably increased on account of the sugar present. If we find a pale urine with a specific gravity of over

1.025, we can feel almost certain that there is sugar present. The specific gravity may range from 1.025 to 1.060. In exceptional instances it is found as low as 1.020—but this is in cases in which the patient is very much debilitated and usually just before death. The diagnosis requires that sugar be found in the urine. The sugar found in the urine, and in the blood as well, is grape sugar. The amount secreted varies considerably, there being from a few grains to a pound in twenty-four hours. The amount is affected greatly by diet, mode of life, and treatment. The greatest amount ever known to be produced in twenty-four hours was two and one-fifth pounds. The percentage ranges from mere traces to ten per cent., and will be more often found to be about two to four per cent.

Of the many tests by which sugar may be detected in the urine, I will mention only four: The two copper tests (Trommer's and Fehling's), the fermentation test, and the volumetric or Whitney's test. The copper tests are based upon the deoxidizing or reducing power which grape sugar possesses for these metallic oxides, which in the presence of alkalies are converted into the lower state of oxidation or are reduced to metals. The tests for sugar should always be preceded by tests for albumin, which if present should be removed by coagulation and filtration. In making Trommer's test I wish to call attention to the fact that various organic substances besides sugar have a tendency to reduce cupric oxide at a temperature of 212° F. It is well to set aside a tube, without heating it, for from six to twenty-four hours. If sugar be present the formation of cuprous hydrate will take place at an ordinary temperature, while in other organic matters this does not usually occur.

It is also well to remember that a change of color does not indicate sugar, and that a precipitate of earthy phosphates must not be mistaken for cuprous oxide, and that other substances may deoxidize cupric oxide at a temperature of 212° F.

My favorite test preparation is Fehling's, and I overcome the disadvantage of its not keeping by having separate bottles for the cupric and tartrate solutions: I make the mixture at the time of using the test, and always boil the solution before adding the suspected urine.

The fermentation test I have used, but find disadvantages in the length of time required for its performance, the unreliability of the ferment, and the fact that small quantities of sugar evolve so little carbon dioxide that a doubt may be felt as to the presence of sugar.

The volumetric or Whitney's test is a solution of ammonium cupric sulphate, of which one drachm is decolorized by one-thirtieth grain of glucose. The solution to the amount of one drachm is placed in a test tube and heated to the boiling-point. The urine is now added, drop by drop. If no sugar is present no change will occur; but if it is, the blue color will begin to fade and finally the liquid will become perfectly colorless. By a carefully arranged table a correct quantitative estimation of sugar can be made. On account of the simplicity, accuracy, and brief period of time required in making this test, I regard it as one of our most valuable ones.

I think for all practical purposes two of the tests I have named, viz., Fehling's and Whitney's, are about all that is necessary to be used in ordinary cases.

Diabetic urine sometimes contains other varieties of sugar, which, however, are only in small amounts and are of no practical value. The amount of urea is usually increased, while, on the contrary, uric acid is decreased. The amount of phosphoric and sulphuric acids corresponds to the amount of urea; or, in other words, to the decomposition of albuminoids. Occasionally the amount of phosphates is large, and may replace the sugar in the urine. The amount of chloride of sodium excreted depends, as in health, merely upon the amount ingested.

Hallervorden discovered that in many cases the amount of ammonia is much increased, and in spite of this the urine has an acid reaction. It is therefore evident that diabetic urine, since it contains a large amount of ammonia and yet has an acid reaction, must have among its constituents some unusual acid. Hence the conclusions of recent investigations, that this acid was oxybutyric acid, which by its action formed acetone, and this substance, accumulating in the blood, produced the grave nervous derangement termed diabetic coma. Since the consensus of opinion is that sugar in the urine is the most prominent symptom in diabetes mellitus, the question of its origin plays an important rôle.

We have the assurance of one fact, viz., that the secretion of sugar depends in large part upon the amount of sugar ingested in the way of starchy foods. It can be clearly demonstrated that the amount of sugar will increase or diminish in proportion to the amount of starchy food consumed. If a diabetic patient abstains totally for a sufficient length of time from starchy foods, sugar in the urine in a great many instances will disappear altogether. This, however, will reappear when starchy foods are again ingested. Therefore it seems that the system of diabetic patients is almost incapable of oxidizing sugar into carbonic-dioxide gas and water; but, on the other hand, Kulz has proved by numerous experiments that oxidation of sugar does take place to a certain extent, and he has also found that many varieties of fruit sugars are decomposed in diabetic patients, and that their ingestion does not lead to an increase in the amount of sugar in the urine. The disturbances in metamorphosis affect other substances besides carbohydrates. The oxidation of albuminoids does not take place, but their destruction is increased. I have already stated that the amount of urea in diabetic urine is increased. Several experimenters have shown, by means of carefully conducted investigations, that this amount of increase of urea is not merely relative but is absolute. The system of a diabetic patient destroys a larger amount of albumin than does the system of a healthy person—the quality, quantity, and other conditions being the same in both cases. This, however, may not be true in some of the milder cases, but is a well-established fact in severe cases.

It is also certain that in severe cases a part of the albumin is transformed into sugar, escapes oxidation, and is excreted in the urine. This can be proven by the fact that in some cases of diabetes sugar continues to be present in the urine, although the diet is exclusively nitrogenous. Accordingly some have divided all cases of diabetes mellitus into two classes: a milder form, in which sugar ceases to be excreted when starchy foods are excluded from diet, and a severer form, in which sugar persists upon an exclusive meat diet. There are certain external influences which have a tendency to modify the excretion of sugar in diabetes. We find muscular activity wastes mainly non-nitrogenous substances, and accordingly we find in diabetes that an increase of muscular exertion, other things being equal, diminishes the amount of sugar excreted. Acute febrile diseases may cause a great diminution in the amount of sugar, but in a large proportion of cases this does not occur. Probably the altered diet plays an important part in this connection, and again the special modification of tissue metamorphosis caused by the high temperature or by the disease itself may exert some influence upon this condition.

The mysterious phenomena of diabetes mellitus present a problem the solution of which has been sought most industriously post mortem, in order that the cause might be discovered on pathological grounds,

but no satisfactory results have been attained in this way. If we exclude the organic diseases, such as tuberculosis and nephritis, which, while they are only complications, yet are usually common occurrences, the pathological changes in diabetes are trifling.

Bernard's discovery, that an injury inflicted in a certain spot on the floor of the fourth ventricle produces glycosuria in animals, has directed the attention of investigators to the condition of the nervous system in the disease. In some instances tumors, sclerosis, or similar troubles have been found in the medulla and cerebellum; but in these cases the diabetes was evidently not idiopathic. In idiopathic cases the central nervous system presents no striking macroscopic changes. By means of the microscope investigators have found lesions of the medulla in frequent instances. The minute blood-vessels are widely dilated; there are small capillary hemorrhages, some of a more recent and others of a more remote date; and occasionally the microscopic foci of myelitis. The nervous elements proper—the nerve fibres—show no changes. The liver has been naturally the object of careful examinations, because of its well-known function in the manufacture of glycogen, but thus far has not enlightened our knowledge and does not seem to have any pathological relation to the disease. No thorough investigation of the chemical composition of the blood has been made. One important characteristic of diabetes, however, is the gradually increased proportion of sugar in the blood, there being usually between one-fifth and one-half of one per cent., while in health it rarely contains over one tenth of one per cent. The lymph may contain sugar, while the saliva, perspiration, bile, and gastric juice rarely do.

I have endeavored to give you a summary of the facts pertaining to the clinical significance of the presence of sugar in the urine as a symptom of diabetes, as we are taught. I trust that I shall be excused from detailing the theories that have been advanced to explain the phenomenon of glycosuria. Basing my conclusions upon the case I have reported and four other cases which came under my observation, three of which were only temporary, I think it should be clearly understood that the presence of sugar in the urine, regardless of the amount, is not in itself sufficient to warrant a diagnosis of diabetes mellitus. I admit that glycosuria is the chief cardinal symptom that must always be present, and yet I believe there must be other equally important pathological conditions present in the kidney before the diagnosis can be established; what these are I will not attempt to say, for with our present knowledge any statement in regard to them would be only a guess. In view of the frequency of polyuria, I think it worthy of a great deal more significance than is ordinarily attached to it, for the reason that it clearly shows there are other pathological conditions present in the kidney than those which produce the abnormal secretion of sugar. Furthermore, in support of the view I have taken, I wish to call attention to the frequency of complications, viz., nephritis, tuberculosis, syphilis, and alcoholic excesses, which must in themselves be sufficient to bring about a weakened condition of the kidney and assist in paving the way to diabetes mellitus.

Soft-Rubber Goods rapidly deteriorate by the destruction of the material of which they are made. This rotting process is supposed to be due to the action of the atmosphere and moisture. We cannot keep them in a vacuum, but my Esmarch bandage, now fully eighteen years old, is still unimpaired; the result probably of always keeping it in a small, tightly closed tin can, where it has been but little exposed to atmospheric changes. PARCELLS.

Progress of Medical Science.

Epidemic Cerebro-Spinal Meningitis Due to Meningococcus Intracellularis.—Stoeltzner (*Berliner klinische Wochenschrift*, April 19, 1897, p. 333) has reported a further case of cerebro-spinal meningitis in which the meningococcus intracellularis was isolated from the spinal fluid obtained by lumbar puncture. A child, two and a half years old, was seized with symptoms that rendered the diagnosis of cerebro-spinal meningitis probable. During the progress of the attack lumbar puncture was practised, evacuating turbid fluid, in which were found pus corpuscles and meningococci intracellulares.

The Treatment of Diphtheria with the Antitoxin.—According to the report of Dr. Zuppinger, as quoted by the Vienna correspondent of *The Lancet* (April 3, 1897, p. 993), there were treated with diphtheria antitoxin in the Crown Prince Rudolf Hospital for Children, during the year 1896, 168 children, 2 of whom remained under observation at the end of the year. Of the whole number, 136 (82 per cent.) recovered, and 30 (18 per cent.) died. Eight of the children were admitted in a hopeless condition and died within twenty-four hours: 1 suffered also from tuberculous cachexia, and 1 died from pneumonia following scarlet fever. If these cases were deducted, the mortality would be reduced to 12 per cent. From 1894 to 1895 the death rate for diphtheria in this hospital fell 16 per cent., and from 1895 to 1896 it fell a further 7 per cent.

Malarial Hæmaturia.—As the result of a statistical study, a committee of the Tri-State Medical Association of Mississippi, Arkansas, and Tennessee (*Memphis Medical Monthly*, April, 1897, p. 157) finds that so-called malarial hæmaturia is a disease of the prime of life, those attacked ranging from three to sixty years of age, twenty-four being the average. No occupation seems to be exempt, the patients representing every class found in the parts of the country from which the reports were received, and in due proportion. The colored race is not entirely exempt; among fifty-seven cases, five were in colored persons. Forty-one cases occurred in males and sixteen in females. All of the cases occurred between July and March, the largest number, seventeen, occurring in October; the next, twelve, in August; the next, ten, in September; then five in November, four in December and February, three in January, one in July and March. Three of the patients were intemperate, forty-four were credited with good habits, and as to ten no statement was made concerning the mode of life. It was not found that the drinking-water was responsible for the disorder. Fifty-one cases were reported as occurring in persons who had been subject to malarial attacks for a greater or lesser length of time. In all of these the fever was of the intermittent type. Of the fifty-seven cases the onset of the hæmaturia was marked by a chill in thirty-nine, in nine by fever, and in nine no data on this point were furnished. Nausea and vomiting were present in all but three cases. The urine was reported to be of a pokeberry-juice color in twenty cases, black in twenty-five, wine color in seven, chocolate color in three, and pokeberry-juice changing to chocolate in two. Jaundice was appreciable in fifty-four cases. In thirty-six cases quinine had been certainly given before the attack; in only one case had quinine not been given. Forty-two of the cases were treated on an eliminative plan, without the use of quinine, with thirty recoveries and four deaths, the latter as a result of complications. In thirteen cases quinine was the basis of treatment, with eight recoveries and five deaths.

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THE DISPENSARY BILL.

THE strong feeling of the profession of this city manifested in the unqualified indorsement of the present dispensary bill was strikingly demonstrated at the recent meeting of the Medical Society of the County, when the committee appointed to confer with the governor made its report, and when a discussion on the propriety of the continuance of the work of the committee took the regular order of business. It is quite evident after so much ventilation of the dispensary question that medical men are practically unanimous in their condemnation of the present abominable abuse and thoroughly earnest in advocating its remedy. The fact that the governor positively declined to sign the document will strike every one acquainted with the points at issue with becoming surprise. As it is not a measure that involves any political issue, there is no seeming reason for trimming to any one-sided expediency. If his excellency is reported correctly as saying that the proposed law might interfere with the rights of citizens to give and take charity in any form, he clearly misconceives the real purposes of the act. On the contrary, the provisions of the bill, aimed at the numerous and universally admitted outrages of medical charity so openly and persistently practised in most if not all of the dispensaries, guarantee the best and most ready service to the really deserving by preventing every possible diversion in wrong directions of free medical service. The bill is in the interest of the deserving poor from the beginning to the end, and makes it possible, by restricting necessary benefits to them, to remove all doubts as to the practical aims of the proposed scheme.

In the framing of the measure every effort was made to reconcile all the avowed differences between the boards of management and the medical staffs of the different institutions by referring all matters in dispute to an impartial tribunal, the State board of medical charities. There was no reason to fear that absolute justice would not be done to all parties concerned, or that any power vested in the board would not be used with becoming discretion. Accustomed to adjudicate on all matters pertaining to the proper dispensation of public charities, it was eminently competent to balance relative claims for preference and adjust reasonable differences of opinion between managers and medical attendants. No one who was in earnest in the attempts to correct the abuses offered any tangible argument against such a compromise. With the minority, however, which was in favor of continuing the present system, the sole object was to defeat every measure, good or bad. It was hardly becoming, then, for the chief executive of a great State to dodge his true responsibility in the matter. His assumption that the enactment of such a law might interfere with the equal rights of citizens, rich and poor, who should be at liberty to take all the good they could get, was ridiculously absurd, savored only of buncombe statecraft, and was an open encouragement for the worst form of subtle pauperism. Instead of supporting proper charity, he in reality abetted its most dangerous and most pronounced abuse. The medical profession, however, will not soon forget this insult to its laudable intention of correcting one of the most flagrant evils of the times, and will not weary in its persistent efforts still to right the wrong to which it has been subjected. It is not yet done with the discussion in spite of the attitude of the governor, and we are glad to learn that the County Society continues its committee and still flies its flag.

FEES FOR TIME AND TROUBLE.

THERE are so many ways by which the professional man can be cheated of his just due for services that it becomes him to be constantly on his guard against losses. He is so often imposed upon that his clients are never backward with an excuse to dodge their legitimate obligations by every means known to the tricky lines of what is called sharp business practice. The letter of Dr. Mundé in another column calls attention to an experience which is by no means new to any man in active practice, and the result which obtained in this particular instance is not an unusual one. In times of accident and of emergency the summons for immediate medical assistance always appeals to the physician in the neighborhood, but, as in the case before us, the readiness to pay for the same is not so well pronounced. In Dr. Mundé's case the patient was dead when he arrived, although he came immediately, at much sacrifice of valuable time and to the temporary neglect of other patients in waiting. When the bill is presented, the husband of the deceased resorts to the meanest of all tricks, by contending in court that the doctor was not summoned by him. On this technicality the judge gives the defendant a non-suit. It is plain to be seen, if this ruling is to be considered as a precedent, that it will not be easy in future to indulge in hurried calls for medical aid, when the parties asking for such service are not known to the parties summoned. By the very nature of the service required, the physician never hesitates to respond at once, and the least that can be done afterward is to pay him for his time and trouble in making the visit.

Even if it be found when he arrives at the house that his services are not required, it does not in any sense relieve the patient or his family from paying for

time and the sacrifice of professional business to which the hasty and imperative call may subject the ever-willing helper. Ethically, legally, and professionally, the request to see a patient implies on the part of the one who makes it an obligation to pay for service rendered or attempted. In an emergency call with a reasonably ready response, the mere fact that the patient is dead before the arrival of the doctor does not in any way cancel the pecuniary liabilities of the situation. It matters not how many physicians are summoned, all should be paid. It is certainly not their fault when they are called too late.

EYE AND EAR DEFECTS IN SCHOLARS.

The gratifying results of the sanitary inspection of the public schools by the health board has encouraged the latter to enlarge its sphere of usefulness in the direction of the ophthalmological examination of the scholars. The object is to accommodate visual defects by properly seating the pupils in the classrooms and by the proper distribution and direction of light in mitigating eyestrain. Commissioner Fowler very consistently advocates the measure, in which he is seconded by the president of the health board. There is no doubt of its necessity. Many of the schoolrooms are improperly lighted, and the pupils are placed without regard to any supposed visual defect and must necessarily be denied the usual opportunities for proper education through the various methods of ocular demonstration. It is to be hoped that the board of education will act in harmony with the health authorities in mitigating an evil to which attention has been often drawn, and thus place every scholar on an equal footing as to the advantages to be derived from the otherwise most excellent public-school system. While considering this part of the subject, another of equal importance will suggest itself—that of examination of the many defects of hearing to which school children are notoriously subjected. The placing of such pupils as may be hard of hearing within easy range of the teacher's voice may demonstrate in a very satisfactory way the difference between real and apparent stupidity. Certainly both are very reasonable means to very desirable ends.

COLLEGE ATHLETICS.

It is an encouraging sign of the times that one president of a college in the West has the temerity to inveigh against the present fad of college athletics, not that exercise judiciously taken is not conducive to the health of the student, but that the prevalent games are altogether unnecessary to that end and are distinctly brutal in their tendencies. While admitting that there is a strong temptation in the view of the public applause at such exhibitions to excel in rough-and-tumble struggles for the ball, to strain wind and muscle in the boat race, and to test endurance to the utmost in running-matches, there is a decent medium in such endeavors which invites serious consideration. The accidents and deaths from football alone outweigh all the good that can be claimed for the so-called sport as a safe and healthful one. The self-reliance and hustle which come with the discipline of opposition is replaced by the determination to win at all hazards. In the excitement of the moment all self-control appears to be lost in the fierce determination to worst the antagonist. The reputation of the college appears to rest more on the quantity of muscle than of brains There are more hurrahs for the begrimed football champion than there is applause for the relatively obscure student who honestly wins the prize for Greek or mathematics. In such a respect the colleges are certainly falling off from their former standard as institutions of pure learning. The education is at the wrong end—skill with the feet is taking the place of work with the brain. We are aware that it is claimed that the athletes are generally the best students, but, even granting the assumption, it is just as true that they are such in spite of their muscle.

There is no doubt also that the colleges, in view of notoriety gained by the public exhibitions of football, rowing-matches, and the like, covertly wink at the performances of the strong boys, at the same time pretending to frown upon the usual demonstrations of the inevitable brutality. Hence it is gratifying to know that one college through its president is bold enough to denounce the whole thing, even at the risk of his institution suffering therefrom in public estimation.

News of the Week.

The New York University-Bellevue Hospital Medical College has certainly a great name, but whether fame and happiness will come with it we cannot foretell. If current report is true, the union of the two colleges was brought about in a way that does not augur well for the future *The Post-Graduate* says, concerning the methods used to effect the consolidation of the schools, that it is "informed that the whole negotiations up to the consummation by the regents of the University of the State were carried on by representatives of the Bellevue College and the council of the university, while the faculty of the medical school were kept in the dark until the last moment. At any rate, the professor of practice in the university has resigned, and there is an air of discontent pervading the medical circles of the south side of East Twenty-sixth Street. The Bellevue College faculty are now credited with being masters of the situation, having fastened their name on the combined college, and provided for their future at a time when such a provision was generally supposed to be imperative." We trust our esteemed contemporary has so far forgiven if not forgotten the past that there is no chuckle deep down below these lines.

The Late Dr. Ros.—The medical board of the Woman's Hospital records with deep sorrow the death of Dr. Leoncio Ros, one of the senior assistant house surgeons, whose career has been suddenly ended by an accident which destroyed his life while in the performance of the duties incident to his position. Dr.

Ros served the hospital with great faithfulness and most conscientiously. He had earned the respect and confidence of his associates. His attractive personal qualities and his devotion to his profession already augured well for a brilliant future. We desire to extend to the members of Dr. Ros' family our sympathy in this sad bereavement. It is ordered that a copy of this minute be sent to his family, and also that this minute be published in the New York MEDICAL RECORD and the *New York Medical Journal*. May 18, 1897. (Signed) T. Gaillard Thomas, M.D.; Thomas Addis Emmet, M.D.; Henry D. Nicoll, M.D.; Clement Cleveland, M.D.; Bache Emmet, M.D.; Horace Tracy Hanks, M.D., secretary of the medical board.

Errata.—Dr. A. B. Bonar writes: "Will you kindly make the following corrections of typographical errors? 'Hyperæsthesia' should read 'hypæsthesia' in line five, second column, page 722; also in line nine from the bottom of the first column, and in line five from the top of the second column of page 723. As hypæsthesia is exactly the opposite of hyperæsthesia in meaning, these typographical errors change the meaning of the sentences greatly. Also on page 724 in the fourth line from the last of Case V., 'are' should be 'is.' This is, however, unimportant."

Greene County (N. Y.) Medical Society.—The annual meeting of this society was held at Cairo, Tuesday, May 11th. The retiring president, Dr. E. H. Merriam, of Coxsackie, delivered his address "On the Natural Course of Disease." The following officers were elected: *President*, Dr. F. R. Searles, of Catskill; *Vice-President*, Dr. H. E. Lomax, of New Baltimore; *Treasurer*, Dr. C. E. Willard, of Catskill; *Secretary*, Dr. W. C. Wright, of Leeds. Dr. C. H. Chubb, of Palenville, was elected delegate to the American Medical Association.

New York's Loyalty to the American Medical Association.—If the managers of the American Medical Association doubt, as they sometimes appear to do, the deep and absorbing interest taken in the approaching semi-centennial meeting by New York physicians and journals, we would respectfully refer them to the Montreal correspondent of *The Lancet*. This unusually well informed, we might almost say inspired individual says, regarding the meeting of the British Medical Association, that "the committee on invitations has been rather surprised at the number of possible American visitors to the meeting, and a note of warning has been uttered that this is not a pan-medical congress. Some New York journals, fearing the effect of the Montreal meeting on the Philadelphia meeting of the American Medical Association, have flatly stated that they hope no American physicians will attend the British Medical Association unless as the invited representatives of some society or association." We trust that now certain captious critics, who accused the MEDICAL RECORD of anglophobia, will recognize the true motive which impelled us to warn our readers against going to Montreal unless they were invited.

The American Medico-Psychological Association has just concluded in Baltimore its fifty-third session after a very successful meeting. A number of interesting papers were read and much business was transacted, the most important of which was the report by Dr. Edward N. Brush, superintendent of the Sheppard Asylum, on a new law in regard to the commitment of the insane. The chief features of the law are those requiring petitions for the commitment of insane persons to be made to a judge of a court of record, who shall thereupon appoint two competent physicians, possessing certain qualifications set forth in the bill, to examine the patient. If they return a verdict of insanity, this must be approved by the court, which shall then issue the commitment. Friends and relatives of the patient, however, in urgent cases, may send him to an institution pending these proceedings, under a certificate of examination dated not more than twenty days prior to the application for admission, and this certificate must be approved, in order to retain the patient in the institution, within five days by the judge of the circuit court of the county or of the criminal court of the city before which the petition is pending. This somewhat resembles the law in New York. The officers of the association who were elected were: *President*, Dr. R. M. Bucke, Ontario, Canada; *Vice-President*, Dr. Henry M. Hurd, superintendent of the Johns Hopkins Hospital; *Secretary and Treasurer*, Dr. C. P. Burr, Flint, Mich.; *Auditors*, Dr. P. L. Murphy, North Carolina; and Dr. S. B. Lyon, New York, and *Councillors* for the term of three years, Dr. J. T. Searcy, Alabama; Dr. J. W. Burgess, Montreal, Canada; Dr. F. C. Hoyt, Clarinda, Ia.; and Dr. H. C. Eyman, Ohio. The election of a board of editors for the *Journal of Insanity* resulted in the choice of Dr. Henry M. Hurd, of the Johns Hopkins Hospital as president of the board and editor-in-chief of the journal, and as his associates: Dr. G. Alder Blumer, State Hospital, Utica, N. Y.; Dr. E. N. Brush, Sheppard Asylum, Baltimore; and Dr. J. M. Mosher, Albany, N. Y. The association will meet in St. Louis, Mo., in May, 1898.

Medical Society of the State of Pennsylvania.—The forty-seventh annual session of the Medical Society of the State of Pennsylvania was held at Pittsburg, on May 18th, 19th, and 20th. Rev. J. Crocker White, D.D., delivered the opening prayer. Dr. D. T. Davis, chairman of the committee of arrangements, delivered the address of welcome. Dr. William B. Atkinson made the secretary's report, and Dr. G. B. Dunmire that of the treasurer. Dr. G. Gable, of York, presented the report of the committee on legislation. The report of the committee on pharmacy was presented. Dr. J. Chalmers Da Costa delivered the address in surgery. Dr. J. Chris. Lange read a paper entitled "Asphyxiation by Carbonic-Acid Gas as the Death Penalty." Dr. S. MacCuen Smith discussed "Chronic Suppurative Inflammation of the Middle Ear." Dr. Charles W. Dulles read a paper entitled "Comforting Facts about Consumption," and also one upon the subject of hydrophobia. Dr. A. P. Brubaker delivered the address in hygiene. Dr. T.

J. Elterich read a paper on the "Treatment of Laryngeal Diphtheria with Antitoxin and Intubation." Dr. Percival J. Eaton presented a communication entitled "The Daily Inspection of the Public Schools." Dr. Wharton Sinkler read a paper on "Epilepsy." Dr. D. H. Detweiler read a paper dealing with the subject of "Malpractice Suits and the Remedy." Rev. F. S. Neveling, M.D., read a paper on "The Treatment of Typhoid Fever." Dr. G. Hudson Makuen read a paper on the "Treatment of Speech Defects." Dr. W. W. Keen read a paper entitled "Resection of a Tumor of the Liver by Elastic Constriction Outside of the Abdominal Cavity." Dr. E. O. Kane read a paper entitled "Why the Tobacco Habit is Peculiarly Reprehensible in and Detrimental to Physicians." Dr. L. J. Lautenbach presented a communication entitled "Necessity for Active—not Passive—Ear Treatment in Ear Disease." Dr. T. C. Gable made "Some Remarks on Appendicitis, with Reports of Operations." Dr. W. T. English read a paper on "The Element of Fear in Hæmoptysis," and Dr. J. M. Douthett one on "Climate in Consumption." Dr. Adolph Koenig, of Pittsburg, was awarded the contract for publishing a monthly journal, the *Pennsylvania Medical Journal*, which shall be the official organ of the society, and at the end of the year shall become the property of the society if it so desires. The following officers were elected for the ensuing year: *President*, Dr. W. Murray Weidman, of Reading; *First Vice-President*, Dr. W. B. Atkinson, of Philadelphia; *Second Vice-President*, Dr. J. W. Grayson, of Washington County; *Third Vice-President*, Dr. B. W. Detweiler, of Lycoming County; *Fourth Vice-President*, Dr. R. Bittenger, of York; *Secretary*, Dr. C. L. Stevens, of Athens; *Treasurer*, Dr. G. B. Dunmire, of Philadelphia. The next meeting will be held at Lancaster, in May, 1898.

College of Physicians of Philadelphia.—A stated meeting of the College of Physicians of Philadelphia was held on May 5th, Dr. R. A. Cleeman presiding. Dr. John H. W. Rhein read a conjoint paper, by Dr. S. Weir Mitchell and himself, entitled "A Clinical Re-examination of the Motor Symptoms of Chorea," in which it was pointed out that in some cases the movements occur or are the more pronounced during rest, in others during activity; that the movements are sometimes intensified by intention efforts, and at other times diminished under the same condition; and that sometimes the movements can be controlled by an effort of the will, while at others they are aggravated by the same influence.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending May 22, 1897. May 20th.—Surgeon H. G. Beyer ordered to the Naval Museum of Hygiene for temporary duty in connection with the preparation of new microscopical outfits for ships and hospitals.

Small-Pox in New York.—Some time ago there was a lull in the reports of new cases of small-pox, and it was thought the city's slight visitation was over; but recently fresh cases have appeared. Three cases were discovered on Monday last, and removed to North Brother Island. Since the 1st of March forty-six cases have been reported in the city.

A Case of Physical Endurance.—The author of the article with this title, which appeared in the issue of May 8th, was Dr. Francis Crosson and not Cresson, as printed.

The American Medical Association at Denver.—Dr. J. W. Graham, of Denver, writes that the medical profession of that city and of Colorado, after careful consideration, has decided to extend to the American Medical Association, at its coming meeting in Philadelphia, a most cordial invitation to meet in Denver in 1898. They have sufficient funds pledged to guarantee handsome entertainments, and the railroads are in sympathy with the movement and have promised low rates. Arrangements will be made to enable delegates and their families to visit parts of the Rocky Mountains free of charge, and at nominal excursion rates to visit Colorado Springs, the medicinal springs at Glenwood, and all other points of interest.

Yellow Fever from Colon.—The surgeon of the steamer *Finance*, which arrived at New York from the Isthmus on May 21st, reported that a passenger had died of yellow fever during the voyage, and had been buried at sea. The passengers and crew were held for examination. The same vessel brought a case of yellow fever on her last trip, which ended April 22d.

The Maine Medical Association will hold its forty-fifth annual meeting at Portland on June 2d, 3d, and 4th. The president of the association is Dr. D. A. Robinson, of Bangor; the recording secretary, Dr. Charles D. Smith, of Portland; and the corresponding secretary, Dr. G. M. Elliott, of Brunswick.

The National Confederation of State Medical Examining and Licensing Boards.—The seventh annual meeting of this association will be held in Philadelphia on Monday, May 31st, under the presidency of Dr. William Warren Potter, of Buffalo. Members and ex-members of State medical examining boards, physicians, and educators who are interested in the cause of higher medical education, are cordially invited to attend.

Obituary Notes.—Dr. J. W. Rosebrugh, of Hamilton, Ontario, died at his home in that city on May 6th. He was sixty-nine years old. He graduated in medicine from the University of New York in 1853, and from the University of Victoria Medical College in 1855. His entire professional life was passed in Hamilton, where he gained early the reputation of a skilful surgeon. He was an active worker in medical societies, and was president of the Ontario Medical Association in 1887.—Dr. Benjamin Eddy Cotting died in Boston, on May 21st, at the age of eighty-four. He graduated in medicine in 1837. Since 1843 he was curator of the Lowell Institute, succeeding Dr. Jeffries Wyman in that office. He was vice-president of the Massachusetts Medical Society in 1852–54, and its president in 1874–76.

Society Reports.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FOURTH TRIENNIAL SESSION.

Held in Washington, D. C., May 4, 5, and 6, 1897.

WILLIAM H. WELCH, M.D., OF BALTIMORE, PRESIDENT.

(Continued from page 752.)

Third Day—Thursday, May 6th.

THE first part of this session was in charge of the American Orthopædic Association. The subject selected was

Congenital Dislocation of the Hip.—DR. E. H. BRADFORD, of Boston, opened the discussion and illustrated his remarks with a large number of lantern views. He said that in cases of congenital dislocation of the hip we knew now that there was always an acetabulum. The only condition with which it might be confounded was coxa vara, but in the latter the gait was not at all the characteristic gait of congenital dislocation. The best line of incision in the operative treatment of congenital dislocation was the one described by Lorenz. It passed from the anterior superior spine of the ilium obliquely downward along the outer edge of the tensor vaginæ femoris, and along the anterior edge of the gluteus medius. After exposing the head of the femur and the acetabulum, the latter was curetted out sufficiently to allow of the replacement of the femur. The capsular attachment along the lesser trochanter and spiral ridge should be entirely freed, so that the finger can be passed around the head, neck, and lesser trochanter. It was not necessary to free the attachment of the muscles to the great trochanter. A point overlooked by the surgeon was that the attachment of the capsule to the lesser trochanter and lower down might form an obstacle to the reduction of the dislocation. A new method of treatment was one in which no incision was made. The child should be placed in a frame and subjected to a preliminary stretching for a few days. Nothing was gained by ordinary traction downward, but gradual abduction should be made at the same time that traction was made on the limb, the child lying in the horizontal position on a frame. This stretched the shortened capsular attachment, one of the chief obstacles to the reduction of the dislocation. This having been done, the child should be placed under an anæsthetic and the affected limb should be stretched at right angles to the body. The speaker said that he had found that this could be done conveniently by means of the Thomas splint, with a windlass attachment. The next step is to flex and abduct the limb, and put it up in a plaster-of-Paris spica in order to relax the muscles. No discomfort was experienced by the patient after these procedures. As soon as possible the child should be gotten up and encouraged to walk on crutches. After a week or two the child should walk without crutches. Massage was given in order to strengthen the trochanteric muscles, and the child was instructed to walk with the leg slightly abducted. In conclusion, the speaker said that in children from two to five years, or possibly seven years old, congenital dislocation of the hip was a curable condition. From seven to fifteen years of age the treatment should be by incision. Cases older than that might be considered as beyond treatment.

DR. V. P. GIBNEY, of New York, continued the discussion. He said that he had seen six or eight cases of congenital dislocation every year, but only in recent years had he made any effort to treat them. At one time he felt that he had gotten one or two good results from the mechanical method of treatment advocated by Dr. Buckminster Brown, of Boston. It was well to remember that the limp would persist, no matter how successful the operation might be. He did not know of a single subject, in this country at least, who had been operated upon by the Hoffa or Lorenz method who did not limp, notwithstanding the fact that the head of the bone was in place, and there was every appearance, aside from this, that a cure had been effected. He could not, therefore, take the very cheerful view of these cases that Dr. Bradford had done. He had encountered several cases in which there had been a distressing chronic suppurative arthritis of the hip. He did not feel at present warranted in urging upon the profession either the operation of Hoffa or of Lorenz as a cure for these cases. The preliminary stretching was of great importance. At present Lorenz was urging a new operation, which he called the "bloodless method" of reducing congenital dislocations of the hip. Already Lorenz had operated in fifty or sixty cases in this manner, and he claimed that by the patient walking early on the limb the acetabulum would be deepened.

DR. HARRY M. SHERMAN, of San Francisco, said that he had personally observed Lorenz operate in these cases by the incision method. Lorenz incises the capsule with a sharp-pointed knife and then with a large knife shaped like a tenotome, passed into the capsule, he divides it very thoroughly. With the finger as a guide, the acetabulum is next curetted to the desired depth. During this part of the operation, by means of aseptic towels and a simple traction apparatus, great tension is maintained upon the limb. Having inserted the head of the femur in the acetabulum, a skin suture is introduced and a strand of iodoform gauze is carried deeply into the wound. The leg is then placed in the extended position and very much abducted, and both extremities are then put up in plaster-of-Paris, and kept firmly apart by a wooden crosspiece. The patient is kept in this retention appliance for six weeks, after which the child is allowed to get up and walk. There is usually free motion in the hip at first, but little by little this becomes less, and flexion and abduction develop in cases that do not receive proper after-treatment. Lorenz combats this deformity by the systematic use of gymnastics and massage. Dr. Sherman said that his own experience had led him to believe that it was possible without this tiresome six months of massage and exercises to get a good result. Occasionally a paralysis of the sciatic nerve would be observed in these operative cases, as a result of the stretching to which the nerve had been subjected. The early result—that is, within six months after the operation—was certainly very satisfactory in Lorenz's cases. With increasing experience and improved technique, Dr. Sherman said, he believed the result would be satisfactory.

The Classification of Acute General Peritonitis; the Prognosis and Treatment of the Different Varieties.—The remainder of the session was in charge of the American Surgical Association.

DR. NICHOLAS SENN, of Chicago, opened the discussion with a paper on "The Classification of Acute Peritonitis." He presented several different classifications based on different points of view, thus:

I. Anatomical Classification: (*a*) Ectoperitonitis; (*b*) endoperitonitis; (*c*) parietal peritonitis; (*d*) visceral peritonitis; (*e*) pelvic peritonitis; (*f*) diaphragmatic peritonitis.

II. Etiological Classification: (*a*) Traumatic peritonitis; (*b*) idiopathic peritonitis; (*c*) perforative peritonitis; (*d*) metastatic peritonitis; (*e*) puerperal

peritonitis; (*f*) peritonitis infantum (including fœtal and intra-uterine peritonitis and peritonitis neonatorum).

III. Pathological Classification: (*a*) Diffuse septic peritonitis; (*b*) putrid peritonitis; (*c*) hemorrhagic peritonitis; (*d*) suppurative peritonitis; (*e*) serous peritonitis; (*f*) fibrino-plastic peritonitis.

IV. Bacteriological Classification: (*a*) Streptococcus infection; (*b*) staphylococcus infection; (*c*) pneumococcus infection; (*d*) bacillus coli communis infection; (*e*) gonococcus infection; (*f*) tuberculous infection.

V. Clinical Classification: (*a*) Ectoperitonitis; (*b*) diffuse septic peritonitis; (*c*) perforative peritonitis; (*d*) circumscribed peritonitis; (*e*) hæmatogenous peritonitis; (*f*) visceral peritonitis; (*g*) pelvic peritonitis; (*h*) puerperal peritonitis; and (*i*) subdiaphragmatic peritonitis.

By ectoperitonitis, the speaker said, is meant an inflammation of the attached side of the peritoneum, as distinguished from inflammation of the serous surface. The process is characterized by a tendency to limitation, although it might become quite diffuse in the retroperitoneal space. Parietal peritonitis is most frequently met with as an extension of an infection from one of the abdominal or pelvic viscera. The nomenclature of visceral peritonitis is lengthy, *e.g.*, perigastritis, perienteritis, perityphlitis, perihepatitis, perisplenitis, and perisalpingitis.

As peritonitis is always the result of infection with pathogenic microbes, an etiological classification must take into consideration the different avenues through which the microbes gain entrance into the peritoneal cavity. Idiopathic peritonitis is such a rare affection that its existence is doubted by many. By far the most frequent cause of acute peritonitis is perforation of an ulcer of any part of the gastro-intestinal canal, or of an abdominal or pelvic abscess. Metastatic peritonitis is seldom seen except as a lesion of pyæmia. In puerperal peritonitis the infection may extend from the endometrium through the Fallopian tubes, or may follow the lymph channels or the thrombosed uterine veins. Intra-uterine peritonitis most frequently kills the fœtus between the seventh and ninth month of gestation. Peritonitis neonatorum is most frequent in connection with puerperal fever.

The pathological classification was based almost entirely on the gross and microscopical appearances of the inflammatory exudation and transudation. The term "diffuse septic peritonitis" should be limited to those cases in which, as a rule, death occurs before any gross pathological changes have had time to form. The inflammatory product in putrid peritonitis is a brownish fœtid fluid. In acute peritonitis the transudate is occasionally hemorrhagic, owing to the tearing of vascular adhesions, or in connection with scorbutus or typhoid fever the inflammatory product is in the form of brown patches. Suppurative peritonitis is always more or less circumscribed.

The microbe most commonly found in septic peritonitis is the streptococcus pyogenes. When the infection is due to the staphylococcus there is greater tendency to localization of the inflammation. Occasionally the pneumonia diplococcus is the bacteriological cause of acute suppurative peritonitis. Infection with the colon bacillus usually causes suppurative and fibrino-plastic peritonitis. The gonococcus produces a plastic peritonitis or localized suppuration. In tuberculous peritonitis suppuration takes place only when the tuberculous product becomes the seat of a secondary mixed infection with pus microbes.

Peritonitis having its source in an infected state of the blood should be called hæmatogenous or metastatic peritonitis. It has been observed in connection with nephritis, pyæmia, rheumatic arthritis, and the acute exanthemata. Pelvic peritonitis is seldom met with in men, being usually the result of the extension of an infective process to the peritoneum from the female pelvic organs.

Dr. Robert Abbe, of New York, continued the discussion by reading a paper on "The Prognosis and Treatment of the Different Varieties of Peritonitis." He said that the surgeon did not fear post-operative peritonitis in those cases in which during the operation the bowel or the gall bladder or the urinary bladder might be injured, provided the complication was properly and immediately treated. But such was not the case when a septic peritonitis had been established prior to operation. It was now universally admitted that in every case the inflammation of the peritoneum was brought about by some septic microorganism. So far, no definite relationship had been established between any particular variety of peritonitis and any special micro-organism. It had been shown experimentally that the peritoneum would absorb from the twentieth to the thirtieth of the body weight of the animal in an hour, or the whole body weight in twenty-four hours. Injections of carmine enabled the experimenter to trace the course of the current from the peritoneum into the mediastinum. It must be remembered that there was a difference in the grade of the toxæmia, although every case was toxic. In many regions of the peritoneum inflammation not only began as a localized process but remained so, owing to the formation of protective adhesions. The peritonitis, however, was rarely so confined when it started in the middle portion of the abdominal cavity. The most desperate forms of infective peritonitis which the surgeon was called upon to treat were those resulting from perforation of the viscera, notably in connection with appendicitis. Perforation of the stomach, for instance, with discharge of the gastric juice and digestive fluids into the peritoneum, did not usually give rise to immediate evidence of inflammation, as was the case in perforative appendicitis. Dr. Robert F. Weir had collected ninety-seven cases of operation for perforating gastric ulcer, with twenty-two recoveries. At the present time an equally encouraging prognosis could be given regarding gunshot injuries of the abdomen. If the operation were done within twelve hours, experience had shown that half of the subjects recovered; if postponed somewhat longer, only one-quarter of the subjects recovered. In rupture of the urinary bladder the mortality had been reduced from ninety to fifty per cent. In peritonitis due to perforation of a typhoid ulcer, recent statistics showed twenty-six per cent. of recoveries after such a perforation had given rise to a general peritonitis; whereas as late as 1891 no recoveries had been recorded except in a few cases, in which nature had saved life by the slow process of establishing a fistula. The most important class of all was that of perforative appendicitis, treated first by the general practitioner with hopeless expectancy, and not turned over to the operating surgeon perhaps for from three to five days. More light was needed on those cases in which there was peritonitis, recognized by the naked-eye appearances, not limited by adhesions, and coming from a distinctly diseased appendix that had discharged septic fluid into the general peritoneal cavity.

Dr. Andrew J. McCosh, of New York, in continuing the discussion, said that the chief criticism he had to make on the classification presented by Dr. Senn was that it was unnecessarily elaborate for the purposes of the clinician. Regarding the pathological division, for example, he did not think it was possible clinically to distinguish between diffuse septic putrid, and suppurative peritonitis. These forms in termingled so that it was impossible to determine where one began and the other ended. The bacteriological

division seemed to him the most satisfactory, because the most definite and logical.

Regarding the prognosis, he believed that the duration of the septic process had the greatest influence on the outcome of the disease. He was inclined to lay a good deal of stress upon the peculiar resisting power of individual patients, and particularly on the age as an element in the prognosis. Nearly all of his patients who had recovered had been under the age of thirty-five years.

Turning to the consideration of the treatment of peritonitis, the speaker said that it must be difficult in practice to divide the cases, as some had done, into two classes, viz., those requiring sponging and those demanding thorough irrigation. In the most virulent forms of peritonitis the gross appearances were often but little marked; hence it would seem safer to regard every case as of the gravest form, and treat it accordingly. In all cases in which the surgeon was sure that the peritonitis was unlimited, the wisest plan was to resort to thorough irrigation. It was not necessary to remove entirely the septic matter, as the peritoneum had the capacity of destroying a certain amount. This fact had been abundantly demonstrated, both by experiments on animals and in actual surgical practice. In his opinion irrigation, if properly carried out, was more thorough than mere sponging, and the scrubbing process must certainly cause some damage to the peritoneal endothelium, thus lessening its power of resistance against infection, and encouraging the migration of colon bacilli through the walls of the intestine into the peritoneal cavity. Dr. McCosh said that formerly he had been inclined to doubt the propriety of removing the intestines from the abdominal cavity, both on account of the attendant shock and the difficulty of returning them, but in the past year or two he had become convinced of the value of this procedure. It was his custom to turn the patient on the side and rapidly draw out all the intestinal coils into hot towels, held by assistants. The coils were then thoroughly but gently cleansed by pouring over and through them large quantities of hot sterile salt solution, at the same time that the rubber hose from a three-gallon irrigating jar was pouring a stream into all the corners and crevices inside the abdominal cavity. It was essential that the water should have a temperature of not less than 110° F. or more than 115° F. Some would object to such a high temperature, but in his hands it had been shown that a temperature of 112° F. was not only not harmful but was decidedly beneficial as a heart stimulant. It was also important to leave a considerable quantity of the salt solution in the peritoneal cavity, as this stimulated the circulation, and by encouraging intestinal drainage favored the flow of the septic current into the intestine instead of out of the intestine into the peritoneal cavity. Of course much difficulty would be experienced at times in returning the intestine to the abdominal cavity; occasionally it might even be necessary to allow the gas to escape through a small incision in the intestinal wall, and afterward close this incision with a Lembert suture.

Regarding the question of using opium or cathartics, Dr. McCosh said that he had been surprised to find in certain recent articles an inclination to the use of full doses of opium and a tendency against the use of cathartics. His own experience was directly opposed to this view, and he felt that the safety of the patient depended largely upon his ability to prevent intestinal paralysis and promote intestinal peristalsis. The injection of sulphate of magnesium into the rectum in patients who could not retain cathartics administered by mouth seemed to him almost valueless. For some years past he had adopted the practice of injecting certain cathartics into the small intestine, at as high a point as possible, and from some surprising recoveries in cases which, according to former experience, had seemed hopeless, he had become convinced of the great value of this treatment. It was now his custom systematically to employ in almost all his abdominal operations an intra-intestinal injection of one or two ounces of sulphate of magnesium. A saturated solution of this salt was employed and was injected through a medium-sized aspirating needle attached to an antitoxin syringe. In forty-three cases operated upon up to 1895, the mortality was about eighty-six per cent. Between January, 1896, and March, 1897, he had operated upon eight cases of diffuse septic peritonitis. One subject died within twenty-four hours, another at the end of five weeks from septic lung complications, and six recovered. With one exception, the peritonitis had apparently begun more than twenty-four hours prior to the operation, and most of the cases showed an advanced stage of septic inflammation. In six of these cases the cause was a gangrenous appendix, unlimited by adhesions; in one it was a perforating gangrenous ulcer; and in one rupture of a fœtid ovarian abscess. In order still further to assist the movement of the bowel, it was his habit to administer one dose of ten grains of calomel, immediately after operation. If chloroform had been used as the anæsthetic, this would often be retained, for some time at least. Regarding drainage, the speaker said that it was his practice to use several strips of gauze, projecting in different directions among the intestinal coils. He had also found strips of rubber tissue and strips of pure silk sponge useful for drainage. The advantage of the latter material was that it was more easily removed than the gauze. Rubber drainage tubes were more likely to be obstructed than glass tubes. He usually allowed the edges of the abdominal wound to gape for an inch or more. Regarding the wisdom of removing fibrinous patches when found on the wall of the intestine, he was still in doubt. If they were removed, a raw surface would be left which might favor the entrance of septic matter; if they were allowed to remain shut up among the intestinal coils, they might in time form abscesses.

To sum up the treatment of general septic peritonitis, he would say that success depended upon early operation, thorough irrigation, efficient drainage, and restoration of intestinal peristalsis.

Dr. George R. Fowler, of Brooklyn, discussed the subject of "Septic Peritonitis Considered from the Clinical Standpoint." He called attention to the value of such clinical terms as diffuse peritonitis, diffuse septic peritonitis, perforative peritonitis, circumscribed peritonitis, and hæmatogenous peritonitis. These terms, he said, carried with them the clinical condition involved in their occurrence, and conveyed at once the idea of the possibility of successful remedial measures, and the necessity for their immediate application if the patient was to obtain the best results from surgical intervention. The term pelvic peritonitis he referred to as meaning peritonitis arising from the female genitalia, and suggesting at once a separate clinical picture to the experienced practitioner.

Concerning prognosis of bacterial invasion of the peritoneum, much was said, especially as regards the protective and defensive power of the peritoneum. The occurrence of peritonitis without the actual presence of bacteria was spoken of. This occurred if their toxins reached the serosa, which they might do by penetrating the visceral walls without the presence of any actual lesion. Attention was called to the germicidal power of the serous effusion of the peritoneal cavity. Regarding modes of entrance, the least dangerous was that in connection with a wound of the abdominal wall. In estimating prognosis, source and

virulence of infection, mode of entrance, concomitant circumstances, hemorrhage and serous exudation, and last, but not least, the localization of the infection on the one hand, and its generalization on the other, must all be taken into account.

As regards treatment, the treatment of localized peritonitis was alluded to, the main discussion being in regard to that of diffuse septic peritonitis. During the past ten years, the speaker said, a number of cases of diffuse septic peritonitis had been operated upon successfully, and the matter had reached a stage where the surgeon's margin in escaping responsibility in not operating was becoming narrower and narrower. While there might be occasional cases in which the patient's doom was sealed from the very commencement, yet in view of the knowledge derived from the bacteriological laboratory and experimentation upon animals, it was difficult to conceive of such a case. If the Lembert suture could close the perforation as soon as made, or the gauze drain carry away the septic products as soon as formed, other things being equal, the gravity of the prognosis could be considerably lessened. Much was said about streptococcus antitoxin in the treatment of diffuse septic peritonitis. Several cases treated by the streptococcus antitoxin were reported by Dr. Fowler, but the efficacy of the serum seemed still doubtful. His own case as reported led him to express doubt as to the influence which the serum exercised over the symptoms. Furthermore, as the antitoxin of one class of bacteria was powerless against another, and as the streptococcus, while the most powerful, was not the only virulent class present, it became evident that the antitoxin treatment must be further elaborated. Opinion as regards the antitoxin treatment of diffuse septic peritonitis must be considered as yet *sub judice*.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Second Day—May 5th.

Suggestions Concerning Ventral Hernia Resulting from Abdominal Section, and Its Treatment.—Dr. Andrew F. Currier, of New York, read this paper. The hernia did not always take place from the same cause. It might be due to imperfect apposition of homologous structures, an insufficient number of sutures, or too large a number of sutures, premature removal of sutures, insufficient protection of the abdominal walls after the patient left the bed, undue strain on the tissues involved in the wound, or defective vitality of the tissues. Hernia did not imply defective operative technique. Hernia could be expected to occur in no small proportion of women working at such menial occupations as laundering and scrubbing. Certain constitutional conditions also rendered the tissues vulnerable and favored hernia. The author divided operative hernia into three varieties: simple, multiple, and massive. In the multiple variety there were several pockets. This was also true of some cases of the massive variety. In the simple variety the patient's discomfort was often so small that she objected to an operation. Nevertheless Dr. Currier thought operative interference was indicated in all instances, for the inevitable tendency of operative hernia was to increase, and the patient was in constant danger.

Dr. Currier used the following method for suturing the wound left on operating for the cure of hernia: A strand of coarse wormgut, twelve inches or more in length, is inserted at its ends into two strong curved needles, sufficiently long to penetrate all the tissues of the abdomen. Both needles are introduced into the abdomen just beyond the upper angle of the wound, about half an inch apart, from without inward. The sides of the wound are then brought into apposition by successive stitches of continuous suture, including peritoneum, fascia, and muscle, from below upward, and then from above downward, changing the needle to the opposite side with each successive stitch, precisely as one would lace a shoe. If two sutures are used, *i.e.*, one for each half of the wound, the ends of each must penetrate all the tissues, including the skin, and emerge near the middle point of the wound. After these ends have been tied each to its appropriate fellow, the gaping skin is to be closed by continuous or interrupted suture. A minor practical point consists in protecting the skin at the beginning and ending of each suture by a thin strip of gauze, which is passed under each loop. The wound is sealed with iodoformed collodion, or not. The dressings are changed at the end of two weeks and the superficial sutures removed; the deep sutures remain two weeks longer. The patient is kept in bed until a few days after removal of the sutures.

The discussion on the paper related chiefly to prevention of hernia by the manner of closing the wound after laparotomy. It was participated in by Drs. R. B. Murray, of Memphis, Lapthorn Smith, J. Taber Johnson, C. P. Noble, A. P. Dudley, and the author. Homologous tissues required to be brought into apposition, and sutures to remain a time to prevent stretching of new cementing material.

The President's Address.—The president, Dr. James B. Chadwick, chose for the subject of his address "An Historical Sketch of Abdominal Surgery." He said he proposed to sketch briefly the steps by which abdominal surgery had been so marvellously extended during the lifetime of one man (Sir Spencer Wells), laying special stress upon what might otherwise be inadequately remembered—his influence on the progress of this branch of surgery. Abdominal surgery in general was the outcome of ovariotomy, so that in its early days the history of the former was included in the history of the latter. Here the president gave a brief account of the first ovariotomy, done by Ephraim McDowell on Mrs. Crawford, 1809. Dr. McDowell's professional education had been supplemented by two years' study at Edinburgh, and he had undoubtedly been inspired by the prediction of his preceptor, John Bell, that ovarian tumors might some day be successfully removed. Mr. Sizars, having read the report of McDowell's case, attempted laparotomy in 1825 three times, but unsuccessfully, and the operation was not repeated in Scotland for twenty years. Before his death, 1830, McDowell operated thirteen times with at least eight recoveries. Others had also operated in this country. In Europe the operation had met with little favor. In Germany it was first performed by Chrysmar, 1819, and from that time until 1850 only twenty-three operations were done there, with seven recoveries. In France the first operation was by Woyerkosky, 1844. From Atlee's table, 1851, it was learned that up to 1847 only about one hundred and fifty ovariotomies had been performed. There was a notable increase in the number of the operations during the ten years following Morton's discovery of etherization, 1846. After referring to the discussion, 1850, at a meeting of the Royal Medical and Surgical Society, when the consensus of opinion was strongly condemnatory of ovariotomy, and a similar condemnation before the Academy of Medicine, Paris, the author came to the period of the revival of ovariotomy, as it was called in the title of one of Spencer Wells' papers. Wells' first attempt, incomplete, was in 1857, and his first complete attempt in 1858, after which date he operated several times yearly up to 1861; then his experience increased rapidly. The secret of Wells' success did not consist in any special procedure, but by attention to a multiplicity of details. By having witnesses and publishing unsuccessful as

well as successful cases, he silenced criticisms passed upon previous operators. In 1865 he published a book giving a clinical report of his first one hundred and fourteen ovariotomies, and in 1872 tables of five hundred cases. Mention was made of the friendly relations between Keith and Wells. Dr. Chadwick first saw Wells operate in 1873, assisted him in some cases, and was his only assistant at one operation when he came down on a tumor. He told the doctor, whose case it was and who had differed from him in the diagnosis, that he was right, the tumor was not ovarian but the spleen. After a moment's consideration he said he would nevertheless take it out. Unfortunately the woman died on the fourth day. The influence of Wells' work was not long in being felt on the continent. Meanwhile in America operators had been as active as in Europe, but their influence upon the rest of the world was not so great, probably for the reason that to a great extent the operators were country surgeons who were not so ready with the pen as with the scalpel. A notable exception was Dr. W. L. Atlee, who bore the brunt of the contest to overcome the prejudices against the operation. He was ably seconded by Dr. Peaslee, who did his first operation in 1850. Spencer Wells operated over twelve hundred times, reducing his mortality with every successive one hundred cases. At this point Dr. Chadwick dwelt somewhat upon the discoveries of Pasteur and their application to surgery by Lister. All honor, he said, to Lord Lister for introducing the most important modifications of surgical methods since the world began. We found ourselves at the end of the nineteenth century with less reason to dread the opening of the abdominal cavity than our immediate predecessor had to dread even minor operations upon the body and limbs. The benefit of this advance to the individual and the race was manifest, but he would beg surgeons to pause a moment and consider if the operative mania had not gone too far. We had been told abundantly of the brilliant operations done; there had been spread out before us long series of cases in which the uterine appendages had been removed or the uterus itself extirpated; but had we learned what the future fate of these women had been? No one could deny that for the race it was an unmixed evil to have a large percentage of its women, still in childbearing age, rendered suddenly sterile beyond recall. No one could deny that it was an opprobrium on the healing art that we must remove organs, even though unessential to life, because we could not cure them. Was not our suddenly acquired ability to do these operations leading us too far and too fast in sacrificing organs and functions that might be preserved with benefit to the race and without detriment to the individual? It had been his lot daily to see women who had been operated upon by the more venturesome of his colleagues, and to find that results were by no means so uniformly successful in relieving symptoms as the operators were wont to report. In this connection mention was made of the work of Polk and others, in which only diseased portions of the ovaries were removed.

Dr. T. Addis Emmet said he recollected the first consultation called in the Woman's Hospital in New York, summer of 1855, when Dr. Sims proposed to open the abdomen of a young girl and remove what he thought was a fibroid tumor attached by a pedicle. In his insinuating, enthusiastic manner he had about convinced the board to go with him, when Dr. Stevens got up and said he was very much interested in Dr. Sims' remarks about fibroid tumors: this might be one. He did not know whether he had ever heard of a fibroid tumor before, but, whatever it was, he was as a matter of humanity opposed to the proposition to open the abdomen; for if Dr. Sims were successful it would not be long before every young man in the land would be ripping open the belly of every young woman to see whether she had a tumor or not. Dr. Sims did not operate, and the abdomen was not opened again in the hospital until 1860. In 1861 Dr. Emmet became surgeon to the hospital and was unable to get Parker, Post, Buck, or any eminent men to be present at a proposed operation or to sanction it. He thought Buck would throw him out of his office in his feeling that Emmet wanted him to sanction murder.

Dr. H. T. Hanks said he had the pleasure of meeting Mr. Wells when he was in New York, and, Mr. Wells having stated that he had performed eleven hundred and ninety-nine ovariotomies, Dr. Hanks invited him to do the twelve-hundredth operation on one of his patients at the Woman's Hospital. The invitation was accepted and the operation carried out.

Primary Tuberculosis of the Breast Complicating Pregnancy.—Dr. Edward P. Davis, of Philadelphia, read the history of the case and made some remarks on the rare condition, primary tuberculosis of the breast. The pathologist verified the diagnosis, finding tubercle bacilli: there was no breaking down of the tuberculous structures. Operation was postponed until after labor, to avoid danger of excessive hemorrhage. The entire breast was then removed. The patient made a good recovery. The axillary glands were not involved; there was little doubt that infection took place in the nipple, and was probably due to contact of a tuberculous mouth with the nipple, for the woman had been addicted to immoral practices. One interesting point was that the bacilli had not penetrated the placenta or infected the fœtus.

Dr. H. T. Hanks had amputated the breast in a pregnant woman for degeneration of the breast, supposed to be cancerous, with some sepsis. The pathologist found it to be tuberculous mastitis. The patient died of sepsis on the seventh day.

Perityphlitis and Appendicitis in Their Relations to Obstetrics and Gynæcology.—Dr. Paul F. Mundé, of New York, read the paper in abstract. Until recently nearly all cases of appendicitis had been reported as occurring in the male sex, a fact due probably to the preponderating influence of surgery of the uterus and appendages in the female. Since he had published a case complicating pregnancy about four years ago, a number of cases had been reported. Prior to 1894 he had himself recognized only five cases. In his paper he treated of questions related to pathology, diagnosis, and treatment. Complication with pregnancy should have little or no influence on the treatment; the latter should be medical or surgical according to the indications, as in appendicitis in the male. The mortality of appendical abscess in pregnancy had been, according to the statistics of Abrams, high, but no doubt the results in future would be much better. Appendicitis might be mistaken for several other conditions in women, more especially for disease of the uterine appendages and for pelvic abscess, and *vice versa*; or the conditions might coexist. But this fact need not influence one against surgical treatment. In doubtful cases he would choose a lateral instead of a median incision. Personally he had not been able to palpate the healthy appendix.

Dr. W. E. Ford, of New York, had opened an appendical abscess in a girl of sixteen. A few days later she became septic; he found a supravaginal abscess, evacuated the pus, and she recovered. In another case he was asked by two surgeons, one of skill, to see a case of supposed appendicitis in a girl of sixteen, but on arriving the pus collection was prominent above the vagina. Two quarts of pus were evacuated through the vagina; about a yard of iodoform gauze was introduced into the cavity. The patient did well for three days, then developed suddenly maniacal delirium, and died within twelve hours, from what they

believed was iodoform poisoning. There was no sepsis.

Dr. Lapthorn Smith, of Montreal, thought appendicitis was fairly frequent in women. He found evidences of recent or old appendicitis in abdominal operations about three times a year.

Dr. Dudley, of Chicago, described two cases of appendicitis in women, illustrating two routes of infection. In one the appendicitis was evidently secondary to tubal inflammation; in the other tubal infection was secondary to the appendicitis.

Dr. H. T. Hanks, of New York, had seen three or four cases of simple or complicating appendicitis since January, 1897. He made the point that it was wise to exclude appendicitis before operating through the vagina for supposed disease of the uterine adnexa.

Dr. Baker, of Boston, had operated in two or three cases and found adhesions between the appendix and right Fallopian tube which led him to think that previous abscess of the appendix had after formation of adhesions discharged through the Fallopian tube. He agreed with Dr. Hanks that in doubtful cases the abdominal route should always be chosen.

The Treatment of Syphilitic Women in Pregnancy and Parturition.—Dr. R. A. Murray, of New York, read a paper on this subject. He wished to emphasize these points: 1. That syphilis was the great cause of abortion; 2, that comparatively little space was devoted to this subject in recent works; 3, to prevent this frightful mortality attention should be directed to points in diagnosis and treatment. Dr. Murray quoted recent authority on syphilitic changes in the endometrium, placenta, fœtal bones, etc. Passing then to diagnosis, he said this was clear enough in a woman who had had many miscarriages, but under other circumstances it might require considerable tact to bring forth an admission of infection on the part of the husband, or to discover in the mother symptoms in the form of old scars, enlarged glands, sore throat, etc. In treatment Dr. Murray had obtained by far the best results from mercurial inunctions, and with these, begun by the third month of pregnancy, he had succeeded in carrying from forty to fifty per cent. of his patients through to labor at term. The infant could be medicated through mercurial treatment of the mother or by inunctions to its surface. The syphilitic child ought never to be nursed by any woman except the mother.

Dr. E. P. Davis said it was surprising how often certain indications of syphilis existed in the genital tract, including an endometritis, when other evidences could not be brought out. No examination was complete which did not include inspection of the vulva and vagina. He believed the predominant feature which made syphilis dangerous during pregnancy was anæmia. In proportion as means were taken to combat this during antisyphilitic treatment would the interests of mother and child be conserved.

Some Pathognomonic Physical Signs of Chronic Gonorrhœal Infection in Women, and their Value in the Diagnosis of Pelvic Disease.—Dr. A. P. Dudley, of New York, read an abstract of his paper. It was seldom the physician, especially the gynæcologist, saw gonorrhœa in the acute stage in women, as the patients, except prostitutes, rarely consulted him until chronic symptoms developed. The pathognomonic physical signs were a continuation of the changes begun by the acute stage, and were manifest in urethral caruncle, enlarged vulva and vaginal glands, replacement of normal epithelium through the action of the gonococci by squamous epithelium, etc. Of what value were these diagnostic facts? Their chief value was in giving a clew as to treatment and prognosis. 1. The changes in the urethra would account for urinary symptoms and pain often referred to a very different cause. 2. Vaginal abscesses, so caused, would not be simply opened but excised. 3. He would tell some patients this was the cause of their apparent senile vaginitis. 4. If he found leucorrhœa he would not tell the patient she would get well after simple curettage. 5. He would not tell a patient complaining of dysmenorrhœa that it was simply neuralgic or due to congestion. He would inquire well into the condition of the appendages, etc. 6. In structural changes in the endometrium it would tell him what cases would probably be cured by curettage, and that gonorrhœal cases would not be at once cured by this treatment alone. 7. With diagnosis of gonorrhœa based on such physical signs, he would not undertake conservative surgery on pus tubes. 8. The effect of the gonococcus upon the ovary would lead him to be careful about leaving the ovary in operations. 9. In such cases he would not be liable to do an Alexander operation for displacement. 10. The influence of gonorrhœa in causing sterility. In all cases with the physical signs of chronic gonorrhœa present in the genital tract, with lack of other evidence, the husband should be questioned closely.

Third Day—Thursday, May 6th.

When to Amputate in Preference to the Usual Operation for Lacerations of the Cervix Uteri.—Dr. Thomas Addis Emmet, of New York, read this paper. It had been thirty-five years since he had first practised what was known as Emmet's operation for the repair of the cervix uteri. The necessity no longer existed, in this country at least, for the author of it to stand on the defensive. The judgment stood that in appropriate cases better results could be obtained through its agency than by any other operation. It was only in those cases which were exceptions to the rule and could not be cured by preliminary local applications and Emmet's operation that he advocated amputation by the method described in his book and again in his paper to-day. Some women had not the time or the means to undergo the long preliminary treatment required for softening the cervix, etc., in the simpler operation. In others the cicatricial and diseased tissue extended so deeply into the cervix that even prolonged local and general measures (not operative) would not put the cervix in condition so that the lips could be brought together after all diseased portions had been removed. It must not be inferred, however, that he was not as strong an advocate as ever of a conservative course, that of saving the cervix whenever possible. The uterus was drawn gently to the vaginal outlet, held there steadily by an assistant: the arteries thus stretched were narrowed, and the hemorrhage was much diminished. It was important, too, as the excavation went on for the assistant to draw successively upon the tissues to be cut, as in this way the hemorrhage, which otherwise would be excessive, would be slight. The cervix was taken out cone shape. One should not go out as far as seemed safe, otherwise there would be too great retraction and possible injury of the peritoneum or bladder. As the operation proceeded, the bottom of the cavity must be kept at the vaginal outlet. To obviate closure of the uterine canal by contraction of the tissues, and leaving a cicatrizing surface upon the uterine stump, he drew vaginal tissue over the stump from opposite sides and secured it permanently upon its surface. The cervical canal was left fully open. A silver suture was passed from the required point out on the vagina inward through the stump, stopping short of the central opening; a similar one on the opposite side; others, one or more, in opposite surfaces of the vagina on both sides of the cervical stump, and all were properly tightened after the uterus was first replaced in a nor-

mal position. The sutures were removed about the twentieth day. No operation gave better results in cases suitable to it.

Dr. Emmet's paper was discussed by Drs. Hanks, Goffe (who objected to the term amputation of the cervix), A. P. Dudley (who believed there was real amputation and therefore approved of the term), Bache Emmet, E. C. Dudley, and Mundé. Dr. Emmet replied. He said Schroeder's operation had been spoken of. The same method had been used by him long years ago. It was an American procedure which had gone abroad and got a name.

Result of Two Hundred Operations for the Cure of Retrodisplacements of the Uterus.—Dr. A. Lapthorn Smith, of Montreal, read one of a series of papers on operative treatment of retrodisplacements of the uterus. His paper was supplemental to one which he had read at the meeting two years ago, giving the results of ventral fixation in twenty-eight cases and of Alexander's operation in twenty-one cases. Since then the former number had been increased to ninety-three, the latter to fifty-three. With few exceptions all of these cases had ended successfully, both in the immediate and in the remote result, so far as the latter was known. Most operators, he said, believed, as he did, that ventral fixation ought to be performed only when for some reason the abdomen had to be opened. Alexander's operation was to be chosen in simple retrodisplacement without adhesions. The objections to ventral fixation were chiefly three: 1. Danger of the bowel becoming caught between the abdominal wall and the fixed uterus. This had seldom occurred. 2. Such dangers as existed after any abdominal section, of adhesions, etc. 3. The danger of subsequent ventral hernia. Dr. Smith thought this danger was no greater than that of inguinal hernia after Alexander's operation, and should not influence one in choosing between the two operations. Regarding the difficulties of the two operations, the author now took the ground that the one could be performed as easily as the other, provided adhesions did not complicate the procedure. Two years ago he had thought Alexander's operation was much more difficult, but since then he had hit upon a method of finding the round ligaments which invariably brought them quickly into view. The tip of the index finger was pressed upon the spine of the pubis, an incision was made over this outward and diverging 35° to 50° from Poupart's ligament, down through skin and superficial and deep fascia, but no farther. The last part of the incision should be made with the handle of the scalpel to avoid going farther. The pearly glistening fibres of the external oblique would then be seen, with the intercolumnar fibres running across them. Some fat would bulge up between the pillars. The secret of success now lay in putting aside everything with a cutting edge, not cutting through this fat, but keeping it intact; the tip of the index finger covering the ring, a pair of Péan's forceps was pushed into the canal and opened. This could be done even with the eyes shut. The forceps in the canal caught the only structures in it, the round ligament and nerve, and they were drawn out. The peritoneum was stripped from the ligament and the operation completed. The advantages of this method were: 1, an inch incision was sufficient; 2, there was no need of dividing the fibres of the intercolumnar fascia, which was the sole support of the external inguinal ring; 3, the round ligament could be quickly found, as the normal position of the structures of the ring was not disturbed; 4, the ligaments could invariably be found. He no longer believed that they were ever absent. Inguinal hernia had not developed in any of his cases, nor was there any reason why it should. In the cases of ventral fixation there had been no interference with subsequent pregnancy, but this seldom existed, since usually the disease calling for laparotomy had demanded removal of the appendages.

Intra-Abdominal Shortening of the Round Ligaments for Posterior Displacements of the Uterus.—Dr. M. D. Mann, of Buffalo, said his object in reading this paper was to call anew attention to an operation which he had described in 1895. He had first performed it in 1893. The patient was placed in the Trendelenburg posture, the abdomen was opened, adhesions were broken up, the uterus was replaced, and a large flat sponge was put over the intestines. The uterus was pulled up as near the abdominal wound as possible, the round ligament of one side was made tense by pulling the uterus to the opposite side, and was seized with two long-handled hæmostatic forceps, the points of seizure dividing the ligament as nearly as possible into three equal portions. A needle was passed, threaded with silkworm gut or silk, through the loop nearest the abdominal wall, then under the point where the round ligament was inserted into the uterus, a considerable quantity of uterine tissue being included in the suture. The hæmostat being removed, the loop of ligament was tied to the uterus. The second stitch was passed through the ligament just as it left the abdominal wall, and then through the loop at that portion of the ligament nearest the uterus. The ligature was tied and cut as before. In this manner the ligament was doubled on itself twice, and three thicknesses of round ligament were stretched between the sides of the pelvis and the wall of the uterus. The same thing was done on the other side. Dr. Mann had performed this operation fifty-eight times, and had not met with a single failure, so far as he had been able to follow his patients. Before devising this method he had made use of that of Wylie, Polk, or others, and had met with relapses. As to ventral fixation, he thought it was contraindicated whenever there was possibility of future pregnancy.

Preliminary Report on a New Method of Vaginal Fixation.—Dr. Edward Reynolds, of Boston, read the paper. He suggested the method after having tried it in only three cases, in order that the question whether it would prove successful when tested by a large experience might be settled more quickly. It was based on the fact that the uterus was not held normally in a fixed position; that while its position was uniform in most women, yet it was readily movable and was held laxly by its supports. These, however, were sufficient under ordinary circumstances to restore the original position. It was generally admitted that the normal function of the round ligaments was probably limited to restraining backward excursions of the uterus to the extremes of the normal limits, and that they did not hold the fundus permanently forward. The following was the proposed operation: An incision was made similar to the anterior incision in vaginal hysterectomy, but shorter, barely extending beyond the lateral aspect of the cervix. It was carried through the mucous and submucous tissues until the cleavage plane between the bladder and uterus was found. The bladder was then separated from the uterus up to the level of the internal os—previously ascertained by the sound. The uterus was now replaced; the point at which the bladder separated from the anterior vaginal wall was carefully ascertained by introduction of the sound into the bladder; a cervix needle, threaded with a silk carrier, was made to enter the vaginal wall at a point a little in front of the separation between the bladder and vaginal wall, and was carried obliquely through the tissues, to emerge on the cut surface just below the junction with the bladder. A silver-wire suture was threaded upon the carrier and drawn through the anterior vaginal wall. The same suture was then made to pass through the cervix at the

level of the internal os and brought out through the anterior vaginal wall at a similar point on the opposite side. A second suture was placed as near the first as possible, care being taken that the uterus was still well forward. These sutures were twisted and turned down. Coarse wire should be used. The cut edges of the mucous membrane were then stitched together with fine catgut. The only question with the operation was whether it would prove efficient. It certainly ought not to interfere with pregnancy, for it concerned only the cervix.

Shortening the Round Ligaments through the Anterior Vaginal Fornix for Posterior Displacements of the Uterus.—Dr. J. Riddle Goffe, of New York, described the method by which he had shortened the round ligaments for posterior displacements through the anterior fornix of the vagina, instead of opening the abdomen as Dr. Mann, Dr. Dudley, and others had done. In some preliminary remarks he pointed out some objections to other operations, more especially to anterior vaginal fixation of the uterus, as in Mackenrodt's operation, for in this the effects upon pregnancy had been disastrous. Dr. Goffe operated as follows: The uterus was drawn to the vulva, a cross section was made in the vagina at its junction with the cervix, the bladder was dissected off until he reached the peritoneal reflexion of that viscus on to the uterus; the central points of the cross incision were picked up with two artery clamps, and between these, with the anterior vaginal walls drawn tight, he commenced a longitudinal incision which extended forward to the neck of the bladder. Then the bladder was dissected from the vaginal wall on both sides, with the handle of the scalpel forward toward the urethra, backward and downward toward the cross-incision, until the bladder was separated one inch or one and one-half inches on both sides. Then the peritoneum was broken through at the point where it connected the uterus and bladder, the finger was hooked over the fundus of the uterus, all adhesions were broken up, and with the finger the uterine appendages were brought down and inspected, and conservative work was done on them if necessary. With a dull instrument he made an incision from one to two inches in length through the peritoneum which covered the round ligament, dissected the ligament out from its bed, drew it down as far as he thought was necessary to suspend the uterus—one inch to two and one-half inches—doubled it upon itself, and stitched it so with two or three sutures. This was done with both round ligaments. The uterus was replaced and a little gauze packed between the bladder and uterus; the longitudinal incision in the vagina was closed. Dr. Goffe had operated in this manner eight times, all since last October. The result had been entirely satisfactory except in one instance. In the one case he failed to dissect up one round ligament, and the result was sagging of the uterus on that side. A criticism which Dr. Lusk had made when he witnessed the operation was that it seemed to involve too much trauma. Dr. Goffe thought this point should be judged by the result. The women had all made good recoveries from the operation. It was, of course, too early to judge of the lasting result.

Dr. Paul F. Mundé expressed pleasure at opening the discussion, because he had been first to do Alexander's operation in this country. He had performed it more than one hundred and twenty times, and with great satisfaction. It had held out against all rival operations.

Dr. McMonagle, of San Francisco, practised uterine suspension to the abdominal walls as done by Kelly. It was quite different from ventral fixation. Regarding vaginal fixation, it was still being done by some surgeons in San Francisco. Some of the women had afterward come to him, complaining of pain similar to that referred to by Dr. Goffe as having developed in one of his patients, and which he and others had spoken of as occurring after Alexander's operation.

Dr. A. P. Dudley preferred intra-abdominal shortening of the round ligaments, which he now did after the method of Mann, preferring this to his own method, which he had formerly practised. He did not think favorably of doing this through the vagina, as described by Dr. Goffe. It was "taking the longest distance to go the shortest way round."

Dr. C. P. Noble referred to a paper which he had read on the surgical treatment of posterior displacements of the uterus, about two years ago, and in which he pointed out a difference between fixation of the uterus and suspension of it according to Kelly's method, there being objections to the former which did not apply to the latter. The oftener he did Alexander's operation, the better he was satisfied with it.

Dr. H. J. Garrigues spoke of some points in Alexander's operation with which he was pleased. As to the scars, they were covered by the hair of the pubes.

Pelvic Blood Collections and Their Treatment by Vaginal Incision.—Dr. E. E. Montgomery, of Philadelphia, read a paper on this general subject. Blood collections in the pelvis had long been recognized. The most frequent cause was rupture of an ectopic gestation. Other causes were escape of fœtal sac through the abdominal orifice of the tube; rupture of hemorrhoidal vessels, tearing of tube or pelvic adhesions by massage, examination of patient, or other traumatic lesions; rupture or perforation of the uterus; rupture or injury of an ovarian growth; twisting of the pedicle of an ovarian or broad ligament cyst; malignant disease of the ovary or tube; internal hemorrhage during menstruation, or following an abortion or miscarriage; slipping of a ligature, or slipping back of an artery after an operation. The symptoms would depend largely upon the situation of the hemorrhage. Intraperitoneal hemorrhage was far the most serious. It was usually attended with shock, blanched face, etc. The patient might die within a few minutes. After the blood collection had remained a time, septic phenomena might develop. If not, nature would cause its absorption and leave no remains, or it might stay and its presence be attended by secondary manifestations. In case of suppuration, discharge might take place into the vagina, rectum, or in some other direction. It was best that it should be into the vagina. The treatment would depend upon whether the collection was recent and continuing, or whether it had been present for some time. If it was recent and the patient had recovered from shock, certainly it would be unwise to open and remove the clot, on account of the danger of renewing the hemorrhage. If hemorrhage was going on, the patient's condition should be improved if possible and steps taken to stop the hemorrhage at once. In general, operative treatment was better than the expectant plan, in view of the possibility of infection, etc. Allowing for cases of active hemorrhage and ectopic pregnancy, the author advocated treatment by vaginal incision. Simple small puncture or aspiration was condemned.

Sociological Aspects of Gonorrhœa.—Dr. E. W. Cushing, of Boston, read a paper relating to the effects of gonorrhœa upon society at large. In view of the serious and far-reaching consequences of gonorrhœal infection, acting on the numerous innocent victims who happened to be our patients, causing in the young married woman endless suffering, sterility, and even death, he felt that it was the duty of this society to take all justifiable means to diffuse among the people a knowledge of such dread results. Ignorance of

the consequences of gonorrhœa had influenced the destiny of nations. Carried from older nations to new, it had not only caused untold suffering but had been one agent in decimating the population. This was made clear by mere mention of the progress of gonorrhœal infection through vagina, uterus, tubes, and ovaries, and of its multitudinous manifestations in other directions.

When it came to questions of prevention we found ourselves in the presence of the social evil, which was not only as old as history but as old as humanity. So far as concerned this and countless succeeding generations, we must accept human nature as a fixed quantity which could not be changed. Man had always been swayed by the sexual impulse, and woman had responded. The author later came to the question of the prevention of spread of gonorrhœa. He regarded the regulation of prostitution as a failure. It tended to spread venereal diseases by giving a false sense of security. It would be a tremendous instrument of blackmail on the part of the police and place the small proportion of prostitutes who should register quite at their mercy, while the greater number who did most to distribute gonorrhœa throughout the community would not register at all. Moreover, such a method in order to be effectual would require the sequestration of the men as well as of the women.

But a great deal could be done by the medical profession, whose office it was to instruct and enlighten the community as well as to cure disease. Thus public opinion would be formed, which was the only reliable foundation for the enforcement of law. A number of legislative bills had been presented, looking to the prevention of venereal diseases in a variety of ways, all of which struck the author as more or less absurd and impractical. When the public came to understand that gonorrhœa was a thing to dread as much as small-pox, the fight of prevention would be aided immensely. Let us, not only as a solid profession, but as individuals and family physicians, spread abroad information on this important subject by conversation with clergymen, jurists, teachers, and others. When parents came to be informed, they would not allow their daughters to marry men about town. Further, patients having gonorrhœa must be made to take the matter seriously, and undergo a rigid course of treatment, and not marry until all danger of infection had disappeared. Finally, the author mentioned the medico-legal aspect of the question.

Dr. H. J. Garrigues said that, while young men ought to control their sexual passion, yet he advised those who were too weak to do this to protect themselves and their future wife against infection by the use of a condom when they visited houses of ill fame.

Dr. Woods Hutchinson, of Buffalo, said he had some months ago devoted a good deal of study to this and other questions in their relation to the evolution of society. It had been found that while gonorrhœa was baneful to the individual, yet in its influence upon the development of society it acted, as did certain other evils, to cut off a part of the worst elements in the community. It was fortunate for society that both the men and the women about town usually became incapable of procreation, and even that the life of the prostitute was of short duration The cause of early death was largely alcohol.

Dr. Ashton, of Philadelphia, spoke in line with the views expressed by Dr. Cushing, and strongly against regulation of prostitution in the manner attempted in Berlin and some other European cities. It served only to spread venereal disease and immorality.

Dr. A. P. Dudley, the discussion of whose paper was included with that of Dr. Cushing's, repeated and emphasized the eleven points brought out in his paper relating to diagnosis and treatment of gonorrhœa.

Officers.—Dr. Paul F. Mundé, of New York, *President;* Dr. J. Riddle Goffe, of New York, was re-elected *Secretary*, and Dr. J. M. Baldy, of Philadelphia, *Treasurer.*

The next meeting will be held in Boston, the fourth Tuesday in May, 1898.

AMERICAN PÆDIATRIC SOCIETY.

Second Day—Wednesday, May 5th.

Adherent Pericardium in Children.—Dr. William Osler, of Baltimore, read a paper on this subject. Adherent pericardium occurs without cardiac hypertrophy as well as with. The adhesions to the diaphragm are not extreme, as a rule. It should be our routine habit to examine children's hearts with special reference to this disease. Three points are to be noted: 1, bulging; 2, systolic retraction above or below the apex; 3, Broadbent's sign. This valuable sign is a systolic retraction in the line of the diaphragm behind and to the left. It is most marked in the tenth and eleventh interspaces. It is due to wide adhesions of the ventricle and diaphragm. The vessels of the neck may be seen to retract. Physical signs: Palpation is of no value; percussion gives wide dulness. Stokes-Williams fixation of the upper limit of the heart may be present. Auscultation is of no value. One of his patients had a blubbering presystolic murmur with no valvular lesion. One had a thrill. Another important point is the association of recurring ascites with adherent pericardium.

The following case gives a summary of symptoms: When six years old the subject had rheumatism; at twelve years, anasarca. He had mitral regurgitation, cardiac hypertrophy, bulging præcordium, an apex murmur, and ascites. For the latter he was tapped one hundred and twenty-five times.

Empyema Operated upon during 1896 in the Children's Service of Mount Sinai Hospital.—Dr. B. Scharlau, of New York, said that during the year 1896 there were 56 cases at the hospital in which resection of one or more ribs was practised. The subjects numbered 36 females and 20 males. The ages ranged from fifteen weeks to thirteen years. The effusion was on the right side in 25 cases, and in 30 on the left side. A child of two years, had effusion on both sides, and recovered. Twenty-two had or gave a history of having had pneumonia. During the first half of the year 16 of the 32 died. Of all the subjects 36 recovered, 18 died, and 2 left the hospital improved. The death rate was 33 per cent. The causes of death were: 2, shock on the third day; 1, diphtheria; 2, measles; 8, pneumonia; 1, diarrhœa; 1, exhaustion.

It is claimed against the operation that fistula results. If there be dead bone and high granulations, they should be removed and the healing process started anew. If the lungs fail to expand, it is because of the feebleness of the child; it is not the fault of the operation.

Dr. Chapin said that the simpler operation usually suffices, especially if the diagnosis be made early. With an incision alone, recovery takes place in a few weeks.

Dr. L. E. Holt regretted that the time of continuance of the discharge was not given. Incisions heal quicker than exsections; therefore why subject the child to the more serious operation?

Dr. W. P. Northrup described a case of double empyema that was extremely bad. Having given a whiff of ether, he plunged a knife into the side—lanced it, as it were. In fifteen days the tube was out and the wound had healed. For some reason the boy fell into the hands of a surgeon for treatment of the other side.

He removed a rib, after which the wound discharged for three months.

Dr. Osler thought the boy was fortunate in losing only one rib. The real point to be determined is: What is the cause? An empyema due to pneumococci needs only to be tapped, while that due to streptococci must be laid wide open.

Dr. H. Koplik said it was well to remember that these were hospital cases. In private practice the results would be far better. It certainly makes a difference whether a wound is to close in eight days or eight weeks. The varieties of infection are four: first, tuberculous; second, pneumonic; third, streptococci; and lastly, metapneumonic. The streptococcus is the worst, as the both lungs are likely to be affected. The extensive wound may become infected and cause death. If the child is below one year of age, cure by siphonage should be attempted. In an older or strong child a rib might be exsected. The doctor said he had seen wounds of exsection close in eight and twelve days. A tuberculous case will not recover even though many ribs are resected. One should select the operation best for the particular case in hand. Results in private practice are good, if diagnosis and operation are made early.

Sarcoma of the Skin in the Newborn.—Dr. A. Jacobi read a paper with this title. He said, in part, that primary sarcoma of the skin is rare in adults, though it occurs between thirty and fifty years of age. Genuine sarcoma is a connective-tissue growth that increases rapidly. There is no recovery from it. Congenital cases are mentioned in literature, but the description usually shows the affection to have been subcutaneous rather than in the skin. Dr. Jacobi then analyzed the recorded cases, and found but one a true case. In 1884 he was the first to distinguish these growths from cancer, and has since so taught. The second case he now added to the list, with the following history:

Age, four months. A normal labor and normal breast-fed baby. When he was one month old a pink spot appeared on the scrotum. When three months old the spot was nodulated and bright red in color. It measured one and one-half by two centimetres. It was cut out easily and healed kindly. A small spot on the penis was cauterized and healed. Lupus was excluded, because there were no swollen glands. The microscope showed the tumor to be composed of fusiform and giant sarcoma cells. It is probable that the aberration of growth occurred at the fourth month of embryonic life.

Dr. W. L. Carr narrated a case in which he had removed a round-celled sarcoma of skin and subcutaneous tissue. He could not say in which it originated.

Abscess of the Brain in Infancy.—Dr. L. E. Holt read a paper with this title, reporting four cases.

Case I.—Child, six weeks old, the youngest recorded as having abscess of the brain. Four days before death it was found to have a fluctuating swelling of the thigh, due to a rupture of the quadriceps muscle. The temperature was 99.5° F. There was neither coma nor convulsion. On autopsy the brain was found firm and the surface normal, except pus and fibrin locally in the pia mater. An abscess holding two ounces of pus was found in the parietal lobe, which measured seven by five centimetres. Streptococci were found in the liver and abscess. Staphylococci were found in the auditory canal. The ears had been pierced and contained filthy thread. Possibly the infection entered here.

Case II.—Child, three months old; ill three days. It had irregular respiration, retracted abdomen, depressed fontanelle, irregular pulse, opisthotonos, nystagmus, and strabismus. The temperature was 102° F. The pupils were normal. The abscess was found in the right parietal lobe, and the pus filled all the ventricles. Pneumococci and bacilli coli communi were found.

Case III.—Child, five months old; had sudden vomiting, crying, opisthotonos, boatbelly; pulse, 200; temperature, 98° to 104° F.; and sluggish pupils. The abscess was of the size of a hazelnut, and under the cerebellum. Diplococci were found everywhere.

Case IV.—Child, nine months old, with history of four weeks' illness. The fontanelle bulged, but there was neither paralysis nor stupor. Abscess in right lateral lobe of cerebellum. Lumbar puncture revealed no tubercle bacilli. Staphylococci and pneumococci were found. This subject had vomiting, but no retraction of the abdomen. The *tache cérébrale* was present, and a flushing as of scarlet fever. Many diagnoses had been made other than abscess.

There are now recorded twenty cases of brain abscess in children under four years of age. The causes have been trauma, ten; otitis, nine. The average duration is five weeks. Convulsions often occur at the end.

Pneumonia.—Dr. F. Gordon Morrill read a paper embodying the results of an analysis of one hundred cases of pneumonia. He preferred the term "frank pneumonia" for the fibrinous variety. The cases had been seen in the Boston Hospital; the ages ranged from fourteen months to eleven years. Twelve gave a history of contagion. Seventy per cent. had vomiting, sixty per cent. had headache. Chills occurred in five cases. The consolidation was at the back in forty per cent. of cases. Effusion happened once. Five cases had temperatures as high as 106° F. Morning remissions were common. One had reinfection after five days' normal temperature. The lungs were usually clear in nine days. Mortality, six per cent. Treatment: All had brandy, and half of them had digitalis or strychnine. Opium was used at times. The cold pack is better for pneumonia than for typhoid fever.

Hereditary Tendencies in Pædiatric Practice.—Dr. F. M. Crandall read a paper with this title. He said that heredity and degeneration are two totally different phenomena, but are frequently confused by writers. The one produces a condition similar to that of the progenitor; the other a condition dissimilar. Degeneration may be inherited or acquired. The term is sometimes applied to conditions due to entirely different causes. There are elements of good heredity which are as potent as those of bad heredity, and frequently counteract tendencies to disease which would otherwise appear in the offspring. The tendency to a given disease shown strongly by both parents is not an infrequent cause of degeneracy. The strong tendency on the part of nature to adhere to a type in each species is a potent factor in preventing the repetition of extremes and in maintaining the common average. There is no evidence to prove that the number of degenerates is now greater than it has been in the past.

Lithæmia in Children.—Dr. B. K. Rachford said that there are many symptoms in lithæmic poisoning, and many names. Leucomain poisoning he liked best. Lithæmia is known by its symptoms rather than by its pathology. It is in reality an auto-intoxication, due to an excess of uric acid, xanthin, etc. Newborn infants eliminate much uric acid, and it may cause infarcts in the kidney and small calculi in the urethra. This is the cause of so much crying and evident suffering in many young infants. They have a reddish deposit in the diapers. The hot bath relieves this condition. Excess of oxalates may be the same, and cause nocturnal incontinence. The gastro-enteric symptoms are important, as the following case will illustrate:

Male, seven months old, of gouty parents. Since birth he has had sharp attacks, accompanied by rapid breathing without physical signs: temperature, 102° F.; sickening breath and oily stools. Calomel in one-twentieth-grain doses relieves the attack. His brother is similarly affected, but has headache instead of vomiting. It is megrim.

Some of the cases begin with convulsions. There is constant intestinal fermentation, and the toxin arising so affects the nervous centres as to produce rapid breathing. The precocious tuberculous child is short lived. Not so the precocious lithæmic. He will grow and have eczema, epileptoid seizures, and megrim.

Dr. Jacobi said that infants vomited easily because the stomach is straight. In childhood and youth it becomes more horizontal. These ages have headache instead. Temperature changes as intestinal conditions do. The doctor has often seen toxic nephritis cause many symptoms, especially convulsions.

Dr. Rotch had seen many uric-acid cases in nursed babies. It was due to too high a percentage of proteids. This can be reduced by having the mother exercise more, as exercise reduces proteids.

Dr. Crandall suggested that during growth of children we should from time to time see to their dietary and exercise, with a view to limiting the lithæmic state and its consequences.

Dr. Rachford, in closing the discussion, said that uric acid is insoluble, but may mechanically do harm, as in a joint. The types of lithæmia change from gastric to cerebral, epilepsy to megrim, etc. It is well demonstrated that the formation of uric acid is by nitrogenous metabolism.

Exophthalmic Goitre Apparently Cured by the Use of Thyroid Extract.—Dr. C. J. Kerley reported such a case in a girl, thirteen years old. She was poorly developed. Her father had epilepsy in his youth. A sister died at nineteen years from phthisis. Two uncles were of feeble mind. A year before the girl had received a blow in the neck while at play. A large painful swelling resulted, but went away. Another took its place, which was not painful on pressure. The girl became languid and her eyes protruded. The lids would not close. There was no loss of power in the extremities. The pulse ranged from 120 to 140, was small and soft. The carotids throbbed. Desiccated thyroid was given three times a day, five grains at a dose. On the twenty-ninth day she could walk alone and close the eyelids. As she was dizzy, the thyroid was reduced to two grains. After five months' treatment she could dress herself. The eyes are still large, but she is practically well.

Dr. Koplik, in the absence of Dr. Huber, read the history of the latter's "Case of Goitre Treated by Thyroid Extract." The goitre was three and one-half by two and one-half inches in diameter, and cystic. The child's memory was failing. After four weeks' use the extract was stopped and the three bromides were substituted. Dr. Koplik then cited several experiments of his own with thyroid, one being in a lipomatous child, nine years old. There were blindness, tremors, deficient mind, normal but dry skin. The hair and nails did not grow. Thyroid extract had no effect except to make the child worse. Hydræmic anæmias are greatly improved under thyroid, if iron also be given. Rachitic conditions are also helped by thyroid and iron. Thyroid improves the spirits and clears the skin.

Third Day—Thursday, May 6th.

Retro-Œsophageal Abscess.—Dr. J. P. Crozer Griffith reported a case of this kind in a child, twenty-one months old. For four weeks it had a metallic cough, with croupy attacks. The child was pale and had labored respiration, the auxiliary muscles being called into action. Expiration was prolonged, as in tumor of the trachea. There was no chest dulness. There were coarse râles throughout and occasionally there was spasm of the larynx. Diagnoses of asthma and of stenosis of the larynx were suggested. There was no evidence of enlarged bronchial glands. The boy was said to have swallowed a piece of celery. Tracheotomy was done, but no relief afforded. He was steamed by the croup kettle, but the fever ran high, broncho-pneumonia developed, and death resulted. Three small bunches of fatty crystals were found under a bronchus. The abscess was in front of the first thoracic vertebra, which was eroded. This condition may be common, but few cases are recorded. In pædiatric literature they are scarcely mentioned. There are no characteristic symptoms. Dyspnœa is usual; dysphagia not so, because the œsophagus is movable. Caries of the vertebra is recorded seven times, and in two cases it was absent. It is an infant's disease, only two being recorded in adults.

Retained Intubation Tubes.—Dr. Joseph O'Dwyer read a paper on this subject. He gave several causes for the obstruction: Paralysis or traumatism: a tube too large for the patient or clumsily introduced: a last cause, subglottic infiltration. He exhibited two larynges, one normal and the other showing the subglottic infiltration. Breathing can be carried on through very small openings: therefore small tubes should be used. In the trachea there is plenty of room for any tube. Infiltrated tissue is apt to slough. If after removal of the tube dyspnœa returns slowly, it is an indication of infiltration. If it returns rapidly, œdema is the cause. Granulation tissue may form above the bands, caused by roughened tubes. Tubes should be changed after four or five days, to be cleaned of rough deposits. Adductor paralysis may occur, but it should be remembered that this is a symptom not uncommon in diphtheria treated without the tube and one should be slow to ascribe it to the tube. If the tube is producing too much pressure, a smaller one than the age register would indicate should be employed. Strictures have formed in the larynx too much pressed upon by tubes. If the tube be occasionally reintroduced, healing will be gradual and no stricture follow. An interesting case was that of a boy who lived five years with a stricture from subglottic infiltration. He had another attack of croup, for which tracheotomy was done. Through the wound the stricture was divulsed. Recovery was complete. He could have been well before, but operation had been refused. The European habit of so soon resorting to tracheotomy if the tube does not cure, Dr. O'Dwyer does not understand. It is easy to find the tube that is suited to the case. For infiltration cases he has constructed tubes with a built-up head and retaining swell. One should use a tube to suit the size of the child, no matter what the age may be.

Dr. Northrup said that few physicians see retained tubes, but all will appreciate the new tube with built-up head and retaining swell. Often the only chance for life is in the modified tube.

Dr. Jennings related the case of a child who had been tracheotomized six weeks before entering the hospital. In seven days the tube was removed. The child was well twenty-four hours, when suddenly tracheotomy had to be done again, and the tube remained ten days more. This was repeated three weeks later. The boy learned to remove the tube himself every morning, and the house physician would replace it toward night when he became croupy again. Abductor paresis may be common when real paralysis is not.

Dr. O'Dwyer, in closing, said he had seen twenty cases in which stricture had been developed cured by introducing a tube often.

Diphtheria of the Eye.—Dr. T. M. Rotch gave the history of such a case. The child was three years old, and presented palpebral conjunctivitis. There was membrane on each eye, cultures from which showed Klebs-Loeffler bacilli. Five cubic centimetres of antitoxin were administered, and the membrane melted gradually away. In twenty hours it began to form anew. Two and one-half cubic centimetres were then given, and repeated every sixteen hours until recovery was complete. Cold and red-iodide ointment had been used with no result. It is the Klebs-Loeffler bacilli that destroy the cornea in these cases; therefore one should give antitoxin freely and prevent it. Its early use will save the cornea. Streptococci were found in this child's throat. The urine did not contain albumin.

Dr. Standish said that diphtheritic conjunctivitis has been described in Germany, but has not seemed to be frequent here. It is very grave, as necrosis of the globe and loss of sight result from it. He used to doubt the diagnosis if a subject recovered. Two years ago the Lying-in Infirmary established a bacteriological laboratory, and since that time many cases have been found and proven by the germs. Clinically the cases are diphtheritic, and so they are bacteriologically. Therefore the physician should give antitoxin and save life and sight. The conjunctiva is a good culture surface and catches most infections.

Dr. Rotch, in closing, said we must give enough antitoxin to stop the diphtheritic process, even if the physiological effects or poisoning of antitoxin be produced. We can treat that afterward.

Rapid Diagnosis (Bacteriological) of Diphtheria.—Dr. Henry Koplik presented an apparatus for this purpose. It consists of an ordinary water oven, which may be kept hot by a lamp on a tripod. The outfit would not cost more than two dollars. The temperature should be maintained at 38° C. The smears from the throat are to be applied to Loeffler's peptonized blood serum. It is to be treated for two and one-half or three hours, when the growth may be removed by a platinum needle and stained on a cover glass by Loeffler's blue. Loeffler bacilli will grow in a temperature of from 20° to 39.5° C., but the low point requires a long time. An excess of heat, on the other hand, is bad, as it favors the streptococci, which may outgrow and cover the Klebs-Loeffler bacilli. The method is simple. An expert laboratory bacteriologist is not required.

Prenatal Infection Causing Diseases which Develop during the First Month of Life.—Dr. Edward P. Davis read a short paper on this subject. He said we often see toxic symptoms in infants for which we can assign no cause unless prenatal infection. He had caused cultures to be made from the placenta and blood of the mothers, from fæces, etc. These showed that pyogenic organisms exist in the fæces of infants as yet unnursed, and the same in the breast of the mother before the baby has nursed. We know an anæmic mother may have an infant with normal blood. The placenta was usually sterile. Maternal toxins may be transmitted to the child during pregnancy. The proper treatment for the child is lavage with normal salt solution.

Acetanilid Poisoning in a Newborn Infant.—Dr. Irving M. Snow read an account of such a case. The child was healthy and born by a natural labor. On the seventh day the navel wound was dusted with crystals of acetanilid. Two days later the child became livid, apathetic, very blue, as in asphyxia. The pulse was very rapid; respiration, 60; temperature, 99° F. The lungs were clear and heart valves normal. The mind seemed clear and the pupils normal. Digitalis and oxygen were given, but the rally was slow. Jaundice came on later. The stools and urine were normal. The loss of weight was fourteen per cent. in two days. Eight cases are now reported, in one of which the patient died when four days old. The frequency with which acetanilid is used by surgeons must make us watchful. It is unsafe for infants.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. L. Emmet Holt; *First Vice-President*, Dr. Henry Koplik: *Second Vice-President*, Dr. Charles G. Jennings; *Secretary*, Dr. Samuel S. Adams; *Recorder*, Dr. Floyd M. Crandall; *Treasurer*, Dr. F. A. Packard; *Member of Council*, Dr. Charles P. Putnam.

The following members were elected: Dr. J. H. McCollom, Boston; Dr. J. P. West, Bellaire: Dr. Churchill, Chicago; Dr. E. E. Graham, Philadelphia: Dr. Harold Williams, Boston.

The subject of infantile scorbutus was selected for collective investigation, the report to be made at the next meeting. The following committee was appointed: Drs. W. D. Booker, J. P. Crozer Griffith, C. G. Jennings, A. Caillé, J. Lovett Morse.

Cincinnati was selected as the next place of meeting, the exact date not being decided upon.

(To be Continued.)

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE COLLEGE OF PHYSICIANS ON MEDICAL AID SOCIETIES—NEW FELLOWS—A LADY CANDIDATE FOR VETERINARY QUALIFICATIONS — OYSTER FISHERIES —DUCHESS OF TECK—LISTER AT THE LITERARY-FUND DINNER—THE LATE DR. VANDYKE CARTER—BALNEOLOGY AND CLIMATOLOGY.

London, May 7, 1897

The Royal College of Physicians has at last stated its pious opinion on the medical-aid question, in reply to a memorial presented some months ago asking for guidance. The college views with disapprobation the action of societies which make a profit out of the services of its medical officers, and also the conduct of practitioners taking office on such conditions; but the college would be exceeding its powers in forbidding its fellows, members, or licentiates to meet in consultation qualified practitioners who are acting in conformity with their legal rights. Evidently the memorialists can obtain little advice or guidance from the antiquated corporation to which they submitted their case. The local Medical Society, however, had previously pronounced it unbecoming and unprofessional for any member to lend his name to such an association, and acting within their legal rights all professional men can decline to acknowledge the existence of those who continue to act in a manner condemned by the vast majority.

The college next proceeded to elect eleven members to the fellowship. It seems that the officials could not make up the customary dozen, and yet I could easily give them a dozen names of men who have been passed over time after time, and whose election would be a credit to the college. Probably they are too proud to appear to seek what ought to be an honor, but which under present circumstances cannot be so considered. It is the old story that "kissing goes by favor," and retiring or modest persons are of course left out.

The woman question has had a new development. A lady, having qualified herself for examination by the Royal College of Veterinary Surgeons of Edinburgh, applied to be examined. Objection was taken to admitting her, as there was no precedent for granting a

qualification in veterinary medicine and surgery to a woman. But the college is only about forty-four years old, and this is said to be too short a time to establish usage. It is reported that the point will be submitted to the Scotch law courts.

The city fathers desire to be appointed the authority for inspecting the Kent and Essex oyster fisheries. Their port-of-London sanitary committee has done excellent work, and the government might do well to agree to the proposal, for the corporation is the market authority, and the London market is the natural destination of the product of fisheries in question.

The newspapers this morning announce that the Duchess of Teck a week ago underwent an operation for strangulated umbilical hernia. This is on the authority of advance slips from the *British Medical Journal*, and the names of the doctors are duly given. Of course the editorial cloak covers the sin of advertising the journal, which is so bitter in the case of slighter offences by individuals. It is satisfactory to learn that the patient, a favorite with the public, is doing well.

Lord Lister presided at the dinner of the Royal Literary Fund, and was supported by quite a number of prominent medical men.

Dr. Vandyke Carter died on Tuesday, aged sixty-five. You may perhaps remember him best for his important researches on parasitic diseases, but he had served a full career in the Indian medical service and attained the rank of deputy surgeon-general and honorary surgeon to the Queen.

The Balneological and Climatological Society is making progress. Sir D. Powell made an address at a recent meeting, in which he gave utterance to some home truths on sending patients away before accurate diagnosis was determined, and on the mischief done by taking up new methods indiscriminately, instancing the Schott treatment, now brought into some discredit for this reason, although no doubt of value in a very small number of most carefully selected cases. Wise words, Sir Douglas!

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE TWENTY-SIXTH CONGRESS OF GERMAN SURGEONS, HELD IN BERLIN.

BERLIN, May 10, 1897.

FOR the twenty-sixth time the surgeons of Germany assembled in congress during Easter week. The presiding officer was Professor Bruns, of Tübingen, and in his opening address he recalled to mind the numerous deaths of members during the past year, dwelling especially upon the loss of Sir Thomas Spencer Wells, who was one of the few honorary members of the society. The present congress was marked less by reports of dazzling, epoch-making discoveries than by a quiet and earnest study of surgical advancements and investigations. The entire proceedings may be arranged under three principal headings:

1. The surgical treatment of ulcer of the stomach.
2. The use and value of the Roentgen rays in surgery.
3. The operative treatment of hypertrophy of the prostate.

The papers upon the first theme were read by the well-known authors and authorities, v. Leube and Mikulicz; the former treating the subject from the internal medical and the latter from the surgical point of view. By this plan it was best shown how the internalist and the surgeon could co-operate in the treatment of this condition.

V. Leube spoke about as follows: As a rule, the plan of treatment embracing absolute rest in bed, a carefully restricted diet, together with the application externally of hot bran poultices, is sufficient to cure the condition. Under these procedures seventy-five per cent. of patients were permanently healed, twenty-one per cent. improved, and four per cent. were unimproved or died. He regards the following as indicating a surgical procedure: 1. Very serious hemorrhage. 2. Secondary adhesions or abscesses, which are not infrequent after the healing of an ulcer. 3. All cases which resist internal medical measures, and in which the patient is threatened with death from marasmus.

Mikulicz compared the dangers of the operation with those of the disease itself. The results from the operation would be much more favorable and the dangers far less if the patients were operated upon earlier—not in a miserable condition of starvation, or half-dead from repeated hemorrhages, or, in a case of perforation, until pyæmia had intervened. Mikulicz regards the danger of an open ulcer of the stomach as not less serious than that of an operation for its cure, and that an operative procedure is indicated when no relief can be given the patient through other measures.

The reading of the papers of v. Leube and Mikulicz was followed by a discussion in which Körte, Rosenheim, Braun, and others joined. Körte reviewed the surgical treatment of diffuse peritonitis. Apparently hopeless cases of diffuse peritonitis are frequently greatly benefited by the evacuation of the foul fluid in the peritoneal cavity and subsequent irrigation with sterilized water, all of which is to be done through the smallest possible opening. The system is not by this procedure ridden of the disease, but by thus disposing of so much infectious matter the peritoneum is so aided in its combat with the germs and their products that it triumphs.

Professor Marwedel (Heidelberg) followed with remarks upon the "Value of the Murphy Button in Stomach and Intestinal Operations"—a subject which is of especial interest to Americans, the genial discoverer of this ingenious surgical device being a native of their land. Marwedel described in detail the application and uses of the button, a subject too well known to need repetition here. He recommended its use, although he has seen trouble resulting from it. Owing to its peculiar construction, intestinal obstruction may result, and can cause and has repeatedly brought about the death of the patient. On the other hand, the great advantages of the button as compared with the intestinal suturing are so vast, and the entire procedure is so new, and capable of improvement at all events, that it appears advantageous to employ it still experimentally.

Franke (Braunschweig) recommended the carrying out of gastro-intestinal operations in two separate sittings. The patients are as a rule very weak and poorly nourished, and cannot stand a severe operation. Franke had, for example, in cases of pyloric carcinoma, first performed gastro-enterostomy, and a few days later, or when the patient had improved, did the resection of the pylorus.

On the first day of the congress there were also papers read and remarks made upon intestinal occlusion and intestinal stenosis by the gut being caught in a diverticulum.

In the adjoining rooms of the building there was an exhibition of important surgical instruments and appliances. Many prominent firms were represented. A very large space was devoted to the exhibition of Roentgen photographs, which have gradually become an indispensable auxiliary of surgery. All kinds of normal and diseased organs and members of the body were to be seen well photographed; recent as well as perfectly and imperfectly united fractures, abnormal developments of bone, foreign bodies, etc.

The second day was devoted almost entirely to Roentgen rays. Surgery especially has been benefited by this epoch-making discovery of the Würzburg investigator, and if there be any one who doubts this he would have been converted by the number of those who spoke in terms of highest praise at this year's congress.

The principal paper was read by Professor Kümmell, of Hamburg, upon the "Application of the Roentgen Rays in Surgery." "Thanks to the untiring and ceaseless efforts of physicians, techniquers, and clinical observers," he said, "the fears at first entertained that Roentgen's discovery would be of but little practical benefit for medical science have proven futile; on the contrary, although but one and one-half years have passed, brilliant results have been already obtained, and we may expect much more in future." Kümmel referred to the advances made in the searching for foreign bodies, in the recognition of pathological bone processes, etc. The rays penetrate plaster of Paris readily, and it is therefore easy to ascertain if a set fracture has been properly reduced and remains in position. Tuberculous, syphilitic, and other diseased bone processes, as well as calcareous changes in the blood-vessels, can with great certainty be recognized. Cases of improvement of lupus by means of the rays have been reported.

The other speakers also spoke highly of the Roentgen rays. It is worthy of note that Eugene Dorn (Berlin) has so modified the procedure by means of stronger light and more sensitive plates as to take photographs within thirty seconds.

At the close of the second day Professor Rehn (Frankfort-on-the-Main) reported a case of wound of the heart, successfully treated by suturing the organ itself. The patient was a young man who had received a stab wound in the heart. He was found unconscious in the street and brought into the hospital. Active stimulation revived him, and examination showed dilatation of the heart, dyspnœa, and a small irregular pulse. The external wound was enlarged, in order to get at the point of bleeding. The pericardium was observed to be wounded also, and this being enlarged the heart itself came into view, showing in the wall of the right ventricle a wound about 1.5 cm. long, through which dark blood continuously trickled. Professor Rehn quickly sewed the heart wound with a continuous deep suture, and at once the hemorrhage ceased. The patient made a good recovery. As an evidence of the integrity of his heart's action it need only be mentioned that he wandered about Berlin the two days he was here, seeing the sights from morn till eve.

In the discussion which followed, Professors Riedel, Körte, Bardenheuer, Lauenstein, and Rieder reported other but unfavorable cases.

At the commencement of the third day, an invitation from Moscow to visit the coming international medical congress was read. Assurances of a warm reception of the German surgeons were given.

Then followed a discussion of the "Operative Treatment of Hypertrophy of the Prostate." Helferich recommended castration, but would reserve this measure for the severer cases only, as frequently disagreeable psychical disturbances occur. Freudenberg (Berlin) recommended the galvano-cautery. Socin (Basel), in all probability the best authority on prostatic surgery, is opposed to all operations, especially castration. He recommended massage and medication, in addition to palliative treatment.

The afternoon session began with the election of Professor Trendelenburg to the presidency of the congress of next year. Then von Graf (Berlin) spoke of "Permanent Cure of Cancer of the Larynx, following Extirpation of the Latter." The observations and notes were made in v. Bergmann's clinic. Of twenty cases of total extirpation, only two remained permanently well. Better results were obtained when but half or less of the larynx was removed. Three patients were shown, one of whom, a woman, had her entire larynx removed in May, 1890. She has remained well ever since, uses a cannula and speaks hoarsely, but can perform hard work.

Next in order were papers on "Subcutaneous Suturing of the Patella," followed by the reading of others on "Character and Operative Treatment of Carcinoma of the Pharynx," on "Lupus of the Hands and Tuberculous Inflammation of the Lymphatics," subjects which are not of sufficient interest to report here.

After a number of various demonstrations upon the last day, the long and eagerly awaited report by Professor Gurlt, of the "Narcosis Statistics for the Years 1895–96 and 1896–97," was read. There were reported 58,769 narcoses, of which 27,029 were of chloroform, with 29 deaths; 19,856 of ether, with 3 deaths; 5,000 with Billroth's mixture (chloroform, ether, and morphine), 1,000 with bromethyl, and 600 with chloroform-ether, with no death reported. The total statistics, which extend over seven years and consider over 327,500 narcoses, contain reports of 134 deaths, *i.e.*, 1 in 2,444. Deaths from chloroform are the most numerous, viz., 1 in 2,039; from chloroform-ether the least, viz., 1 in 7,594. It has been observed of late that chloroform exercises an injurious effect upon the kidneys, and, furthermore, that an exanthem occurs after ether narcosis.

The compiler of these statistics was accorded a vote of thanks in recognition of his careful and tedious labors, and it was resolved to continue the statistics.

Other papers were then read and addresses delivered, on "Operative Procedures in Diseases of the Liver," by Müller (Aachen); the "Operation of Complicated Harelip," by Samter (Königsberg); "Joint Inflammation from Gonorrhœa," by Bennecke (Berlin); and an exhibition of numerous preparations and patients followed.

With these last the exhaustive programme for the day was concluded, and after a vote of thanks to the chairman the twenty-sixth surgical congress adjourned.

THE LIABILITY FOR MEDICAL SERVICE.

To the Editor of the Medical Record.

Sir: I have just had an experience the recital of which may be of interest and benefit to your readers.

Some months ago I was called up on my telephone to meet at once in consultation a physician well known to me, at an address some sixty blocks from my house. The voice of the person calling me up was unknown to me, but he insisted on my coming at once, although in my office hours, as the case was urgent. I went at once and saw the patient and the physician. The patient had unfortunately drawn her last breath as I entered the house. The husband asked me to send my bill to him, which I did in due time, but no attention was paid to it, nor to several successive bills, nor to a polite letter. Although the amount was small—only an ordinary consultation fee—I did not relish being ignored, and after waiting several months instructed my lawyer to collect it. Payment was refused and suit brought. The defendant, himself a lawyer, deliberately swore that he had not telephoned to me (although the physician assured me that he did), and that he had no recollection of seeing me at his house—which was a falsehood and rank perjury. But as I could not swear that he himself had telephoned to me to go to his house, his voice not being familiar to me, the judge dismissed the suit—an obviously unfair and absurd decision, as it was evident that I would not have

brought suit or sworn to the facts as stated if they were not true.

I would recommend physicians, therefore, to be careful to assure themselves of the personality and reliability of persons making appointments with them by telephone, when such persons and their voices are unknown to the physician. They may thus avoid being swindled out of a fee, as was done with me.

PAUL F. MUNDÉ, M.D.

May 21, 1897.

P.S. The attending physician was at the bedside of the patient and not present at my interview with the husband. He could not, therefore, corroborate my statement. As I did not imagine that the defendant would have the effrontery to deny my affidavit, I did not take the precaution to have the physician present as a witness at the trial—an unfortunate omission, which probably cost me the loss of the suit.

THE MALICE AND VINDICTIVENESS OF THE ANTIVIVISECTIONISTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: One of the easiest things to manufacture in the United States is—sentiment. Be the cause ever so unworthy, an appeal in its behalf, if cunningly worded and pictorially illustrated, will always find a responsive chord in the hearts of many of our good people, who, not overburdened with education and unused to deep independent thinking, are unable to analyze the merits of a case, and take everything they read for pure coin. If, in addition to this, we take into consideration the eagerness with which the fair and gentle sex catches at all sorts of fads, we shall easily understand why the antivivisectionists are making headway in this country. We could well afford to ignore the increase in the number of their adherents and to smile indifferently at the spread of their imbecile literature, if there was not a third factor in the field—namely, the fact that our legislators, State and national, are not all Solons and but very seldom suffer from an excess of erudition. Half a dozen letters from the wives of their constituents count more with them than the unanimous resolutions of all our medical societies, and this is the reason why we are at present so perilously near to having some stupid antivivisection legislation thrust upon us. It therefore becomes our duty, as physicians and scientists, to oppose such vicious legislation and to do everything in our power to enlighten the public on the subject of animal experimentation. We must show the people the great discoveries and improved methods which surgery and internal medicine owe to vivisection; we must show that its abolition would strike a death blow to the science of biology, embryology, physiology, and bacteriology; we must show the true motives and the character of the great vivisectors; we must refute the infamous lies and calumnies circulated about us in the "anti" literature; and, lastly, we must expose the Jesuitical methods of the antivivisectionists, their ignorance and bias, their disregard of human health and life, and their gross inconsistency in sanctioning the slaughter of animals for alimentary purposes, while hysterically condemning it for the purposes of science and mankind.

This done, there will be little danger of adverse legislation. The people are not fools; they are only misinformed, and if the subject be presented in the proper light there is no doubt that they will be quick in perceiving on whose side are truth and common sense.

With the above object in view, I engaged in a debate with several antivivisectionists in the *Twentieth Century* and I think I am justified in believing that it, *i.e.*, the debate, has done some good. While I received several scurrilous anonymous letters from incorrigible fanatics, I have also received many communications from all sorts and classes of men, thanking me for having opened their eyes and set them aright on the subject of vivisection. As a result of the debate I have also become enlightened as to the character and personality of most of the antivivisectionists. I used to consider them ill-informed, but well-meaning and kind-hearted people; now, after having seen their method of polemics, after having studied impartially their literature, I know them to be hard-hearted fanatics (as fanatics are likely to be), deliberate prevaricators, and impudent ignoramuses, who deserve no consideration and are to be handled without gloves. Many of their assertions, in fact, can be explained only on the hypothesis of mental irresponsibility.

In the present communication I want to call attention to one trait of the antivivisectionists: their vindictiveness, their attempt to revenge themselves upon the physicians who have backbone enough to assert their convictions and cannot be bulldozed into signing the petition for the total prohibition of vivisection. In their official organs they have a standing pledge, which reads as follows: "I pledge never to knowingly employ a physician practising or upholding vivisection." They urge their readers to sign the pledge, adding that "in time they will tell—on the practice of the vivisectionist physician." While we in the large cities can afford to laugh at such a threat, it is entirely different in the small places, where a man's practice may depend upon the good will of some influential and overofficious lady. This method of intimidation is certainly peculiar. I asked the antivivisectionists whether they thought it was morally right to threaten the livelihood of a competent and conscientious physician who believed that the discoveries made directly and indirectly through vivisection were of benefit to his patients; but of course there was no response. And then they get angry when I tell them that their moral obliquity is equalled only by their mental perversity. I have become quite indifferent, though, to their anger and to their attacks.

WILLIAM J. ROBINSON, PH.G., M.D.

119 EAST ONE HUNDRED AND TWENTY-EIGHTH STREET,
May 10, 1897.

THE INVITATION OF THE AMERICAN MEDICAL ASSOCIATION TO COLUMBUS.

TO THE EDITOR OF THE MEDICAL RECORD

SIR: In your editorial pages of May 1st present, you state that "Columbus, Ohio, wants the next meeting [that of 1898] of the American Medical Association. We have not learned who in Columbus has the presidential bee in his bonnet—perhaps no one," etc.

You are perfectly correct as regards our desire to have the meeting. The medical men, the board of trade, etc., are working to obtain and if possible will get it. We think for several reasons it may be to the advantage of the society to come here, and that we are possibly entitled to have it come once, if not oftener.

1st. In May and June the climate of Central Ohio is as pleasant as that of any part of the world, and the beauty of the country is very great.

2d. Columbus, situated midway between the eastern and western and the northern and southern States, is from location and extensive railroad connections an easy and comparatively inexpensive point to reach. By trunk roads (the New York Central, the Pennsylvania, the Baltimore & Ohio, Chesapeake & Ohio, Norfolk & Western, etc.) we are eighteen or twenty hours from New York; eighteen from Philadelphia, Baltimore, Washington, and Richmond; twenty-three

hours from Boston, twelve from Chicago, eight from Louisville, three and one-half from Cincinnati, six from Detroit, three and one-half from Cleveland, eight from Buffalo, six from Pittsburg, etc.—advantages not possessed by a great number of towns even of larger size.

3d. We have good and ample hotel accommodations for four thousand people, and our citizens are not niggards in hospitality.

4th. Though we have not so many hospitals and show places as are to be found in larger towns, we have enough in the Capitol, the State University, the State and private hospitals, libraries, etc., to interest and entertain such as may be interested, outside the proceedings of the society.

5th. As Columbus may be reached within ten hours from any part of the State, a meeting of the national society here would be favorably regarded and attended by many hundreds of the profession, who cannot (many of them) attend meetings farther away.

6th. The association has met in all of the larger cities, and in many not larger and not better prepared to receive it than Columbus.

There are many loyal and industrious members in Ohio, and we think we are possibly in a degree entitled to at least one meeting. We of Ohio have adorned the nation with four presidents, to say nothing of senators, judges of the Supreme Court, generals, etc., and there are men here (doctors among them!) ready to offer themselves as candidates as soon as His Excellency Major McKinley has become weary of his present position; but I know of no one who has even thought of becoming president of the American Medical Association.

STARLING LOVING, M.D.,
Chairman of Committee.

COLUMBUS, May 15, 1897.

ROBERT KOCH'S "FINE COMMERCIAL INSTINCT."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Allow me to offer the following remarks in answer to an item under the above heading in your issue of May 15th.

A remedy which is not patented, which carries no trademark, and the preparing of which is fully described, so that "every one can make it" (as Koch says), is not a "proprietary preparation, with exclusive rights conferred on a certain firm." This same doleful cry was raised against Behring's antitoxin, and to-day dozens of firms are manufacturing the same in America as well as in other countries, earning thousands of dollars for manufacturers and health departments.

As to the priority claims of H. and Ed. Buchner,[1] the plain facts taken from this article are as follows: In 1893 the chemist, Ed. Buchner, attempted to have a certain method of crushing bacteria patented in Berlin. The patent was refused. His method was not published by him until January, 1897, four years later, when Koch had been in South Africa inspecting the rinderpest since December 5, 1896. If Koch had learned of Buchner's method in 1893 through the patent office or through his commercial house, he certainly would not have waited four years to bring forth his new tuberculin. Besides, Buchner fully describes the important differences between his and Koch's crushing method.

Koch dated his article November 14, 1896, and arrived in Kimberly, South Africa, twenty-one days later, on December 5th. His reports to the secretary of agriculture at Capetown date up to February 10th, and he arrived from there at Bombay, India, in early April.[1]

He did not publish his article in November, but waited till April, 1897, because most likely he wished to give the commercial house time to put up the necessary machinery, to train men for the new work, and so to produce his own tuberculin in sufficient quantities to enable every practitioner to test it immediately after it was announced. No deviser of a new instrument, apparatus, or remedy has ever before announced his invention before it was ready for others to try it. Why should Koch act differently from us all?

Possibly he would not risk that dangerous substitutes be sold for months, as was the case with Behring's remedy in New York, and he may not have felt inclined to give an advisory board of prominent medical men in New York a chance to assist a leading daily paper to introduce his remedy among the general public as the invention of a French scientist, as was done here in daily sensational articles from December 9 to December 19, 1894.

But even medical history will repeat itself. After giving serum therapy to the human race, Behring's name became a favorite target for the envious attacks of great and small savants in Europe, and was suppressed publicly at first in this country, and then used as a medical football by habitual grumblers and western editors, while the French Academy of Medicine disgraced itself by sending him only the half of the price held by them in trust for the invention of a remedy for diphtheria, which half Behring naturally donated to charitable purposes before touching; and why then should Koch fare better than his pupil? If only history will repeat itself in the value of the two remedies, then Robert Koch, his friends, his enemies, and their patients will be satisfied in the end.

A. SEIBERT, M.D.

114 EAST FIFTY-SEVENTH STREET,
NEW YORK, May 24, 1897.

[1] Berl. klin. Woch., April 12, 1897.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 22, 1897:

	Cases.	Deaths.
Tuberculosis	192	92
Typhoid fever	8	6
Scarlet fever	167	5
Cerebro-spinal meningitis	2	8
Measles	297	12
Diphtheria	296	34
Laryngeal diphtheria (croup)	8	9
Small-pox	1	0
Chicken-pox	40	0

Small-pox in Japan was quite prevalent during the year 1896. Of 3,800 cases reported from January to September, 1,234 were fatal. By the end of November fully 5,000 in the aggregate had been noted. The most of these cases were observed in the districts lying nearest to China and Formosa.—*Sei-I-Kwai.*

A Little Nonsense Now and Then, etc.—A correspondent with etymological proclivities writes: "The ending *oma* means tumor, as in adenoma, sarcoma, etc.; the prefix *dipl* means double, as in diplacusis, diplococcus, etc.; therefore, when a graduate receives his diploma, does he get a double tumor?" To some extent, yes; usually it is a case of swelled head and general inflation.

[1] Deutsch. med. Woch., April 8, 22, 1897.

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Original Articles.

IMPROVEMENTS IN THE IRRIGATION TREATMENT OF GONORRHŒA.

By FERD. C. VALENTINE, M.D.,

PROFESSOR OF GENITO-URINARY DISEASES, NEW YORK SCHOOL OF CLINICAL MEDICINE; GENITO-URINARY SURGEON, WEST SIDE GERMAN DISPENSARY, ETC.

Goldberg,[1] in summarizing the results obtained by all authors on the irrigation treatment of gonorrhœa, shows that sixty per cent. of the gonorrhœas so treated were cured within ten days, thirty per cent. within two weeks, five per cent. required a longer period, because of indulgence in sexual intercourse or alcohol, or both, and the remaining five per cent. stand recorded as failures.

When it is considered that his figures embrace those of authors who wrote condemning this method, the average results are simply surprising. It seems inconceivable, in view thereof, how any other mode of treating gonorrhœa can still have a foothold in the profession.

The objections this method had to combat were valid only to a degree. They were principally the large amount of work imposed upon the physician and uncleanliness. The apparatus having now been simplified, the work is reduced to a minimum, can be more thoroughly performed, and only gross carelessness or inexcusable awkwardness will cause the novice to soil the patient, himself, or the office, by irrigations.

The results obtained by some five hundred American physicians from irrigating in gonorrhœa and other genito-urinary affections wrest this method from the realm of the enthusiastic promoter; the personal equation has ceased to be an element in its advocacy. Those who but test it are at once assured of the following facts:

1. Every urethra, not too tightly strictured, and every bladder can be irrigated without a catheter.

2. Irrigations, properly employed, will cure gonorrhœa quicker than any other mode of treatment.

3. Internal medication is futile; hand injections are useless.

Other arguments in favor of this method would be fitting in an article not limited to technique. In its description, elegance of diction is not sought; clear, succinct exposition is the only object in view.

Most of the directions will appear self-evident to the majority of practitioners; some may seem unnecessarily complicated. In order to omit nothing, I emulate that "infinite capacity for taking pains" which Carlyle offers as a substitute for genius.

For Anterior Irrigations.—1. Have the patient drop his trousers and drawers to his knees and fold his shirt upward.

2. Adjust a rubber apron twenty inches square, with a hole in its upper third, to allow the penis to pass through.

3. Close the stopcock of the apparatus and hang it on a convenient cuphook, or preferably place it in a basin containing mercuric bichloride, 1–6,000 (about one grain of bichloride of mercury in twelve fluid ounces of water).

4. Put the solution to be employed into the irrigator, at a temperature of 110° to 120° F.

5. Place the irrigator in the brass ring, which has been screwed to the wall nine feet from the floor. This suffices practitioners who have not many irrigations to perform daily. But in an extensive genito-urinary practice it proves inconvenient. For those so engaged, an elevating slide is devised. By it the irrigator can be easily lowered for filling and rapidly raised for use. The illustration fully explains its employment.

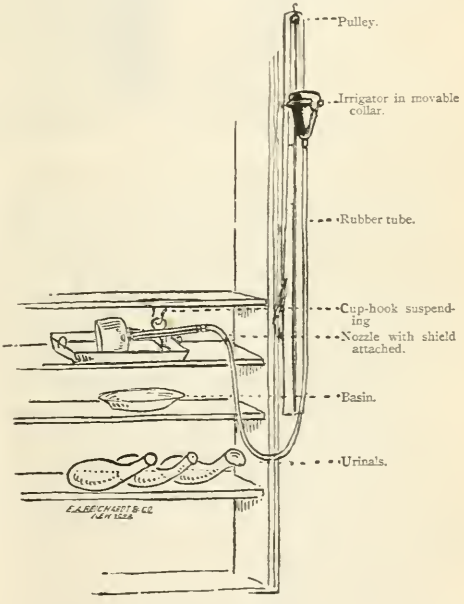

Fig. 1.—Convenient Arrangement for Author's Irrigating Apparatus.

6. When the irrigator is placed in its collar (or, if the elevator is used, raised nine feet from the floor) attach the proper nozzle. This is easily accomplished by holding the stopcock in one hand and inserting the nozzle into the free end of the rubber tube until it is firmly held there, but not so far back as to press upon the ball of the stopcock.

The selection of the nozzle naturally depends upon the size of the meatus. Experience has led to three forms for the male urethra.

7. Order the patient to empty his bladder entirely, unless he has very much pain on urinating.

8. Place the patient on a wooden chair, as far forward as he can comfortably sit, his shoulders resting against the back of the chair. Place his feat at the outer sides of the front feet of the chair. It will be

[1] "Die Behandlung der Gonorrhöe mit Ausspülungen von übermangansaurem Kali." Centralblatt für die Krankheiten der Harn- und Sexual-Organe. Band vii., Hefte 3 und 4.

desirable to have the patient throw his head backward, projecting his expirations upward, instead of into the operator's face. Giving this direction as part of the proceeding in all cases prevents those who are unfor-

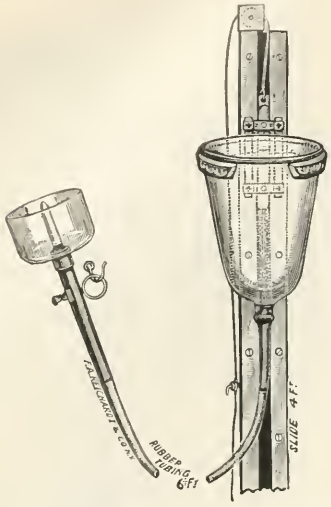

Fig. 2.—Showing Details of Mounting Irrigator and of Connecting Stopcock, Shield, and Nozzle.

tunate enough to have a malodorous breath from learning that an invidious distinction is made.

9. Hand the patient a tin washbasin, twelve inches in diameter, or preferably one of enamelled or agate ware. Let him hold it with both hands, slightly tilted toward himself, his penis resting in the basin.

10. Stand at the patient's right side. Raise his penis by your third, fourth, and fifth fingers of the left hand, and press it firmly but gently against the ball of your left thumb. This leaves the thumb and index finger free to manipulate the foreskin and glans, as may be required.

11. Take the stopcock with its shield in the right hand, the thumb resting upon the top of the bar, the index finger passed through the ring.

12. Contract the right thumb slightly, releasing the stopcock bar from its uppermost notch. Raise the thumb very slowly, allowing a very gentle flow of the solution to escape. Let this run upon the outer surface (skin) of the prepuce. Turn the penis until entirely clean exteriorly.

13. With the left thumb and index finger slowly retract the foreskin while the stream plays upon all its parts, until its mucous surface and the glans are thoroughly cleansed.

14. Hold the glans with the left thumb and index

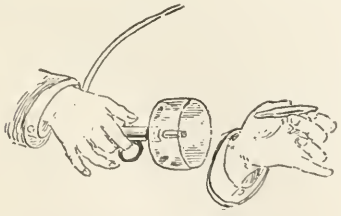

Fig. 3.—Inserting Nozzle.

finger slightly bent, everting the lips of the meatus, while the stream plays upon them. Still more opening the meatus and increasing the force of the stream, it is directed into the meatus.

15. When every vestige of discharge is washed from all visible parts of the meatus, the nozzle is placed closely to it, and the force of the stream gradually increased until its impact is felt against the left mid-

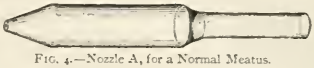

Fig. 4.—Nozzle A, for a Normal Meatus.

dle finger. By this time about one-fifth of the contents of the irrigator has been used. The remaining four-fifths are consumed in the following steps:

16. When the second fifth of the solution has flown into the basin, relax the grasp of the left middle fin-

Fig. 5.—Nozzle C, for a very Small Meatus.

ger upon the urethra. The force of the current being still further increased, it will strike the fourth finger of the hand holding the penis.

17 and 18. Relax the little finger, in the manner directed under 16.

After anterior irrigation it is well to cover the meatus with a layer of cotton soaked in mercuric bichlo-

Fig. 6.—Nozzle B, for a very Large Meatus.

Note.—Nozzle B is used only in posterior irrigations, to be described farther on.

ride, 1–6,000, and to direct the patient to renew this application after each urination.

For Posterior or Intravesical Irrigations.—Irrigation of the posterior urethra premises overcoming the compressor urethræ (shut-off muscle). The force of fluid that can accomplish this must necessarily overcome the sphincter vesicæ as well, as soon as the posterior urethra is filled. The sphincter vesicæ being but a feeble bundle of muscular fibres, irrigation

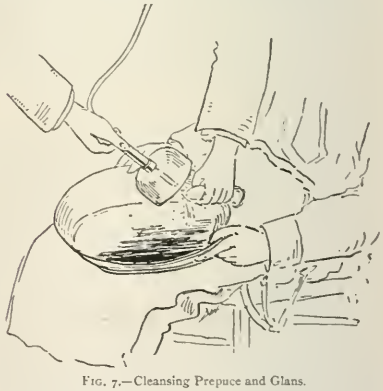

Fig. 7.—Cleansing Prepuce and Glans.

Note.—This illustration should show the patient seated on the front edge of the chair, his trousers dropped below his knees, his shoulders resting firmly against the back of the chair. The operator's left thumb and index finger should be contracted for manipulation of the prepuce and glans.

of the posterior urethra, which practically is a part of the bladder, cannot be dissociated from intravesical irrigation.

The detailed steps of a posterior or intravesical irrigation are:

(*a*) Irrigate the anterior urethra, before washing out the posterior urethra, as laid down under rules 1 to 18 *supra*, using, however, only half the quantities

of the fluid directed in rules 15, 16, and 17. The reason for this variation is in the copious double washing the urethra receives by the entrance of the fluid and its exit from the bladder.

(*b*) If the meatus is of average size, use nozzle A;

Fig. 8.—Anterior Irrigation in the Erect Posture.

Note.—Some patients prefer to have their urethras irrigated while standing; there is no objection to this. Others, who are very much afraid of pain, may be irrigated lying down. The details of irrigation in this posture will be discussed under Posterior Irrigation.

if very small, nozzle C, while for a very large meatus, nozzle B should be employed.

(*c*) Seat the patient as for anterior irrigation (see Fig. 7), except that his sacrum (not the tuberosities of the ischium) must rest upon the extreme front edge of the chair.

(*d*) Irrigate the anterior urethra; have the patient either sitting as described under *c*, lying down, or standing.

(*e*) Then, occluding the meatus with the nozzle, order the patient to breathe deeply and endeavor to urinate, preferably as if trying to "squeeze out a last drop." The deep respirations release the bladder from the superimposed weight of the abdominal and pelvic contents; the efforts at urination relax the compressor; in many cases, however, these aids become unnecessary after a first effort. Almost invariably the tips of the left fingers, resting upon the urethra,

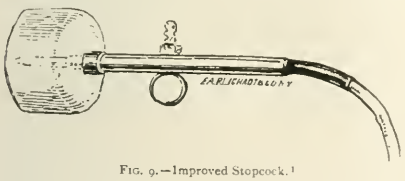

Fig. 9.—Improved Stopcock.[1]

Note.—The perpendicular bar should show two sharp notches anteriorly and one posteriorly.

will at once detect a decided purling as the liquid passes into the bladder through the now relaxed sphincters.

(*f*) After performing a few irrigations the surgeon's left hand grows accustomed to the sensation of the bladder filling, and before the patient expresses a desire to void it he closes the stopcock.

(*g*) Hold the stopcock in the right palm, take the basin with the right thumb on its inner, the right fingers on its outer surface. Extend the left hand, which has dropped the patient's penis into the basin, to the shelf on which the glass urinals are kept. Take one of them, and while removing the basin hand the patient the urinal. It requires but slight dexterity to do this so quickly as to prevent dribbling of the solution on to the apron or the patient's garments.

Fig. 10.

Note.—Ambidextrous surgeons may reverse 10 and 11 at their convenience.

(*h*) Order the patient to stand up, as the majority can thus relieve their bladders more quickly.

(*i*) The quantity of the fluid used necessarily varies with the size of the bladder. The average bladder will hold about two hundred and fifty centigrams (about seven and a half ounces).

(*j*) The first irrigation often yields quite a turbid and brownish fluid. This is due to the admixture of the vesical contents. If a very weak solution of potassic permanganate is used, it may come from the bladder almost colorless, a small quantity of urine will decolorize this drug.

(*k*) Occasionally the liquid will ballon the urethra, give the patient pain, and refuse to enter the bladder, despite all efforts. Then desist at once, and order the

Fig. 11.—Removing Pan and Handing Patient Urinal.

patient to urinate. It is surprising how small a quantity of urine can arrest irrigation. This being voided, the second attempt at irrigation will be readily successful.

(*l*) In most cases turning on the full stream at once will produce urethrospasm, entirely preventing irrigation. In such instances interrupt the operation and let the contents of the penis escape into the pan. Then again occlude the meatus with the nozzle and allow the fluid to flow into the urethra very gently. As soon as the urethra begins to distend, again order the patient to breathe deeply and to strive to urinate. With each respiratory effort allow the button of the stopcock to rise, and almost to close it at each inspiration. Every such movement will be accompanied

[1] I am indebted to Dr. Union Worthington, of Salt Lake City, for valuable suggestions in modifying the mechanism of the stopcock.

by the entrance of some fluid into the bladder. As soon as this is begun, the remainder of the irrigation will be easy.

Variations in posture: Many patients' bladders can

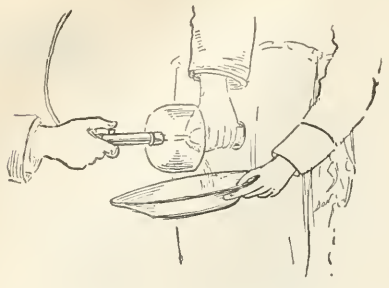

Fig. 12.—Intravesical Irrigation in the Standing Posture.

Note.—The drawing should show the operator's right thumb more elevated and the stopcock bar raised. The drops apparently spurting into the basin are supplied by the draughtsman's imagination, as none escape during such injection into the bladder.

be irrigated quite easily while they stand. As some people, however, faint very readily, irrigation in the upright position should not be performed save as a last resort in those very rare instances when the other postures have failed.

A patient who cannot be irrigated in the sitting posture, or who is prone to faint, should be treated in the recumbent position. Then no apron is used. The trousers and drawers are dropped almost to the ankles; the shirt and undershirt are folded upward. He is then laid upon a sofa or operating-table, his buttocks projecting far forward from an irrigating bedpan. For additional safety a washbasin may be placed between the thighs, inclined so as to divert any possible spluttering of the fluid into the bedpan's tin receptacle. The steps of anterior and posterior irrigation do not differ from those employed in the other positions.

Irrigating the Female Urethra and Bladder.—The nozzle used for this purpose is merely a nozzle A, of double length. Place the patient in the ordinary dorsal gynæcological position upon a Kelly pad. Wash out the vulva and vagina as in an ordinary vaginal irrigation. Place the left palm before the mons

Fig. 13.—Intravesical Irrigation in the Recumbent Posture.

Note.—This cut should show the patient lying flat on his back, his buttocks higher than his shoulders.

veneris, separate the labia with the index and middle fingers, to expose the meatus. Direct the point of the nozzle to the meatus and send a gentle stream against it. Gradually increase the force of this stream until the meatus and entire introitus vaginæ are thoroughly clean. Wedge a triangular pus basin between the patient's thighs until one point of the basin firmly compresses the fourchette. Insert the nozzle into the meatus, but do not occlude it, so as to allow the fluid to escape into the glass shield and thence partly into the pus basin and partly on to the Kelly pad. Increase the force of the stream while sinking the nozzle still farther into the meatus, until no more fluid escapes. The sphincter will quickly yield, and the fluid enter the bladder. Remove the pus basin; replace it by an inverted ordinary hand basin. Order the patient to empty her bladder. The escaping fluid strikes the hand basin and falls into the Kelly pad, and thereby is conducted into the bucket on the floor, into which its end has been inserted. Irrigation of the female urethra and bladder, conducted with all the above attention to detail, will be accomplished without soiling the patient's garments or even moistening her thighs. A heavy towel passed under the patient, immediately

Fig. 14.—Posture of Patient when Exposing the Meatus for Anterior Irrigation.

above the inflated rim of the Kelly pad, will serve to dry her buttocks after the pad is taken from beneath her.

Notes on Irrigation.—Very rarely is a patient found with such hyperæsthesia as to render irrigation impossible without a local anæsthetic. A drachm or two of a four-per-cent. solution of cocaine or eucaine will quickly arrest all sensation.

Anæsthetizing the Urethra.—Fill the syringe (preferably Kollmann's cocaine syringe, whose detachable tips can readily be sterilized). Inject a few drops slowly and the remainder with enough force to send it as far into the urethra as possible. Close the meatus with the left thumb and index finger and stroke the whole length of the urethra with the right index finger, from before backward. The fluid will soon pass beyond the peno-scrotal juncture. It then can be pressed toward the bladder along as much of the urethra as can be felt in the perineum. This procedure may be repeated once to insure absolute anæsthesia.

Painlessness of Irrigations.—Ordinarily anæsthesia is not required. A second irrigation is usually painless. In a large experience but one case (as the patient thought) required cocaine before each irrigation. The second alleged cocainization was with distilled water which quite sufficed to calm the patient's mind.

Cleanliness of Irrigations.—Any irrigation, properly conducted, should not soil anything except the surgeon's left fingers. These can be quickly cleaned of the permanganate stain with a saturated solution of oxalic acid.

Care of the Apparatus.—After each irrigation fill

FIG. 15.—Irrigation of the Female Urethra.

NOTE.—The dotted lines represent the pus basin.

the apparatus with clean water to carry off any small quantity of the solution that may remain.

Asepsis of the Nozzles.—1. Immediately after use, detach the nozzle, and place it in the basin.

2. Let hot water run over it.

3. Boil it in a solution of caustic soda for half an hour.

4. Take it from the solution with sterilized forceps, and place it in a solution of corrosive sublimate, 1–500 (sixteen grains to the pint).

5. Before use again rinse it in clean water.

The Solutions Used most frequently in anterior and intravesical irrigations are potassic permanganate, mercuric bichloride, silver nitrate, and cupric sulphate.

Potassic permanganate: In previous publications[1] I advocated the solutions proposed by Prof. Jules Janet, of Paris, to whom sufficient credit can never be given for popularizing the irrigation treatment. But the exigencies of business in our country, and perhaps greater urethral and vesical susceptibility here, have led me to change Janet's formularies in several regards. For the practitioner's convenience they are here tabulated, as changed:

In Acute Gonorrhœa.—

First	day,	first visit:	Anterior irrigation	....	1–2,000
"	"	7 P.M.	Anterior irrigation	.....	1–4,000
Second	"	9 A.M.	"	"	1–3,000
"	"	7 P.M.	"	"	1–4,000
Third	"	9 A.M.	Intravesical	"	1–6,000
"	"	7 P.M.	Anterior	"	1–6,000
Fourth	"	9 A.M.	Intravesical	"	1–3,000
Fifth	"	9 A.M.	"	"	1–3,000
Sixth	"	9 A.M.	"	"	1–3,000
Seventh	"	9 A.M.	"	"	1–2,000
Eighth	"	9 A.M.	"	"	1–2,000
Ninth	"	9 A.M.	"	"	1–1,000
Tenth	"	9 A.M.	"	"	1–1,000

This last is followed, at the same hour, by an anterior irrigation of 1–5,000.

In Chronic Gonorrhœa.—The conditions, as revealed by the urethroscope, govern the treatment fully as much as does the microscopic examination of the discharge in acute urethritis. Of course no one expects a chronic gonorrhœa to recover while the urethra is strictured or otherwise diseased.[1] But when no condition other than gonorrhœa affects the urethra the following formulary will apply, with such modifications as the individual cases may require:

First	day,	first visit:	Anterior irrigation	....	1–3,000
"	"	7 P.M.	Anterior irrigation	.....	1–6,000
Second	"	9 A.M.	Intravesical	"	1–4,000
"	"	7 P.M.	Anterior	"	1–4,000
Third	"	7 P.M.	"	"	1–2,000
Fourth	"	9 A.M.	Intravesical	"	1–3,000
"	"	7 P.M.	Anterior	"	1–2,000
Fifth	"	7 P.M.	Intravesical	"	1–3,000
			Anterior	"	1–1,000
Sixth	"	7 P.M.	"	"	1–1,000
Seventh	"	7 P.M.	"	"	1–1,000
Eighth	"	7 P.M.	Intravesical	"	1–3,000
			Anterior	"	1–1,000

If, after the above irrigations have checked the discharge it recurs, as occasionally happens, the whole course should be repeated. This failing to cure the case, the cause will soon be exposed by careful urethroscopy and then prove amenable to treatment.

In a large genito-urinary practice it is well to consult convenience in the preparation of these solutions. In neighborhoods where many physicians are using the irrigation method some druggists make fresh solutions of potassium permanganate, containing twenty grains to the ounce of water. The solution is convenient in quickly making the dilutions required. The irrigator holds a thousand grams (about fifteen thousand grains); consequently to make of the above solution a

dilution of	1	to	12,000,	fl. ʒ ss.	is required.
"	" 1	"	6,000,	fl. ʒ i.	" "
"	" 1	"	4,000,	fl. ʒ iss.	are "
"	" 1	"	3,000,	fl. ʒ ij.	" "
"	" 1	"	2,000,	fl. ʒ iij.	" "
"	" 1	"	1,500,	fl. ʒ iv.	" "
"	" 1	"	1,000,	fl. ʒ vi.	" "
"	" 1	"	500,	fl. ʒ iss.	" "

The objection to this solution is its instability. It will, however, not decompose within three or four days after it is made.

Practitioners who do not have occasion to perform

FIG. 16.—Intravesical Irrigation

many irrigations daily will find the two-grain tablets of potassic permanganate sufficiently convenient.

Mercuric bichloride frequently proves useful in ob-

[1] Valentine: "The Technique of Urethral and Intravesical Irrigations," Clinical Recorder, February, 1896. "Chronic Urethritis," New Albany Medical Herald, 1896. "The Rapid Cure of Gonorrhœa," International Journal of Surgery, October, 1896.

[1] This is exhaustively discussed in a paper entitled "Chronic Gonorrhœa; Its Scientific Treatment," written for the second Pan-American Medical Congress, held at Mexico, in November, 1896.

durate cases. It may be added to the above irrigating fluid in dilutions of from 1 to 50,000 to 1 to 20,000, as corrosive sublimate and potassium permanganate are not incompatible.

Silver nitrate in solutions of from 1 to 10,000 to 1 to 1,000 proves serviceable, especially after urethral dilatations.[1]

Cupric sulphate: In persistent urethritis without gonococci an anterior irrigation of solutions of cupric sulphate, from 1 to 2,000 to 1 to 500, often exerts a desirable influence as an occasional alternant with potassic permanganate.

Argonin: My experience with this drug is as yet limited. Early trials proved unsuccessful, probably because of faulty technique in dissolving it. Harold L. Lesser, Ph.G., pharmacist of the West Side German Dispensary, and Paul F. Metze, Ph.G., came to my aid, the former furnishing me with a ten-per-cent. solution for dispensary use and the latter with the same for my private practice. Only then did I begin to yield to the persuasions of Arthur Lewin, of Berlin, to test argonin, to which he attributes direct, specific gonococcocidal action. The results in some instances seem satisfactory in diminishing the discharge. I have used it up to five per cent. intravesically without the slightest disagreeable reaction. Its gonococcocidal influence, however, does not appear to exceed that of potassium permanganate. But whatever the drug used, the urethral and intravesical irrigations without a catheter are certainly the essential to its successful employment.

A detailed description of the conditions in which they are indicated would be beyond the scope of this paper. Suffice it here to say that, in addition to acute and chronic gonorrhœa, irrigations without a catheter should be employed after any and every instrumentation of the urethra or bladder. In not a single case does catheter fever (urethral fever) supervene, no matter how susceptible thereto the patient may be.

Due credit must be given Messrs. F. Alfred Reichardt & Co., of 27 Barclay Street, New York, for placing the resources of their establishment and workshops at my disposal in perfecting this apparatus. The many mechanical problems required to be overcome were met by valuable suggestions to the end of providing practitioners an easily manageable, effective outfit at a very moderate price.

242 West Forty-Third Street, New York.

Laminectomy for the Relief of Paraplegia Dependent upon Spinal Caries.—Willard (*Journal of Nervous and Mental Disease*, April, 1897, p. 223) expresses the opinion that the prognosis in cases of paraplegia due to pressure upon the spinal cord is hopeful unless the cord has been actually destroyed. Laminectomy for the relief of paraplegia dependent upon spinal caries should never be undertaken until at least one year of persistent treatment by rest, fixation, and extension (together with alteratives, etc.) has been most patiently tried. The dangers from the operation are shown by statistics to be great, twenty-four per cent. dying from the immediate shock, thirty-six per cent. within one month, and forty-six per cent. within one year. At least sixty-five per cent. either die or are not improved by the operation. The dangers are hemorrhage, prolongation of the operation, and manipulation of the cord. In spite of these risks the operation has its place in surgery, and is justified in selected cases when other measures persistently and carefully applied have failed.

[1] Valentine: "The Non-Operative Treatment of Urethral Strictures," Clinical Recorder, July, 1896.

THE CORRECTION OF DEPRESSED AND SADDLEBACK DEFORMITIES OF THE NOSE BY OPERATIONS PERFORMED SUBCUTANEOUSLY, WITHOUT THE AID OF METALLIC OR OTHER ARTIFICIAL SUPPORTS.[1]

By JOHN O. ROE, M.D.,

ROCHESTER, N. Y.

Mr. President and Gentlemen: Ten years ago I read before this society a paper on "The Deformity termed Pugnose and its Correction by a Simple Operation," which was a new operation, and the first one proposed for the correction of this deformity. In 1891 I presented for your consideration another operation for the relief of angular deformities of the nose; the method of performing this operation subcutaneously without wounding the skin was also entirely new. At this time I have the pleasure of presenting for your consideration a method, equally new, for the correction of saddleback and depressed noses by operations performed subcutaneously.

The procedures which I shall presently describe are applicable to cases in which the nasal septum is present, thereby affording support for the tissues that are transplanted for the correction of the deformity, for in these operations we must depend wholly or in part upon the support which we must necessarily obtain from the osseous and cartilaginous portions of the septum. In cases in which there is an entire absence of these natural internal supports, as we often find resulting from the ravages of syphilis, we must resort to some method of metallic or other artificial support.

In nearly all cases of deformed noses in which there has not been great destruction of tissues, as in those cases in which the deformity has resulted from an injury or from abscesses of the nose or nasal septum (and which is also sometimes the case when resulting from syphilis), there is present sufficient material out of which a symmetrical nose can be made. The deformity in these cases is mainly due to the fact that the tissues have become displaced and deformed, thereby giving to the nose an unsightly appearance. This is particularly the case when the deformity of the nose has resulted from an injury.

Depressed noses may be divided according to their cause into two classes, viz., idiopathic and traumatic.

(1) The idiopathic variety comprises those noses in which the deformity is due to a lack of development of some portion of the nose. When there is a lack of development of the central portion or the bridge of the nose, and excessive development of the tissues of the end of the nose, we have an exaggerated "*le nez retroussé*," or pugnose, termed the saddleback nose. When there is a lack of the cartilaginous portion of the nose, we have the flat or frog nose.

(2) The traumatic variety includes those cases which are the results of injuries from external violence, causing fracture and dislocation of the parts. The deformities that result from abscesses of the nasal septum, in which there is a destruction of the sesamoid cartilages which support the central portion of the nose, giving it the appearance of having been struck over the bridge with a small, round, or angular body—a poker, for instance—are also to be classed in this variety.

As I pointed out in my article on the correction of pugnose deformity, the beauty of the nose depends almost entirely upon its symmetry, so long as the disproportionate relations between the size of the nose and the size of the face are not too great. In correcting deformities of the nose, then, we have to study the symmetry and the relations of the different portions of

[1] Read before the Medical Society of the State of New York, January 26, 1897.

the nose to one another, rather than its symmetrical relation to the face. The nose which is originally proportionate to the face will, if deformed by the loss or displacement of tissues of any portion, appear very unsightly; while the same nose, if made one or two sizes smaller, will have a more or less handsome appearance if the proportionate relations of its parts are made perfectly symmetrical. Therefore in the correction of deformities of the nose, it is symmetry and not size that is to be considered. In this way it can be readily seen that the causes and conditions of depressed and saddleback noses are so various that the operations required for the correction of these deformities must be equally varied. No two cases will be found exactly alike or requiring the same operation. I cannot better make clear the manner in which these operations are performed than by describing different illustrative cases.

Case I. (congenital flattening of the end of the nose).—A young man from Cleveland, Ohio, aged eighteen years, was referred to me by his family physician for the correction of a deformity and flattened condition of the end of the nose, which was congenital, or at any rate had existed from infancy. This deformity of the nose was so conspicuous that people on the street and elsewhere would frequently turn to observe him. This was so annoying to him that he would rarely mingle in society, and he shunned people as much as possible. In this case the anterior and superior portion of the triangular cartilage was missing, and the flattening of the end of the nose and the consequent lateral bulging of the alæ gave it the appearance of a frog-shaped nose. Besides this, the frænum of the nose was attached so low down on the lip as to cause the end of the nose to slant backward, and the nostrils to stand prominently open, aided by the upward tilt of the end of the nose.

To correct this deformity it was necessary to adopt a special plan of operation in order to raise the end of the nose instead of depressing it, as in the case of pugnose and sometimes when the central portion of the nose alone is depressed. In order to reduce the width of the nose and to remove the flattened appearance, sufficient tissue was taken from the interior of the alæ to form a flap, which was carried upward and held in place under the skin at the tip of the nose. It required two operations at different times to accomplish this. In order still further to raise the point of the nose, the frænum was lengthened and its attachment set backward on the upper lip. This was done by cutting through the anterior column of the frænum on a line with the upper lip, then carrying the incision upward about half the length of the frænum and then backward, forming a stair, and then upward to a distance equal to the length of the first horizontal incision through the frænum, so that the lower end of the frænum would fit into the second stair, so to speak. The lower end of the frænum was then set into this second stair, and carefully stitched there. The skin on each side of the lower end of the frænum from which the anterior column had been removed was then raised and the edges were drawn together in front of this denuded surface, so that on healing no perceptible scar was left. Two or three minor operations were required to complete the work.

The result in this case is shown by the illustrations (Figs. 1 and 2), which are reproduced from photographs taken before and after the operations. So symmetrical and perfect was the nose that those acquainted with the young man would not suspect any deformity had ever existed.

A case of a depressed or flattened condition of the end of the nose from infancy similar to the above case, in a girl sixteen years old, I reported in a paper read before the American Laryngological Association in 1892, on "The Correction of Deformities of the Nose Resulting from Abscess of the Nasal Septum."[1] In this case the entire triangular cartilage was destroyed by what the history of the case would indicate to have been an abscess, the result of an injury, and the operations required for the correction of the deformity were very similar to the internal-flap operation in the case just mentioned. Illustrations showing the nose both before and after the operation are to be found in the article referred to.

Fig. 1.

Case III. (depressed bridge from an injury).—Mr. E——, aged nineteen, was referred to me, September, 1895, for the correction of a marked saddleback deformity of his nose, which had resulted from being struck over the nose with a baseball club four years before. On examination it was found that the nasal bones had been fractured, and the upper portion of the alæ of the nose and the sesamoid cartilages were driven upward and inward, and the sides of the nose bulged somewhat outward, giving to the centre of the nose a depressed and flattened appearance, as shown in Fig. 3. A large perpendicular ridge on the right side of the septum at the osseo-cartilaginous junction was also produced by the injury. This flattened condition of the centre of the nose gave to the end of the nose the appearance of being unduly prominent. None of the tissues, however, had been destroyed, but simply displaced from their normal position by external force.

In this case the indications were to use the displaced tissues for filling in the depressed portion, so as to give to the nose a shapely appearance. The displaced tissues found on the sides of the nose were restored to the top of the nose by raising the skin from the dorsum through an incision made from the interior of the nostril, and turning the flaps made by this displaced tissue upward to fill in the depression in the centre of the nose. This was completed by a flap made of the displaced cartilaginous tissue, constituting the ridge on the right side of the septum. In order to get this latter flap to the desired place on the dorsum of the nose, it was necessary to turn the flap twice to reach the spot. This was done by turning it and allowing the upturned end to become attached sufficiently to

Fig. 2.

[1] New York Medical Journal, 1893, vol. lvii., p. 319.

supply it with nutriment. The other end was then cut away and again turned upward. When the farther end had again become firmly attached, the lower end was

Fig. 3.

Fig. 4.

cut away and turned into place, which completed the filling of the tip of the nose very handsomely. The end of the nose still projected slightly above the line of the dorsum. This was lowered by removing sufficient of the tissue (in the manner of correcting pug-nose deformities) to bring it down on a line with the dorsum of the nose, making the nose perfectly symmetrical, as shown in Fig. 4. The nose was then held in place for a considerable period by an external form, until the parts were thoroughly healed, and remained in that position after the form was removed.

The appearance of the nose before and after the operation is illustrated by these enlarged photographs, which indicate the result more clearly than any description could do.

Case IV. (a saddleback or depressed nose, the result of an injury).—A young man, nineteen years of age, from Syracuse, N. Y., was referred to me by his medical adviser, June 10, 1895. When two years of age this patient fell from a table, striking on his nose and breaking it badly. The nose was very much swollen for two or three weeks, although little attention was paid to it. After the swelling subsided the nose began to grow very much depressed in the centre, a condition commonly termed saddlenose. As he arrived at maturity the deformity became more pronounced. The bridge and central portion of the nose were depressed and flattened, while the end was apparently much enlarged, giving the nose an unsightly appearance.

Fig. 5.

The operation for the correction of the deformity in this case consisted in lifting the skin from the dorsum of the nose, dissecting flaps from the redundant tissue of the end of the nose, including in the flaps a portion of the redundant cartilage, carrying these flaps along backward and placing them in position so as to fill the depressed portion of the dorsum of the nose. These flaps were held in position by pins and also by a retentive apparatus fitted to the dorsum of the nose. In this case, after the bridge of the nose was rendered comparatively straight, the end of the nose was still too large to make the nose symmetrical throughout. This enlargement of the end of the nose was reduced by removing sufficient of the redundant tissues, and the elasticity of the cartilaginous portion of the alæ near the top was overcome by free incisions made through the cartilage subcutaneously. The nose was then moulded to the desired shape by a form placed on the top of the nose, giving it the exact shape desired, and worn until the parts were healed and had become thoroughly fixed in the desired position. Figs. 5 and 6 illustrate the appearance of the nose before and after the operation.

Case V. (a saddleback nose, the result of an abscess of the septum).—A young man, aged twenty, from Hilliards, Mich., was referred to me, March 16, 1894, for the correction of a deformed nose. Four years before he had had an abscess in his nose, evidently an abscess of the septum, following an alveolar abscess about the incisor teeth. During the time that the nose was greatly swollen and the interior completely blocked up, the physician in attendance opened the swelling inside the nose and considerable offensive matter escaped. As soon as the inflammatory condition subsided, it was observed that the top of the nose began to drop in, so that the nose became very much flattened and depressed. In this case the abscess of the septum was more than an ordinary one, which usually destroys only the sesamoid cartilages on the top of the nose at the junction of the ala with the nasal bones. In this instance not only the sesamoid bones but a portion of the osseous and cartilaginous septum were destroyed, allowing the central border of the nasal bones to sink in, leaving the outer border of the bones unduly prominent.

Fig. 6.

In order to raise the centre of the depressed nasal bone, I raised the skin from the bones on both sides, making the incision from the inside of the nostril. Through this opening I introduced one blade of a pair of strong forceps, and with the other blade inside the nose I fractured the depressed portion and raised it up so as to make the external contour of this portion of the nose symmetrical, and held it there with a specially devised retentive apparatus, placed in the interior of the nose and resting on its floor. In the interior of the nose there was considerable displacement of tissues as a result of the abscess. The tissue was raised in the form of a flap and turned upward, and held in position by the aid of pins and a clamp on the top of the nose. The size of the end of the nose was reduced by removing a part of the tissues in the form of a flap, and turning it backward so as to fill in the gap left by the destroyed sesamoid cartilages. The cartilage of the ala was then, as in the previous case, cut through subcutaneously in three or four places, and a form was employed to hold the nose in the desired shape until the tissue became firm and permanently healed.

In this case four operations and much careful attention were required to complete the work, the result of which is shown in the illustrations (Figs. 7 and 8),

reproduced from photographs taken before and after the operations were performed.

Case VII. (a saddleback nose, the result of an injury during childhood).—Mr. C——, aged twenty, a student in Cornell University, was referred to me, August, 1895, for the correction of his unusually deformed nose. When a child he was accidentally dropped by a nurse, falling on his nose. But little attention was paid to it, although the nose was considerably swollen. As the child grew older it was noticed that the nose began to be deformed, and by the time the boy reached puberty the nose presented a very ugly appearance. The centre was depressed, and the end, which was disproportionately large, was turned very much to the left, giving to the whole nose a sort of twisted and distorted appearance. On examination the central portion of the nose was also found to be much flattened and the sides were more or less bulging. The lower portion of the nasal bones was turned inward, and the sesamoid cartilages were also so much lowered that it gave the nose the appearance of having been struck across the centre and broken by some round body. The turning of the end of the nose was due to a marked deflection to the left of the cartilaginous portion of the septum. The anterior part of the osseous portion of the septum was deflected to the right.

Fig. 7.

The process for correcting this deformity was by no means a simple one. It was first necessary to straighten the septum and put the nose in a straight line. This was done by the plan which I have adopted in similar cases and have already described.[1]

Fig. 8.

When this was completed the nose was brought up in a median line, and held there by an intranasal plug and retentive apparatus. The central depressed portion of the nose was filled in with flaps taken from the redundant and displaced tissue on the sides of the nose, and turned and fitted into the depressed portion. There was, however, not sufficient tissue to be had in this region to bring the central portion of the nose up on a straight line with the end of the nose, because the latter was unduly developed. This difficulty was met by removing a sufficient amount of the redundant tissue from the end of the nose to bring it down on a line with the central portion of the nose. The nose was then put in shape and held there by an external form until it was completely healed, so that the nose retained a symmetrical shape after all support was removed.

The exceedingly satisfactory result in this case was evident from the delight of the father on the return of his son to his home in the West. He afterward wrote me a very gratifying letter, expressing his appreciation of the result of the operation. The success of the operation is readily seen from the enlarged photographs which I show you (Figs. 9 and 10), representing the changes which took place in the appearance, not only of the young man's nose, but of his facial expression as well.

Fig. 9.

Case VI. (a crooked and depressed condition of one side of the nose from fracture and lateral displacement of the nasal bones and septum). — Miss B——, of New York, was by her medical adviser referred to me for the correction of a deformity of the nose, which resulted from being thrown from a carriage and striking on the nose and fracturing it, ten years before. She was so ill for a short time after that several complications were feared, and in consequence the nose was allowed to go uncared for. As a result of the fracture the right nasal bone was depressed and the left one displaced outward, making the nose very crooked, and producing the condition which would be termed by a blacksmith "an offset" in the middle of the nose, as shown in Fig. 11.

The condition of the nose was such that the refracturing of the bone and lifting the nasal bone on the right side and depressing the one on the left side were not advisable. The only resource left was a plastic operation. The skin from the dorsum of the nose was accordingly raised, and the bulging portion of the left nasal bone was carefully sawed off, leaving as much of the soft parts attached to it as possible. It was then carried over the bridge of the nose and placed in position on the right side over the depressed bone, completely filling the depression. Union of this flap with the bone was encouraged by denuding the bone of periosteum at this point before the flap was placed in position. It was carefully held in position until united and thoroughly fixed. The two

Fig. 10.

[1] "The Treatment of Deviations of the Nasal Septum," New York Medical Journal, 1894, vol. lix., p. 424.

sides of the upper portion of the nose were then perfectly symmetrical. The lower portion of the nose was distorted to the left by a deviation of the cartilaginous portion of the septum. This deformity of the septum was corrected, making the nose perfectly straight. A third operation was found necessary to remove a redundency of the ala on the left side. The nose was then carefully held in position by a form adapted to it until it had become thoroughly fixed in the desired shape, leaving the nose perfectly symmetrical, as shown in Fig. 12, much to the delight of the patient.

Fig. 11.

As I stated at the beginning of the paper, no two cases of nasal deformity are exactly alike or require exactly the same operation, for, no matter how much they appear alike externally, the conditions will be sufficiently varied to require a special study of each case before any operative procedures should be undertaken, as illustrated in the cases I have detailed to you.

There are three conditions which must be observed in order to insure success in these operations: (1) In the first place, although it is hardly necessary so to state, the utmost antiseptic and aseptic precautions must be adopted, for if suppuration in the wound should take place engrafted tissues would be destroyed, and not only the object of the operation be defeated, but the deformity of the nose would be increased thereby. (2) In the next place, the plan of the operation must be carefully studied in order that the tissues at our disposal may be utilized to the best advantage. (3) In the third place, great care and careful attention subsequent to the operation, which are as important as the operation itself, are required, for, no matter how well directed the operation may be, the object cannot be attained unless scrupulous attention is paid to the healing process.

These operations on the nose, therefore, are not attended with the immediately brilliant results possible in many operations performed on other parts of the body, which can be completed at one time, the wound requiring only to be maintained aseptic until the cure is complete. On the contrary, these operations on the nose require frequent and most careful attention. The parts must not only be held in place by retentive appliances, but the shape of the form of the dressing must often be changed from day to day as the swelling subsides and the union of parts takes place. It may be necessary to add a little internal or external pressure here and remove a little there until the fixation of the tissue is complete.

Fig. 12.

Frequently the principal or main operation must be supplemented by minor operations for the correction of slight defects. An unduly prominent portion may require lowering, a depressed part may require raising, and so on until the work is completed. We might say in these cases that eternal vigilance is the price of a perfect nose.

When considering the vast change made in the appearance of the nose by a slight alteration or departure from its symmetry, and the wondrous changes made in the facial appearance and physiognomy of the person by a disfigurement of the nose, it is readily seen why the nose is regarded as one of the most distinguishing racial characteristics.

THE TECHNIQUE OF STAINING BLOOD FOR MICROSCOPICAL EXAMINATION WITH EHRLICH'S TRI-ACID SOLUTION.

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On November 26, 1895, I read a paper before the Richmond Academy of Medicine and Surgery entitled "The Importance of a Microscopical Examination of the Blood in Disease—with Lobar Pneumonia in Illustration."[1] Since that time I have steadily urged the many decided advantages to be derived from this means of diagnosis, not so much in the ordinary "blood diseases," although it is very useful here, but more especially in such general diseases as pneumonia, tuberculosis, typhoid fever, malign growths, etc.

The real worth, apart from its diagnostic value, of this method of investigating the corpuscular elements of a fluid of the body which must necessarily be more or less susceptible to any pathological changes which may be going on in any of the diseased organs, is the ease with which it may be employed by the profession at large and the decided information that may be gained therefrom as the patient passes through the successive stages of his disease. After all, nothing recommends a technique more favorably than its simplicity and ease of application. This is what I claim for Ehrlich's tri-acid stain, used as I am in the habit of employing it.

Inasmuch as my object in explaining my technique will be to urge the practising physician to use it in his routine work, I shall give the procedure in detail, stating sincerely that if he is not successful it is due to a want of attention to the minutiæ. The various steps of my technique may be included under the following six headings, viz.:

First. The cleansing of the cover glass.
Second. The preparation of the lobe of the ear.
Third. The securing of the specimen.
Fourth. Allowing it to dry in the air.
Fifth. The fixation of the specimen.
Sixth. The staining of the same.

First, as to the cleansing of the cover glasses. I usually prepare enough to make from fifteen to twenty specimens, *i.e.*, from thirty to forty covers. I wash them first with ether and then with alcohol, using for this purpose an old clean linen handkerchief. After they have been well cleansed in this way they are put upon a clean piece of writing-paper or a prescription blank. Care should be taken not to handle them with the fingers after they have been made ready for use. If this precaution is neglected, it will be found that the staining fluid will not spread evenly and uniformly over them.

Second. I usually prefer the lobe of the ear, especially when my patient is a woman. It is less sensitive than are the fingers, its integument is thinner, and the patient is spared the sight of blood. The lobe or lobule is first thoroughly cleaned with ether and then

[1] Virginia Medical Monthly, vol. xxii., No. 10, p. 1,037.

with alcohol. I use considerable friction with the old handkerchief during this process, with the view of causing a local hyperæmia. The lobule is then pricked about its centre, sufficiently deep, with an ordinary pocket lancet, made aseptic by passing it through the flame of a Bunsen burner or that of an alcohol lamp several times, to cause the blood to well up and form a good-sized drop. No pressure should be used to make an increase in the flow of the blood, for such a procedure causes the corpuscles to become irregular in their shape. Of course the index finger can be prepared in the way I have indicated and the blood obtained from it, constriction having been applied to its proximal end prior to the puncture.

Now we are ready to secure the specimen of blood. A cover glass is carried from the paper to the lobe of the ear by means of a small pair of tweezers. It is placed lightly upon the drop of blood, and when withdrawn carries with it a considerable portion of the blood. This cover glass is then grasped diagonally on its corners between the thumb and index finger of the operator's left hand, with the drop of blood upward. A second cover glass is then placed upon the first with the tweezers in such away that it is square to the thumb and index finger. This arrangement allows them to be drawn apart easily. They are then pressed together between the thumb and index finger of the operator's right hand. Finally they are to be drawn apart by a rapid sliding motion from left to right, not by raising the upper one from the lower. The other specimens are obtained in like manner. To secure a good specimen by this plan will necessitate both care and practice, but with a little patience any one can secure a fairly good one in a very short time. It is at this point of the process that an artificial poikilocytosis is often produced. This should be borne in mind and taken into consideration in examining the cover. It is not very marked at any time, and the operator will find that it disappears in direct proportion as he gains experience and dexterity in manipulating the covers. The blood-stained sides of the cover glasses are turned up, placed upon the paper, and allowed to dry in the air. The time required for this is not long. By the time that all the covers have been smeared with blood, those made in the beginning will be quite ready for the fixation process. Working moderately fast, no time may be lost from the beginning of securing the specimen until it is ready for the microscope. This part of the technique will have consumed from three to five minutes.

The specimen may be fixed in either of two ways, both of which have given me uniformly good results. First, by equal parts of ether and alcohol. If the operator has the time and can wait on this method, I believe that it will give as good results as that obtained by heat. I allow the specimens to remain in this mixture of alcohol and ether from twenty to thirty minutes. This length of time I have found to be quite sufficient. However, some authors advise that they be left in the mixture for two hours and upward. I have never found it necessary to take so long a time, and I am of the opinion that a half-hour is enough for all practical purposes. It might be well to add that, the limits of time having been given as a guide, the operator may investigate the matter for himself. The second method is that by heat. This method has rapidity to recommend it, and indeed the material difference between the two methods, as I have come to observe, is a question of time, the former requiring more than the latter. I generally use a small oven about six inches square. It is very simple in structure and can be easily and cheaply made. It is made of copper and has a central shelf in its interior, upon which are placed the covers. At the back there is attached a metal ring, fitted with a thumb screw, which, sliding upon a rod, intended to support the oven, enables the operator to secure any desired distance from the flame. The thermometer is attached to the top. The door may be either sliding or hinged. The heat may be furnished by an alcohol lamp or by a Bunsen burner. The heat is gradually increased until the temperature reaches 120° C. (248° F.) and remains there for a few moments. The temperature must not pass beyond 120° C. After allowing the ether-and-alcohol mixture to evaporate from the covers or letting them gradually cool, according to which method has been used, they are then ready to be stained. Ehrlich's tri-acid staining fluid may be prepared according to the following formulæ:

Saturated watery solution of orange G.....	125
Concentrated watery solution of acid fuchsin, containing a twenty-per-cent. solution of alcohol	125
These are mixed and then is added :	
Absolute alcohol.....	75
Saturated watery solution of methyl green .	125

Or,

Saturated solution of orange G	50 cm.
Saturated solution of acid fuchsin.....	60 "
Saturated solution of methyl green	75 "
Distilled water	100 "
Absolute alcohol.....	50 "
Glycerin.....	15 "

These several ingredients are to be thoroughly mixed and allowed to stand fourteen days before using. A thick sediment forms at the bottom of the bottle, which should not be disturbed or shaken.

A few words about making the saturated solutions of the three coloring materials are necessary. I prefer using Grübler's stains, for they give me better results. Three four-ounce bottles are filled with distilled water and a small quantity of orange G. is put in bottle No. 1, a small quantity of acid fuchsin in No. 2, and a small quantity of methyl green in No. 3. As soon as the water has taken up the stain, an additional quantity of staining material is added, and this process is continued until a deposit begins to form upon the bottom of the bottles, indicating that the solution has become saturated. After they have become saturated they are allowed to stand for four days, and the solutions are not to be filtered. When the tri-acid solution is to be made, care must be used not to shake bottles Nos. 1, 2, and 3. Close attention to small details will be properly rewarded.

When used, this preparation stains the hæmoglobin yellow, the nuclei green, the eosinophile granulations deep dark gray, the neutrophile granulations intense violet. The hæmoglobin is colored by the orange G., the acidophile granulations by the acid fuchsin, the nuclei by the methyl green, and the neutrophile granulations by the acid fuchsin and methyl green. From this it may be seen that if any particular part of the cell is not stained sufficiently that special stain can be increased. The quantity of staining fluid made by the last formula will last an ordinary lifetime, for it does not become impaired by age.

The covers are stained with this fluid by passing over them a glass rod which has been previously passed into the centre of the bottle. After allowing them to dry they may be examined either dry or mounted in balsam. I prefer the former method, but believe that the beginner will secure better results by mounting in balsam. I have used this method of staining for two years, and find that it gives better results than any other which I have tried. From the time that the first specimen is begun, until it is ready for the microscope, fixation by heat will require from ten to fifteen minutes.

In concluding it may be well to observe that blood

mounted in this way may be sent by mail or express to a hæmatologist for examination under the microscope, without injuring the cells.

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THE CREPITANT OR VESICULAR RÂLE AN INTERPLEURAL SOUND AND NOT CAUSED IN THE PULMONARY TISSUE.[1]

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Even among the most intelligent and truthful of our patients, we can often attach but little importance to subjective symptoms; we are forced to rely for a correct knowledge and accurate diagnosis of a case upon such signs as we can elicit by a physical examination. If we are to draw correct conclusions, our methods must be accurate, our deductions must be logical, they must stand the test of careful scientific analysis, they must conform to known physical laws. Believing that, in our text-books on physical diagnosis and in the lectures of a majority of teachers of this branch, certain sounds heard in connection with diseases of the lungs are misinterpreted, I have thought it well to lay before the association some of the views held by a most distinguished physician now dead, and to add to his testimony the results of my own limited experience. Particularly do I desire to do this in regard to the origin, seat, and cause of what is known as the crepitant or vesicular râle. First let us see what the recognized authorities say:

Da Costa, in speaking of the vesicular or crepitant râle, says: "Its name indicates its seat. It is caused by agitation of fluid in the air cells or in the finest extremities of the bronchial tubes; or, to adopt a view now held by many, by the forcing open during inspiration of the air cells agglutinated by exuded lymph. The first stage of pneumonia is the state in which this râle is mostly engendered." Again, in speaking of pleural friction, he says: "It may be so much like crepitation that even long practice in auscultation will not enable us to determine at once whether the fine sounds we hear are the friction of a roughened pleura or the vesicular râles of an inflamed lung."

Loomis says of crepitant râles: "There are several views as to the production of these sounds: that they are due to the bubbling of air through a liquid in the pulmonary vesicles and terminal bronchioles; that at the end of expiration a viscid secretion glues the walls of the vesicles together, and their separation on inspiration gives rise to the crackling sounds; and that they are produced in the pleuræ independently of the pulmonary parenchyma."

Osler, in speaking of pneumonia, says: "Very early there is heard at the end of inspiration the fine crepitant râle, a series of minute cracklings heard close to the ear and perhaps not audible until a full breath is drawn. Whether this is a fine pleural crepitus, or is produced in the air cells and finer bronchi, is an open question." In speaking of pleurisy, Olser says: "There is another pleural friction sound which closely resembles and is scarcely to be distinguished from the fine crackling crepitus of pneumonia. This may be heard at the commencement of the disease, and also, as pointed out by McDonell, Sr., of Montreal, when the fluid has receded and the pleural layers have come together again."

Page says: "Crepitant râles are made in the air cells, and are the only vesicular râles that exist. They are very fine, uniform crackling râles, heard only at the (tip) end of inspiration, and are unchanged by coughing. They are caused by the forcible separation of agglutinated cell walls, as in the first stage of lobar pneumonia, or agitation of thin fluid in the air cells, as in pulmonary œdema. They are heard also in the third or resolving stage of pneumonia, when it is known as the *râle redux*, or râle that has returned or come back."

These expressions of opinion from the men who have stood at the top as diagnosticians for the past quarter of a century may, I think, be fairly taken as an expression of the most generally accepted belief concerning the cause and location of the crepitant râle; and, while the opinions quoted show that most of the authorities admit the possibility and even assert the existence during pleurisy of an interpleural sound not to be distinguished from the crepitant râle, yet they believe and teach that what is called the crepitant râle is a sound produced in the vesicles, and that it is indicative of a diseased condition of the pulmonary parenchyma.

Dr. James R. Leaming, in papers read before the New York Academy of Medicine more than twenty years ago, made the assertion that both the crepitant and the subcrepitant râles were sounds which had their origin in the pleural and not in the pulmonary tissues. This position he maintained most ably, and claimed that he had repeatedly demonstrated its correctness by post-mortem examinations. Early in my practice I read Leaming's work on the heart and lungs, and was so impressed with his clear and logical reasoning that I began questioning the correctness of what I had been taught as a medical student, and, as I had opportunity, I attempted to verify clinically his position.

Let us first look a moment at the structure of the lungs and the mechanism of respiration. The lungs are made up of tubes and of air cells or vesicles, the tubular or connective portion consisting of tubes which gradually grow smaller and smaller until they become microscopic and terminate in the air cells. The cellular portion of the lung is capable of great distention, and is always completely filled with air. The volume of this air may be augmented by the expansion of the cells; it may be diminished by their contraction; but the cells must always be full, they cannot be alternately full and empty. If partly filled with liquid, then air must occupy the remaining space. Were this not true, collapse of the lungs would inevitably occur, for the lung is always on the stretch, pulling, it is computed, with an elastic force of one-fourth to one pound to the square inch, and thus tending to separate the pleuræ and close the air cells; but, on the other hand, the air pressure on the interior of the lungs—that is, in the air cells—is fifteen pounds to the square inch. Now, that such a discrepany in pressure can be overcome and the cell closed by their elastic force is inconceivable; it is a physical impossibility. The lung is constantly being forcibly pressed by atmospheric pressure against the inside of the chest wall, thus completely filling the cavity of the thorax, whether in inspiration or expiration. If the cell walls come together, the parietal and visceral pleuræ must separate. What then becomes of the theory of the alternate separation and apposition of the cell walls covered with an exuded lymph?

Now let us look at the other theory, viz., that the crepitant râle is a sound caused by the bubbling of air through a liquid in the air cells or terminal bronchioles. In order that air passing through a liquid should cause bubbling, it must move with some degree of rapidity; there must be motion of the air in mass. Physiologists tell us that the air which is in contact with the respiratory epithelium is not sucked in and out with each inspiration, but that the air cells are constantly filled with residual air, which constitutes about eight-tenths of the total air capacity of the lungs.

[1] Read before the Medical Association of Georgia, at Macon, Ga., April, 1897.

The tidal air, entering the larger bronchi with each inspiration, meets in the bronchioles the residual air, and its current is checked, motion in mass ceases, and molecular motion takes its place; a rapid diffusion of gases occurs, the tidal air yielding up its oxygen and getting in exchange the carbon dioxide of the residual air. The conditions for such diffusion are well fulfilled in the lungs, and added to this we have the red corpuscles exerting their eager affinity for the oxygen, and thus hastening the change. We all know that under such conditions diffusion will be rapid, yet it will be only a molecular motion. Can we conceive it otherwise? Could it be possible that the tidal air could enter microscopic tubes and cells, overcoming the friction and displacing in mass a quantity of residual air, eight to ten times its own volume? Is not such a supposition opposed to all physical laws—is it not at variance with all physiology? Must we not abandon the idea of air currents in the vesicles causing bursting of bubbles? Was not the theory set up to meet supposed conditions rather than to accord with known laws?

Pathology teaches us that early in pneumonia there is an exudation into the air cells; experience has shown us that early in the same disease there is usually heard the crepitant râle; thus the two things came to be associated together without careful investigation and thought. Unquestionably there are cases of pneumonia in which the crepitant râle is absent during the stage of exudation, but is clearly and unmistakably present after complete consolidation has occurred. If this be true, the seat of the râle cannot be in the vesicles.

Time will not allow me to go into a detailed report of cases, but within the last few months I have seen two cases of pneumonia, cases classical in every respect save in the absence of the crepitant râle until after complete consolidation was present. The high temperature, cough, rusty sputa, complete consolidation, tubular breathing, were all present, yet no crepitant râle could be detected in the early stages; but after consolidation the so-called vesicular râles were abundant. With the appearance of the râles both patients began to complain of pain, the pain corresponding in location with the area over which the râles could be most distinctly heard.

We well know that very few cases of pneumonia, or indeed of any serious lesion of the lungs, occur which are not accompanied by an involvement of the pleuræ. If then we reason, *post hoc ergo propter hoc*, have we not both in pneumonia and in pulmonary phthisis the same ground for locating the crepitant râle in the pleuræ that we have for placing it in the pulmonary parenchyma? But are not the physical conditions for the production of the sound under discussion present when we have inflamed pleural surfaces covered with fibrous exudation, moving the one over the other, constantly attempting to separate, yet ever being held together by atmospheric pressure?

The human ear can locate with great accuracy the distance of a sound. Osler says of the crepitant râle: "A series of minute cracklings close to the ear." This is always true of the sound under discussion; it lacks the element of distance. While not a loud sound, yet the ear placed in contact with the naked chest wall will recognize that it hears a sound which is immediately beneath the surface, and not produced deep down in the lung tissue. The ear takes cognizance of distance, just as a muscle distinguishes between a light and a heavy body.

Careful and oft-repeated physical examinations, together with post-mortems when possible, must determine the question under discussion. We appeal to the profession to make such investigation, and not to accept without question the teachings of the day.

Progress of Medical Science.

The Chemistry and Pathology of Gout.—At the conclusion of the Goulstonian lectures recently delivered before the Royal College of Physicians and Surgeons of London, Luff (*Lancet*, April 17, 1897) announced the following propositions: (1) Uric acid is not normally present in the blood of man and other mammals, nor in the blood of birds. (2) This acid is normally produced only in the kidneys. (3) It is normally formed from urea, probably by conjugation of that substance with glycocin in the kidneys. (4) Uric acid is present in the blood in gout as the soluble sodium quadriurate. In its soluble form this is not a toxic agent. It deposits from the blood as sodium biurate, which acts passively and physically as a foreign body in the tissues or organs in which it is deposited. (5) The presence of uric acid in the blood in gout is due to its deficient excretion by the kidneys and to the subsequent absorption of the non-excreted portion into the blood from those organs. (6) Gout is probably always preceded by some affection of the kidneys, functional or organic, which interferes with the proper excretion of uric acid. The probable seat of the kidney affection giving rise to the gout is in the epithelium of the convoluted tubes. (7) In certain blood diseases and disorders accompanied by leucocytosis, uric acid is formed within the system from nuclein. Under such circumstances it passes at once into the blood and is rapidly eliminated by the kidneys. (8) The solubility of uric acid in the blood is not affected by a diminished blood alkalinity produced by the addition of organic acids. (9) The deposition of sodium biurate is not accelerated by a diminution in the alkalinity of the blood. (10) An increased alkalinity of the blood does not increase the solubility of deposits of sodium biurate. (11) The saline constituents of vegetables exercise a remarkable inhibitory power over the decomposition of sodium quadriurate. (12) The solubility of sodium biurate in the blood is increased by the presence of the saline constituents of vegetables. (13) The solubility of sodium biurate in the blood is diminished by the presence of the saline constituents of meat. (14) The gout-inducing properties of certain wines are not due to their acidity. Probably these owe their action to the effect they exercise on the metabolism of the liver.

Pulmonary Tuberculosis Communicated from Husband to Wife.—Murrell (*Lancet*, April 10, 1897, p. 1,018) reports the case of a woman, thirty-six years old, who came under observation with pulmonary tuberculosis. Inquiry elicited the fact that her family history was good and free from suspicion of tuberculosis. Her husband, when she married him, was apparently healthy, but his father and a sister had died from pulmonary tuberculosis. After a time he developed cough, spat blood, and ultimately died from pulmonary tuberculosis. During the last seven months of his life he was too weak to go out, and his wife nursed him incessantly. They had only one small room and the fire was kept burning day and night. The man expectorated a good deal and no directions were given as to the use of antiseptics. Soon after his death the wife noticed that she had a bad cough, and when she came under observation it was found that she had cavernous breathing, with whispering pectoriloquy at the apex of the right lung, and dulness and crepitation at the left. She stated that she was no worse off in consequence of her husband's death, but that, on the contrary, her means had improved, as during her husband's illness she had to keep him. As Murrell points out, this case is of no particular interest in

itself, but it becomes so when taken in conjunction with similar cases recorded in literature, as marking the change of opinion respecting the contagiousness of tuberculosis which has taken place. In the past such cases were regarded with suspicion and their publication excited hostile criticism; now they have become so common as to excite but little comment. Dr. Hermann Weber has given details of thirty-nine wives who became infected from marrying tuberculous husbands, and in several instances the husband infected more than one wife. The reason that the husband infects the wife more frequently than the wife the husband resides in the fact that when the husband is ill the wife nurses him, but when the wife is ill the husband, from the increased demands on his resources, has to pay closer attention to business and is less at home than usual.

Hereditary Contracted Kidney in Early Life.—Hellendall (*Archiv für Kinderheilkunde*, B. xxii., H. 1, 2, p. 61) makes the exceedingly interesting report of two children, dead at the ages of two years and six months respectively, and presenting characteristic lesions of interstitial nephritis with contracted kidneys. The father was healthy and was believed to be, with the mother, free from syphilis. The mother presented symptoms of chronic interstitial nephritis. Her mother and an aunt had died early in life with swelling of the feet, and one sister had died with dropsy. It is believed in the case of the children that the chronic nephritis was a primary process, and that it was probably of fœtal origin.

A Graphic Study of Tremor.—As the result of an extended study by graphic methods of tremor as observed under varying conditions of health and disease, Eshner (*Journal of Experimental Medicine*, vol. ii., No. 3, p. 301) expresses the conclusion that all muscular movements are made up of a series of elementary muscular contractions and relaxations in alternation, which may be appreciated as tremor in conditions of both health and disease. The differences between different tremors were found to be in degree rather than in kind, *i.e.*, no one form of tremor appeared to be distinctive of any one disease or group of diseases. No definite relation was found to exist between one form of tremor and any other. The frequency of movement was in inverse ratio to the amplitude, and *vice versa*. Habitual movements were performed with greater freedom from tremor than unusual movements. No material difference could be discerned between the movements of the two sides of the body, except in so far as related to habitual or unusual activity.

One-Sided Paradoxic Pulse with Inequality.—Gerhardt (*Berliner klinische Wochenschrift*, April 5, 1897, p. 285) has reported the case of a woman, sixty-nine years old, who had had measles in childhood, later gastric fever, two years before coming under observation pneumonia, and a year before influenza. For a long time there had been tremor of the left hand. Following an attack of vertigo succeeded by loss of consciousness, the right leg had been paralyzed. The pulse at the wrists was found to be irregular, and on the left much smaller than on the right. On simultaneous observation of the two sides during one minute the frequency upon the right was found to be 112, on the left 92. A second observation for half a minute the number was found to be 52 on the right, 42 on the left. There was no fever, but the respiratory frequency was 40 in the minute. Further investigation could not be pushed, on account of the sudden death of the patient a short time after she came under observation. Upon post-mortem examination, in addition to areas of softening in the optic thalamus and striate body in the left cerebral hemisphere, there were found recent fibrino-purulent pleurisy and pericarditis. Although the branches of the middle cerebral artery displayed thickening and atheroma, but slight changes of similar character were present in the aorta. The right subclavian artery had a diameter of 2 cm., the left a diameter of 0.8 cm.; the right carotid a diameter of 1.5 cm., the left a diameter of 1.4 cm. The pericarditis is held responsible for the paradoxic pulse, the narrowing of the left subclavian artery for the inequality. Comparative observations upon healthy persons showed that when pressure upon the vessels of the arm was made there was no change in pulse frequency when ordinary breathing was maintained, but when respiration was accelerated some of the pulsations were lost on the side on which the vessels were compressed.

Hæmoptysis.—Dr. J. M. Cotton (*Canadian Practitioner*, January, 1897), from his own clinical experience and knowledge of pathology, considers the following as the chief causes of hæmoptysis: 1. Hemorrhage from the pulmonary artery or its radicles. (*a*) Rupture of wound of the lung from external violence. (*b*) Active hyperæmia of the lungs—inflammatory, vicarious, or induced by violent effort or excitement. The active hyperæmia may be primary as regards the lungs, or may supervene or be attendant upon disease already present in them. (*c*) Mechanical hyperæmia of the lungs, secondary to heart disease or embolism of one of the pulmonary branches, or to pressure from tumors, such as enlarged bronchial glands. (*d*) Necrotic division of vessels in the course of softening of tuberculous or other consolidations in destructive lung diseases—phthisis, tuberculosis, cancer. (*e*) Aneurismal dilatation or simple erosion of branches of the pulmonary artery, exposed in the course of excavation of the lung, or ulceration of the bronchial mucous membrane. (*f*) Primary atheroma of the pulmonary artery within the lung. 2. Hemorrhage from the bronchial capillaries. Capillary hemorrhage from the bronchial mucous membrane. 3. Hemorrhage from the aorta or one of its great branches. Aneurism rupturing through the lung or into a bronchus.

Direct Intra-Abdominal Finger Compression of the Common Iliac Artery during Amputation at the Hip-Joint—McBurney (*Annals of Surgery*, May, 1897, p. 611) describes a method of hæmostasis that he has employed successfully in three cases of amputation at the hip-joint. First, as much blood as can by means of position or an elastic bandage be returned to the body from the limb to be amputated is so returned. Then an incision is made through the abdominal wall, about one and a half inches internal to the anterior spine of the ilium. Through this incision an assistant passes a finger and readily reaches and compresses the common iliac artery. In this way entire absence of blood current beyond the point of compression can be readily maintained throughout the course of the amputation. The operative field can be kept entirely free from bandage or appliance of every kind, asepsis is facilitated, and the amputation can be effected without other loss of blood than that which takes place from the vessels of the limb below the point of amputation. The method would seem to commend itself on account of its simplicity, its certainty, its aseptic character, and because it can be applied in cases in which the deeper tissues require to be severed at an unusually high level. The method has the further advantage that it permits identification and ligation of all of the smaller arteries in the stump: by lifting the finger for a fraction of a second a minute quantity of blood will escape and indicate the situation of the vessel.

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THE ABUSES OF THE HOSPITAL PAY-SYSTEM.

It is quite evident as the outcome of the present discussion on the abuses of medical charity that, instead of a laudable desire on the part of the managers of the hospitals and dispensaries to agree upon a rational remedy for the evil, there is manifest a very strong disposition to fight for its continuance. At the bottom of this condition of things is the fact that the hospital and dispensary business is so much overdone that with many of the boards it is a mere struggle for existence against the demonstrated uselessness of existing at all. To pose as a worker for sweet charity is a coveted Christian privilege and a high social distinction. To the ambitiously benevolent man such aspirations are quite irresistible, and in order to realize them he is delighted to subscribe for a new hospital or a new dispensary, and figure as an executive on its managerial board. Naturally when he discovers, too late for a dignified retreat, that he has been misled as to the real necessity for his charity, he does all he can to defend himself and his position in the endeavor to demonstrate to the public that the scheme is a successful one. If the latter fails he fails. There are hundreds of such institutions throughout this and other countries that are managed solely on the principle of vanity of their managerial boards. Many of these drift in heavy debt every year for what are called running expenses, and have the effrontery to appeal for more public aid in consequence. The struggle for existence among the useless institutions begets a so-called generous rivalry in the race for donations, and thickens the air with the wing feathers of the charitable angels. Concerts, tea parties, theatrical performances, and church fairs, with the attendant extravagant demands upon the pockets of the well-disposed, complete the self-evident imposition, until truly charitable giving becomes an illusion and the purchase of mailed tickets becomes a snare. Most if not all of this is the tangible evidence of the present methods of bolstering many of the schemes which, save for their association with the name of charity, would have an entirely different designation. The major part of the money thus obtained is spent in securing building-sites in fashionable districts and in the erection of unnecessarily imposing structures. In nine cases out of ten it is more building than hospital—more empty show than real work. Examples of such miscalculation are to be seen in every city. We have several such in New York. With the appearance of great wealth, they are always pleading greater poverty than the veriest beggar who vainly clamors at their gates. They are even too poor to admit any but those who can pay. What can be said in proof of the actual need of a so-called charitable institution, with a two-million plant, whose wards are never full and whose expenses swell the yearly deficits from sixty to ninety thousand dollars? Another large institution lately completed, and also in the centre of a choice district, begs for money and for patients almost in the same breath. It is not necessary to multiply such examples of what is forced and useless medical charity, nor to prove one of the main reasons for its abuse.

If the deserving poor were the sole recipients of such bounties, there would be excuses for any means to such an end. The poor, however, are just as much cheated of their rights in the matter as is the majority of the benefactors who so innocently contribute to the charitable funds. "Here is a penny for the missionaries," said a subscriber, "and here is a dollar to pay the freight." The fellow at the other end of the line is taught by the interested distributor of the funds to be satisfied with what he can get.

When it is considered how much the number of unnecessary hospitals and dispensaries has to do with the existing abuse of medical charity, it is safe to say, on the basis of a calculation of the proportion of poor in any community that needs free medical treatment, that if half the hospitals and two-thirds of the dispensaries ceased to exist no really indigent person would suffer. Such a reduction in the number of institutions would possibly restrict the remainder to the working basis of charity as it should be—pure and simple. This would make the ideal charity hospital or free dispensary an institution that treated the poor and needy only. Approximatively speaking the perfect type of such charity is that afforded by institutions maintained by public tax and managed by municipal officers. Very few if any of the institutions controlled by private corporations are above bidding for pay patients. This is the natural penalty of claiming to be what they are not, and brings with it the temptation to do evil that good may possibly come. Hence there is generally a disposition to cater to the pay element in the wards and private rooms, and make proper charity a secondary consideration. It is not so much a question how sick or needy a patient may be, but how much he can pay. There is, then, just as much abuse of charity in an ostensibly charitable institution in the treatment of a pay patient for money as there is in declining or refusing free treatment to a needy one. It is a false pretence, whichever way we view it. The abuse is the more pronounced in proportion as it is nearer the extreme ends of the line. It is money first and charity last. There is seldom a spare bed ready for a poor patient when it can be occupied by a pay patient. Thus it often happens that the sufferer who is most in need of hospital treatment stands an even chance of not obtaining it. It is a common experience when admission is sought for a really deserving or an uninter-

esting case to discover that the hospital either does not treat such patients or that all the available beds are occupied. The majority of these institutions claim all their privileges as private corporations with discretionary powers when they wish to, and refuse admission to charity patients, but when public donations are in order they are more than anxious to vaunt their charity in the hope of obtaining a suitable proportion of the hospital fund. In spite of their best efforts in an apparently laudable direction, they make a very poor showing and prove that for most of their patients they receive pay, thus demonstrating that they are not *bona-fide* charitable enterprises. To meet their current expenses they are compelled to fit up more private rooms and bid for business by establishing medical and surgical boarding-houses. Rooms and suites of rooms are hired at prices ranging from fifteen to fifty dollars per week, with nursing and attendance free, and with the probable payment of a small and voluntary fee to the physician or surgeon who may be on duty.

The doctors connected with these so-called charities, who are in reality the only ones who give their services to the poor, are the last to be considered, and in many instances are forced to perform the unnecessary and extra work for the little or nothing which may be spared by the patient after the hospital bill is paid.

Not only is the medical staff swindled by this shameful diversion of what should be strictly legitimate professional fees, but the rank and file of the profession are openly robbed of their rightful incomes. If the staff complains it can resign, and the vacancies can be supplied the next day. The pay patient is first seen by the superintendent, whose business it is to get the most for the rooms, and is simply told he can make any terms with the attending physician or surgeon he may choose, which practically means that he may or may not pay for medical services. Not many months ago one of the managers of a large hospital plant in this city, in a public address, openly advertised the superior claims of his institution by eulogizing the economy of the private-room system against the unnecessary extravagance of being treated at home by the ordinary medical attendant. It is impossible to resist the conviction that such hospitals are merely managed as monopolies, to the great and growing detriment of professional business. In every other kind of work those who help earn the money share in the profits. But why should the doctor get paid for his hospital labor, when he is so willing to work for nothing and to be kicked in the bargain?

THE SIGNIFICANCE OF PALATAL DEFORMITIES IN IDIOTS.

There is perhaps at the present time too much tendency to regard any anatomical deformity or deviation, however slight, from the normal type as a sign of degeneracy. The anatomical stigmata of the hard palate have been attracting attention of late. For nearly thirty years the dictum of Dr. Down that the V-shaped palate was an infallible characteristic of the idiot was accepted without question. Dr. Kingsley, an American dentist, was the first to doubt the accuracy of this theory. He examined two hundred patients at Randall's Island, and later went to Earlwood Asylum in England, where with Dr. Down he examined the palates of the inmates, and decided that they did not present more examples of deformity than those of ordinary individuals. Dr. Walter Channing, who last year read a paper on "The Significance of Palatal Deformities in Idiots," at the meeting of the Medico-Psychological Association of Great Britain, agrees in the main with these views. Dr. Channing has devoted much time to a consideration of the subject, and also in all cases takes accurate measurements. He has proved to his own satisfaction, as well as to that of many others, the fallacy of the belief that the palates of nearly all idiots are V-shaped. Dr. Channing says that "there are probably as many deviations from the ordinary type of palate with normal persons as with idiots," and gives the following as his conclusions:

1. Two-fifths of the palates of idiots are of fairly good shape.

2. Palates of normal individuals may be deformed.

3. In the idiot it is a difference in degree and not in kind.

4. In either case it shows irregular development anatomically.

5. Palates of average children and idiots under eight years of age probably do not in the majority of cases markedly differ.

6. There is no form of palate peculiar to idiocy.

7. The statement that a V-shaped or other variety of palate is a "stigma of degeneracy" remains to be proved.

Dr. Frederic Peterson differs widely from these views and says: "The deformed palate, to my mind, is one of the chief anatomical stigmata of degeneration."

He further says: "I may not be able to say what Dr. Amadéegoux did of the ear, 'Show me your ear and I will tell you who you are, whence you came, and where you go;' but I will say, 'Show me your palate and I will probably be able to tell whether you belong to the great class tainted by heredity, comprising many insane, imbecile, feeble-minded, criminal, eccentric, epileptic, hysterical, or neurasthenic individuals." Statistics bearing on the classification of palates are unreliable and confusing. Talbot found forty-three per cent. of abnormal palates in one thousand six hundred and five inmates of institutions for the feeble-minded; Ireland found fifty per cent. Charon reported abnormal palates in ten per cent. of normal people, in eighty-two per cent. of idiots and feeble-minded, in seventy-six per cent. of epileptics, in eighty per cent. of cases of general insanity, in seventy per cent. of the hysterical insane, in thirty-five per cent. of cases of general paralysis. Clouston and others supply statistics supporting the view that in idiots abnormal palates are much more frequent than with persons of a normal type. Channing's statistics show that the deformed palate occurs as frequently in one type as the other, and he also joins issue with Clouston as to the mode of classification.

THE SERUM TREATMENT OF SYPHILIS.

In the March number of the *Russkiĭ Arkhiv*, Dr. Vieviorovski presents an elaborate study of the blood changes occurring in patients with early syphilis after receiving injections of serum taken from persons with tertiary manifestations. His investigations were made upon two patients with syphilitic roseola, who were first treated with serum from syphilitics with condylomata, and later, during a recrudescence of the disease, with serum from those with gummata. The difference in the effects of the serum taken from these two sources was a purely quantitative one, the gummatous serum being the more active.

Immediately after the first injection of from twenty to fifty cubic centimetres of serum there was an increase in the number of red corpuscles and in the amount of hæmoglobin, and in most cases a diminution in the number of white cells. During the continuance of the injections, while the symptoms of the disease continued, the red cells and hæmoglobin remained at a fairly constant level, within nearly normal limits, or were slightly increased. But as soon as the syphilitic symptoms disappeared there occurred a new augmentation in the amount of hæmoglobin and number of red corpuscles. The white cells showed a tendency as at first to decrease. In one case, in which the injections of serum were without effect in preventing the development of the symptoms of the disease, there was always a diminution in the number of red cells the day on which the eruption appeared and also the day preceding it, although the number had been considerably above the average prior to this. The amount of hæmoglobin remained invariable. It was only after several injections, and upon the day the eruptions disappeared, that the number of red cells and the amount of hæmoglobin were increased.

Dr. Vieviorovski believed that there occurred under the influence of the serum a rapid reparation of the blood which had been altered by the syphilitic toxin, this modification taking place very rapidly after the introduction of the serum, even before the injections had had time to influence in any way the symptoms of the disease. The effects of the serum were analogous to those of mercury when the latter has simply caused a disappearance of the symptoms of syphilis, but has not been pushed so far as to exercise its hæmatolytic action. The difference between the treatment by serum and that by mercury consists chiefly, the author thinks, in that the serum acts more promptly and occasions none of the destructive effects seen occasionally when mercury is employed in large doses or for a long period.

The experiments made by Dr. Vieviorovski, of which we have been able to give only a bare outline, were most interesting and, except for their small number, quite conclusive. They at least incite to further trial, and justify the hope that we may find in hæmatotherapy a valuable aid in the prevention of the serious and destructive lesions of the so-called tertiary stage of syphilis.

The New York Herald comes out strongly in favor of the doctors in their fight against the abuses of medical charity.

News of the Week.

Amendment to the Nebraska Medical-Practice Law.—The Nebraska State legislature, just before adjournment, passed the bill amending the medical-practice act, requiring the State board of health to recognize diplomas only from medical schools which require a preliminary entrance examination, or the equivalent thereof, and attendance upon at least four annual courses of lectures of not less than six months each (no two within the same year), before granting the degree. The governor signed the bill at once. The efforts of the regular physicians, representing the State Medical Society, the Omaha Medical and the Creighton Medical colleges, to incorporate an examination feature in the bill, were frustrated by the efforts of the combined irregulars of the State.

Dr. John R. Ely, of this city, has been appointed instructor in pathology in the Yale Medical School.

Dr. Allen Blair Bonar has resigned the position of resident physician to the Incurable Hospital on Blackwell's Island, and has moved to New York City.

Obituary Note.—Dr. Anthony Eugene Stocker died at Philadelphia, on May 23d, at the age of seventy-eight years. He was graduated from the medical department of the University of Pennsylvania in 1840, and at the outbreak of the civil war entered the army as a surgeon. He was for many years surgeon to the Pennsylvania Hospital and the Blind Asylum.

A Medical Victim of the Paris Fire.—Among those killed in the disaster at the Bazar de Charité was Dr. Henri Feulard, a well-known dermatologist, who, after saving his wife, went back into the burning structure to rescue his little daughter. In seeking to save some other persons who asked for his help, he perished in the flames. He was only forty years of age, and had already made an enviable reputation in his specialty. He was a member of the French Dermatological Congress, and was on the editorial staff of the *Annales de Dermatologie et de Syphiligraphie*.

The Charges too High.—The committee on exhibits of the British Medical Association in Montreal had an experience similar to that of the builders of grand stands at the recent Grant parade in this city. The correspondent of *The Lancet* writes that the Victoria Skating Rink was secured, and the floor space laid out in an attractive lithographic plan, and high prices were asked for space, on the supposition that exhibitors would be tumbling over one another in their anxiety to secure places. As, however, there has been no hysterical clamor for space, the prices have been brought down. The contractor for the handbook has been disappointed also in the advertising patronage he has been able to secure. This has caused delay, but the book will be issued all the same.

Dr. J. W. Prendergast, ex-health officer of Cincinnati, who was indicted by the grand jury for blackmail, the charges being made by the Fraser Medical Company of New York, has fled from the city.

He was to appear in the criminal court on May 24th to answer to the charge, but instead of appearing sent a letter to his attorney, in which he said that public sentiment had been so aroused by reason of developments of crookedness among officials recently that no accused official could have a fair trial. He further said in the letter that he was going to the West for a month or two, and at the end of that time would certainly return for trial. His bond of $1,000 was declared forfeited.

The Need of Closed Street Cars.—The health board has added to the sanitary code a section prescribing that every passenger railroad in New York City shall at all times of the year run at least one closed car in every four cars run. The board has received numerous complaints about open cars in rainy summer weather.

An Antivivisection Bequest.—The will of Mrs. Ellen B. French, of Beloit, Wis., bequeaths $5,000 to Beloit College, on condition that no vivisection shall ever be practised in any of its departments. If the stipulation is violated, the trustees are to pay over the amount to the American Humane Education Society of Boston.

Dr. John B. Hamilton, the editor of the *Journal of the American Medical Association*, devoted nearly half a page recently to the expression of his dislike for Dr. Walter Wyman, surgeon-general of the United States Marine Hospital service. The latter, however, continues to do his duty in the same efficient manner that has always characterized his official career, and has found time to make several valuable contributions to medical literature.—*Ohio Medical Journal.*

The Plague.—Mr. Julian Hawthorne, who was sent to India to describe the scenes of the famine and of the bubonic plague, returned recently to this country. He spent a fortnight in Bombay and a fortnight in the famine district among the native villages. Vast numbers of Hindus and Bengalese, he says, have died from starvation, and he further asserts that the government figures represent not more than one-sixth of the actual deaths from the plague.

No Degrees for Women at Cambridge.—The University of Cambridge, England, at a meeting on May 21st, rejected by a vote of 1,713 to 662 the proposal to confer degrees upon women. The refusal was largely the work of clergymen of the Church of England, who flocked to Cambridge from all parts of the country in order to put themselves on record as opposed to the new woman. The students amused themselves by suspending opposite the senate house an effigy of a woman in bloomers on a bicycle, and over the gateway of one of the colleges was a transparency inscribed: "Get you to Girton, Beatrice. Get you to Newnham. Here is no place for maids."

Foreign Dogs Not Wanted.—The British board of agriculture, moved thereto by the hydrophobia scare now afflicting England, has issued an order that no dog shall be allowed to enter Great Britain after September without a special license issued by the board of agriculture, which can be obtained only after going through many formalities. Details for the identification of the dog must be given, as well as the address of the owner, where the animal is going to land, the route by which it is to travel, etc. In case of violation of any of the provisions of the order the dog will be liable to six months' quarantine at the expense of its owner.

The Medical Society of the County of Kings, which recently celebrated its seventy-fifth anniversary, has secured a lot at Bedford Avenue and Dean Street, Brooklyn, upon which it will erect a building for its permanent home.

"The Medical Register" is a new monthly journal issued under the auspices of the faculty and society of alumni of the Medical College of Virginia, under the editorial management of Dr. E. C. Levy.

The Duchess of Teck has more confidence in British medical men than some of her royal relatives. She recently was taken ill with strangulated umbilical hernia, and was successfully operated upon by Mr. Allingham, without waiting for a surgeon to be brought from Germany.

A Twenty-Six-Year-Old Grandmother.—Dr. H. O. Hyatt tells in *The Philadelphia Polyclinic* of a girl who bore an illegitimate daughter one month before her thirteenth birthday. This daughter menstruated at eleven years, was married at twelve, and herself bore a son one month before reaching the age of thirteen. The girl grew four inches in height after giving birth to this child, and has since borne seven children. The writer says that she is in fair health, and shows no signs of premature age.

Dr. Charles E. Sajous, editor of the "Annual of the Universal Medical Sciences," who has lived for some years in Paris, will return soon to Philadelphia. He has been appointed professor of laryngology and dean of the faculty of the Medico-Chirurgical College of Philadelphia.

The New Woman and the Wheel.—A writer in a St. Louis contemporary says that the bicycle "is equally if not more beneficial to young girls with scanty, delayed, or irregular menstruation, who are developing into manhood, than any other deviation from the normal that the female sex is afflicted with." The opponents of the wheel contend that this is just the trouble, that girl riders develop into manhood.

A Medical-Aid Section.—It is announced in *The Journal* that an effort will be made at the Philadelphia meeting of the American Medical Association to complete the organization of a medical-aid section for the benefit of disabled physicians and of the widows and orphans of physicians, members of the section, with the co-operation and indorsement of the several State and municipal medical societies; the friends of such a section hope to organize, and have appointed all the officers required to make the section a corporate body of the association.

Society Reports.

SEMICENTENNIAL CELEBRATION OF THE AMERICAN MEDICAL ASSOCIATION.

The Forty-Eighth Annual Meeting, Held at Philadelphia, June 1, 2, 3, and 4, 1897.

Tuesday, June 1st—First Day.

THE meeting was called to order promptly at ten o'clock by the president, DR. N. SENN, of Chicago.

Prayer was offered by the REV. LEVERETT BRADLEY, D.D.

Addresses of Welcome.—The HON. CHARLES F. WARWICK, mayor of Philadelphia, greeted the association on behalf of the city, and said that never before had he welcomed so large a body of doctors. He spoke of Philadelphia as the home of medicine; that it was here that Gross, Pancoast, Agnew, and Leidy had made themselves reputations, not only medical, but national and worldwide. He had heard, he said, men denounce both God and the doctors, but they never asked for any one so promptly as they did for both when they happened to be sick. In the name of Philadelphia he welcomed his hearers heartily, and hoped that their deliberations would result in blessings for mankind.

In the absence of His Excellency the Hon. Daniel H. Hastings, the HON. CHARLES EMORY SMITH, formerly minister to Russia, welcomed the association on behalf of the State of Pennsylvania. He expressed his regret that the governor was unable to be present, but said that he felt sure he would be excused when it was known that he was holding a very important clinic at Harrisburg. The patients were not really so very sick, but they were nevertheless considerably diseased, and, unlike the cases coming before the profession, with these it was the governor's duty not to save but to kill, and to do this required the most drastic treatment; he was therefore detained at Harrisburg in the work of amputating gangrenous legislation, and was using the scalpel with great industry and considerable skill. Mr. Smith said that he was a substitute drafted at the very last moment, but would say for the governor in a few words that the State of Pennsylvania, as well as the city of Philadelphia, welcomed the association within her borders. He spoke of the association as a representative of that profession which came the closest home to the hearts of the people, and said that the great State of Pennsylvania welcomed them for what they had done and for what they were doing for the good of humanity, and he expressed his conviction that this meeting would mark an epoch in the history of medicine.

DR. H. A. HARE, chairman of the committee of arrangements, announced a long programme of entertainments which had been provided by the citizens and physicians of Philadelphia.

The President's Address.—DR. NICHOLAS SENN, of Chicago, then delivered the annual address, taking for his theme, "The American Medical Association, its Past, its Present, and its Future." He said that Philadelphia was an appropriate place for the meeting of the American Medical Association, since it was here, on July 4, 1776, that the most precious document of the American people, the Declaration of Independence, was signed, and heroically defended by America's greatest physician, Benjamin Rush; it was here that the first music of the Liberty Bell was heard, which would continue to echo over our fair and free country for all time. Besides being the birthplace of the American Medical Association, Philadelphia remained the centre of medical education, and its citizens, beginning with Benjamin Rush, had always been loyal to the cause of medicine. He recalled the names of Dr. N. S. Davis, of Chicago; Dr. Stillé, of Philadelphia; Dr. Johnson, of St. Louis; Dr. Atwater, of Springfield, as the few remaining men of those who were most helpful in laying the cornerstone of this national institution. Of these men, Dr. N. S. Davis was the father of the association, and Dr. Stillé had been for many years its faithful secretary. He also paid a tribute to those who had labored earnestly in the early work of the association, and who had since joined the silent majority.

A much-needed reform in medical education had been brought about largely through the influence of the association, nearly all medical schools now requiring a four years' course and an attendance of eight months in the year, and as a result of this reform our medical schools were now quite on a par with those of the old world. Some of the very best practitioners of the United States were men who had graduated in our own schools, and the orator thought it required no stretch of the imagination to predict that this country would become the centre of medical education within twenty-five years, and that instead of, as formerly, men crossing the ocean to Europe to complete their medical education, those of European countries who desired to perfect themselves in the science and art of medicine would be forced to come to America.

The orator then spoke at length of post-graduate education, which he said was within reach of every one and was to be had for the asking by seeking membership in medical societies. It was an acknowledged fact that the best education was but an entering wedge to the successful practice of medicine, and the successful and then necessarily progressive physician was and always remained an earnest student. Polyclinics and post-graduate medical schools, each with its multitudinous professional staff of men themselves just graduated, had done excellent work, despite their deficiencies, in fostering and favoring specialists, but they never could or would take the place of medical societies. A man who had been living far from his fellows might gain some advantage by attending these schools and brushing up his knowledge a little, but the only really rational post-graduate work consisted in reading current literature and acquiring a knowledge of disease from a pathological standpoint through attendance upon local medical societies. Not a single day should pass that the physician did not absorb something useful from medical literature or from the study of some specimen under the microscope. The fruit of such individual efforts, however, belonged to the medical profession, and should be brought into the proper channel through medical societies or through the medical press. Time and money spent in attending the meetings of the several county, State, and national associations would be well spent. The multiplication of medical societies of all kinds had gone on with the greatest speed. Specialists had their own societies, and much good was accomplished through them; but they were necessarily restricted in their usefulness, and a man's first duty was to belong to his local society. In this society the young graduate should listen and say little for two or three years; by the end of five years he might begin to talk, and then he was ready for work in the State society; in the national association, however, he should, while being present, not be heard until ten or twelve years had passed since his graduation, and even then he should not be heard unless he had something valuable to say on a scientific subject. Medical societies are intended for scientific work, and the great majority of physicians who attend the meetings do so for the sole purpose of receiving or imparting knowledge. These are the men of worth, but there is another class that is not wanted;

this class contains the political doctors, the wire-pullers who are always on their feet to the detriment of the scientific work of the society. These men appear more for the purpose of being seen and making themselves heard, and so killing precious time, than to promote the legitimate work of the society; they seldom read papers or take part in the scientific debates. The general meetings of this American Medical Association had on many occasions, the orator said, resembled more a political caucus, or a stirring debate in the Senate, than the calm proceedings of a scientific body.

One of the growing faults at present threatening the usefulness of the association is the offering of too many papers, and the speaker warned his hearers that a bulky volume of transactions is no indication of good work accomplished—indeed, often the very contrary. There is, however, much good medical writing, and Dr. Senn thought we might take just pride in the rapid growth and high standing of our American medical literature. The time, he thought, was at hand when we would be able to pay our obligation to Europe with compound interest, and when the students on the other side would have to look to America for their text-books. He urged the creation of a fund for a number of prize essays, and believed that thereby the future of American literature would be assured. The *Journal* of the association, he said, had passed through the trial stage and was a power for good, and might some day be a rival of the *British Medical Journal*.

At the time the Medical Association was organized, the profession of the country was in a trying position; the standard of medical education was at the lowest depth. The code of ethics, which was formed and passed by a unanimous vote in 1847, was liberal in its tone and lofty in its sentiments, and required nothing more than would be most willingly subscribed to and carried out by any one having the good of the profession at heart. The speaker considered it the cornerstone of the American Medical Association, and upon its removal the association would be no more. The code of ethics, Dr. Senn said, had fulfilled the purpose for which it was intended, and he believed that at the centennial celebration fifty years hence, our successors would be thankful to us for handing it down in an unaltered form.

Dr. Senn spoke feelingly of the efforts of Dr. Gihon in connection with the Rush monument fund, and thought the association could not afford to let the semicentennial celebration pass without securing funds for a suitable monument to the memory of Benjamin Rush.

A suggestion which the orator offered was that during the meetings of the association lectures should be given on bacteriology, histology, etc., and lectures of this nature, if illustrated fully and well, he believed would secure a large attendance.

Another suggestion was for an association dinner for the entire association, to be held the second evening of each session, to be arranged for by the committee of arrangements, but to be paid for by the members who eat it.

He also discussed the need of a permanent home of the association, an editorial office, pressroom, and a circulating library.

Upon motion, the thanks of the association were then voted to Dr. Senn for his able address, and it was referred to the proper committee for action upon the suggestions contained in it.

Report of the Rush Monument Committee.—Dr. E. L. Gihon reported that the Rush monument fund was now only $4,016.19. In stirring words he eulogized Dr. Rush as the one to whom American physicians owed the greatest gratitude and who was deserving of the homage of every lover of his country, because of the courage he always exhibited and because of his martyrdom. He said, however, that he was almost discouraged, and the association must now decide whether its original intention to erect a suitable monument to this hero be carried out, or whether a small bust on a plain granite pedestal be put up in Washington as a measure of the honor which American physicians and patriots wish to pay to Benjamin Rush.

Dr. Cutter, of New York, moved that the association appropriate each year $1,000 until the necessary amount was raised.

Dr. Graham, of Denver, moved as an amendment that the sum of $100,000 be raised by members of the association, and he gave his pledge that Colorado would give $2,000 of this amount.

This aroused enthusiasm, and contributions of $2,000 were pledged by Illinois, New York, Pennsylvania, Ohio, and Missouri, and the representatives of the other States promised to devote their best efforts to the raising of a sum proportionate to their abilities. Many delegates promised individual subscriptions of $100 each.

It was moved and seconded that the editor be instructed to keep a standing appeal in the *Journal* until the money is raised.

Dr. Henry P. Newman, the treasurer of the association, then read his report. The past year, he said, was one of the most prosperous in the history of the society, and the membership was steadily growing. The balance at present in the treasury amounted to a little over $5,000.

Amendments to the Constitution.—The following proposed amendments to the constitution were then taken up and voted upon:

Art. IV.—Officers. Amend to read "Each officer shall hold his appointment for one year, and until another is elected to succeed him."

Executive Council. "That there be made an executive council of five, consisting of the three officers of the executive committee and two officers chosen by election. Of this council of five, one must belong to the section on practice of medicine and one to the section on surgery and anatomy. To this executive council shall be delegated all the duties of the executive committee during the interval between the meetings."

Art. IX.—Conditions for further representation. "Any State or local medical society, or other organized institution whose rules, regulations, and code of ethics agree in principle with those of this association may be entitled to representation on the advice or agreement of the judicial council."

To change the name of the section on dermatology and syphilography to that of "cutaneous medicine and surgery."

The consideration of the first of these proposed amendments, which was directed against the secretary of the association, and concerning which there had been much acrimonious discussion at previous meetings, was indefinitely postponed. The other amendments were carried without discussion.

Wednesday, June 2d—Second Day.

The meeting was called to order by the president at 10 A.M.

The minutes of the previous meeting were read and approved, and the chairman of the committee of arrangements made the announcements for the day.

Address in Medicine.—Dr. Austin Flint, of New York, then delivered the annual address in medicine, taking for his subject, "Stercorin and Cholesteræmia." Dr. Flint said, that looking into the future, it seemed possible that our successors might fix upon the month

of May, 1946, as the true centennial of the American Medical Association, dating its origin from May, 1846, when a convention of representatives of the profession, held in New York, proposed the foundation of a national association, which was formally organized in 1847. He remarked that 1946 would be the centennial of the application of anæsthesia to surgery, and the third jubilee of the crowning glory of the eighteenth century, the completion of the discovery of vaccination, when the terrible scourge of small-pox was virtually subdued, and suggested as lines of further progress within the next half century immunity from tuberculosis, typhus and typhoid fevers, scarlatina, diphtheria, and other infectious maladies, and the disappearance of these diseases. He thought it not too much to say that the convention of May, 1846, marked an era in the history of medical organization in the United States. It had become necessary that the medical profession should be unified and separated from those practising under sectarian designations, particularly as at least one sect was beginning to secure the confidence of men otherwise intelligent, and assumed to practise medicine on a scientific basis. While medicine had never been an exact science, it had always been progressive. Fifty years ago medicine perhaps merited the reproach of being the least exact of all sciences; but its progress within the last fifty years has been so prodigious that it is now in advance of them all. He called attention to the possibility of bacteria study by the use of the Abbé illuminating apparatus, and to the exact knowledge of physiological and pathological histology by the use of delicate and precise instruments used in cutting thin sections, and by staining, which fifty years ago seemed unattainable. Although the diagnosis of certain diseases fifty years ago was acquired only by long practice and large experience, with our present methods properly employed it is impossible to make an error in many of the diseases which formerly presented difficulties. It is not enough to say that pathology has been revolutionized, but a new pathology has been created, and with it have come an intelligent hygiene, prophylaxis, and therapeutics, based upon exact scientific knowledge. As no human imagination fifty years ago could have pictured the condition of medicine today, so it is impossible to imagine the progress of another half-century. Never since medicine became a science has medical history been made so fast as now. Between the writing and delivering of this address, scientific labor might give birth to a discovery destined to revolutionize some department of medicine, as Pasteur, Koch, and their followers have revolutionized therapeutics, and as Lister has created a new surgery.

Dr. Flint thought it a matter of congratulation that the name of the body was early changed from "National" to American Medical, for we have good reason to be proud of American medicine, and our great representative association may properly claim a distinctive title, particularly when, as American discoveries, might be mentioned at random the discoveries in gastric digestion, anæsthesia in surgery and obstetrics, the successful ligation of the innominate artery, the operation for vesico-vaginal fistula, ovariotomy, and intestinal anastomosis, to say nothing of minor advances in medicine and surgery. He hoped to see beginning with the second half-century of the American Medical Association a more complete unity of the profession through its authority and influence. He thought that uniformity of legal qualifications to practise medicine in different States could best be secured by making every State society actually, as well as nominally, a branch of the American Medical Association, with permanent committees from each State organization to constitute a central legislative body, the object of which should be to secure uniform medical laws in all the States, making any State license valid for all, and a matriculation certificate for one State good for matriculation in all schools represented in the Association of American Medical Colleges.

Stercorin and Cholesteræmia.—In his remarks on this subject, Dr. Flint said that while the presentation, on this occasion, of researches made and published thirty-five years ago—viewing the question from a physiological standpoint—called for an explanation and perhaps an apology, none was required if their great importance in relation to the pathology of the liver be considered, especially as cholesteræmia was by no means accepted as a distinct pathologic condition. Were it not that stercorin had just been re-discovered in Germany by two eminent physiological chemists, who made no mention of its full description in 1862, and have even called it by another name, the author said he probably would not have repeated and extended his original observations. But, under the circumstances, he thought that he might properly, as an American investigator, make his reclamation before the American Medical Association. The author stated that although his paper published in the *American Journal of the Medical Sciences* in October, 1862, received an "honorable mention" and substantial recognition from the Institute of France, and his observations were verified and extended by French and German investigators, many writers on physiology and pathology, even the most recent, had failed to recognize such a substance as stercorin and spoke of its function as obscure or unknown. In an American text-book of physiology, published in Philadelphia in 1896, cholesterin is described as a constant constituent of the bile, very widely distributed in the body, and eliminated by the liver cells from the blood. "That it is an excretion is indicated by the fact that it is eliminated unchanged in the fæces." Stercorin was not mentioned. As a matter of fact, cholesterin, he said, did not occur in the human fæces in health, and its presence in this situation was exceptional. He gave the process of extraction from the human fæces of the original stercorin, specimens of which he obtained in 1862 and still has in his possession. The author thought that the opinion expressed by Hoppe-Seyler, Hofmann, and others, that stercorin was simply impure cholesterin, could not have been based upon a practical knowledge of this substance, declaring that stercorin had a well-defined formula—$C_{27}H_{46}O$—which had been calculated and verified by the formation of esters. Its crystals, he said, are different from those of cholesterin, and are invariable in form, arrangement, and color. Its methods of extraction are practically the same as those used in the extraction of cholesterin. In view of these facts, Dr. Flint thought that to assume that stercorin was an impure substance one must deny a positive scientific basis to organic chemistry. It had been shown by recent as well as original observations that cholesterin was changed into stercorin in passing down the intestinal canal, and this change, Dr. Flint had found, involved processes incidental to intestinal digestion.

Passing to the pathological relations of cholesterin, after examining three specimens of normal blood and finding the proportion of cholesterin from 0.445 to 0.751 of one part per thousand, examinations were made of the blood of patients with simple jaundice and of those with icterus gravis. In a case of simple jaundice, terminating in recovery at the end of about four weeks, the blood contained 0.508 of one part per thousand, well within the limits in normal blood. In a case of jaundice with cirrhosis, terminating fatally with serious nervous disturbance, the blood taken six days before death contained 1.580 parts per thousand of cholesterin, an immense increase over the normal

proportion. In this case, on post-mortem examination, the liver was found contracted, and the gall-bladder was shrunken, containing only about seven cubic centimetres of bile. The question of cholesteræmia, Dr. Flint stated, had been much discussed since 1862, for the most part with scant approval or without acceptance. A case of "grave jaundice" was reported in 1872 by Picot, in which he determined a great increase in the proportion of cholesterin in the blood, 1.804 parts per thousand. Many attempts have also been made to produce toxic effects by injecting cholesterin into the blood, but most of them have been unsuccessful on account of mechanical obstruction of the blood-vessels. Koloman Müller, however, in 1873, succeeded by injecting cholesterin rubbed with glycerin and mixed with soap and water. In five experiments on dogs, injecting in each 0.045 gram of cholesterin, he produced a complete representation of the phenomena of "grave jaundice." It is possible, Dr. Flint thought, that light would be shed upon the pathology of cases of acholia, in which there were grave nervous symptoms without jaundice, if it be admitted that there is a condition called cholesteræmia. Biliary salts not being found in the blood, the symptoms could not be accounted for by disturbances in digestion. If the theory of cholesteræmia be accepted, he thought a wide field of inquiry opened in this direction, and that ere long "biliousness" and "liver complaint" might be spoken of with definite idea of their pathology.

Dr. Flint said it should be borne in mind that the liver was by far the largest gland in the body; that it secreted a fluid known to have a double function, one connected with digestion and the other with the elimination of cholesterin; that the blood from the digestive tract all passed through this organ, where it underwent certain changes; that it probably stored up the products of amylolytic digestion in the form of glycogen; that it arrested certain poisons, and that it was the chief organ concerned in the production of urea which was discharged from the kidneys. The pathology of hepatic diseases, however, remained obscure, notwithstanding the varied known uses of the liver, the cause and mechanism of the formation of gall stones not even being known.

The term acholia, as used in pathology, was said to mean now very little and conveyed no distinct idea of the cause of the nervous symptoms accompanying this condition. The term cholæmia was generally regarded as almost synonymous with jaundice.

The quantitative estimation of cholesterin in the blood, the author stated, was not difficult and did not require more than from four to six or eight grams of blood. The only tedious manipulations were the drying, saponification, and weighing, which were readily done in a well-appointed laboratory. Some process might be devised, it was thought, to expedite this extraction. Dr. Flint thought that if examinations of the blood were to be made in cases of obscure nervous disturbance, epilepsy, and other similar disorders, cholesterin might be found to play an important part in their pathology. He thought very suggestive the fact that bromine readily combines with cholesterin, taken in connection with the wide use of the bromides in diseases of the nervous system, and suggested the possibility that the bromides promoted the elimination of cholesterin, an insoluble substance and one which formed few combinations. These points Dr. Flint thought well worthy of the consideration of pathologists and therapeutists, and emphasized the suggestion that the physiological and pathological relations of cholesterin offered a wide and perhaps fruitful field for further observations.

Address of President McKinley.—After the reading of Dr. Flint's paper and the extending of a vote of thanks for the valuable and instructive discourse, the association was addressed by the President of the United States, who spoke as follows: "Mr. President, Ladies, and Gentlemen: Although summoned to this city for another purpose, I deem myself most fortunate to find this honorable association in its semicentennial meeting on the same day, and I cannot refrain from taking a moment from the busy programme mapped out for me by Dr. Pepper, whose assurance I had before coming here that it should be a day of rest. I cannot refrain from pausing a moment that I might come into this brilliant presence to meet the learned gentlemen here assembled, and to pay my respectful homage to the noble profession which you so worthily represent. You have my best wishes, and I am sure the best wishes of our countrymen, for the highest results of your profession, and my warm and hearty congratulations upon this, your fiftieth anniversary."

Address of Governor Hastings.—Following the address of the President, the association was addressed by the governor of Pennsylvania, who said that it was with great regret that he was compelled to be absent from the opening session of the association, but though twenty-four hours late he gave just as warm a welcome and as cordial as if he had met the members upon the borders of the city to welcome them to the commonwealth. He said that Philadelphia and the State of Pennsylvania were greatly honored by the presence of the distinguished organization, and that although the people were very much occupied in matters tending to the development and upbuilding of the city and State and United States, yet there was always room for such a splendid American organization as this. Two weeks ago there was unveiled in this city the greatest monument that had ever been erected to perpetuate the memory of Washington, and only a few days ago another statue was unveiled to perpetuate the memory of Philadelphia's, of Pennsylvania's greatest philanthropist, Stephen Girard, and to-day the Chief Executive of this nation came here, primarily and above all, to pay his respects to this great national organization, and secondarily to attend the inaugural of the Philadelphia Commercial Museum, which in his judgment was the initial movement in an enterprise that would grow until it should be not only a Pan-American institution, but one which would take in all the commercial nations of the earth. He said he spoke as a layman, and merely gave an impression of what the common every-day people, who are subject to the ills which the physicians cured, saw in the noble profession of medicine of this country which was worthy of the highest emulation. The lawyer had in his profession an antagonist worthy of his steel; the work of the Christian teacher was done in the full glare of the sunlight of the people; but with the physician it was different; he was judge and jury and opposing counsel—and sometimes executioner. From his court there was no appeal in this world. Sickness and the fear of death, he said, made cowards of us all in the sick-room, and the physician was the autocrat whose voice, direction, instruction, and prescription were taken generally with the simplicity and the confidence of a babe. He portrayed the ideal physician, whose presence in the sick-room was as the morning sunlight, his voice a benediction, his touch an inspiration. To him children turned, and the marks of pain changed into the expression of love and confidence; the aged revealed to him the secrets of this life and their hopes of the life hereafter; mothers forgot their vigils of the night in loving anticipation for the restoration of their dear ones, or perhaps in the contemplation of the inevitable.

The development of medicine he considered had been greater than that of any other science. He thought it a mistake that monuments were not erected

to the great masters of medical science in this country, and marvelled that so many diseases had been discovered of which we were previously ignorant. He recalled a story of a physician in the fourteenth century, who had said there were three diseases of the skin—one was that disease which could be cured by the use of sulphur, another that which could be cured by the use of mercury, and the other disease was that trouble with the skin which the devil himself could not cure.

He expressed his satisfaction that there was a better feeling existing among the different classes of medicine in this country than formerly. He had read, he said, that in ancient times a doctor came to a distinguished physician and said he had cured numbers of people by a method of his own discovery, and wanted a conversation with the distinguished physician. The great physician had the conversation with him, and afterward threw him out of the window. That kind of peaceful and pleasant consultation had been going on in the medical profession ever since. If he had his way, he said, he would build monuments to all the great medical teachers and discoverers. What proud position the American Medical Association was destined to take among the scientific bodies of the earth, none could tell; one generation passed away, another came, but a true physician followed the true Teacher of medicine, He who was the first Healer of humanity, the lowly Nazarene.

The Antivivisection Bill.—Dr. H. C. Wood urged in forcible style upon the members of the association the necessity for working against the passage of Senate bill No. 1,063, the object of which is to prevent animal experimentation. After giving a history of past legislation on the subject he emphasized the necessity of each member taking a personal interest in opposing the sinister and persistent efforts of the antivivisectionists. The latter appealed to public sentiment on entirely false premises, and were very ingenious in misconstruing motives, very apt in perverting facts, and always ready to interfere with judicious legislation. It was only by persistent efforts of individuals and medical societies that the opposition could be successfully combated, and the sooner the profession should appreciate this fact in all its true significance the better.

Thursday, June 3d—Third Day.

The meeting was called to order by the president at one o'clock. After the reading of the minutes of the previous session a report was presented by the committee on the organization of a relief association, and it was moved that the president appoint a committee of one from each State, to establish such an association. The report of the trustees showed a satisfactory condition of the treasury, and also of progress in the circulation of the *Journal*. The failure of a bank having jeopardized some of the funds of the association, it was determined that the board of trustees secure a charter, in order that the association may have a legal standing to sue or be sued.

Address in Surgery.—Dr. W. W. Keen, of Philadelphia, then delivered the annual address in surgery. After acknowledging the unsolicited honor from the medical profession in the United States of being chosen to deliver the semicentennial address in surgery, Dr. Keen gave a review of the work done in the last fifty years, and contrasted the state of surgery and of surgical teaching in 1847 with that which exists in 1897. He considered that to recount what had been achieved in these "fifty years of science" was not only a pleasure but an immense incentive, since by the progress made in the last fifty years could be in some measure anticipated the enormous and probably even still greater progress to be made in the next half-century. The time also, he thought, was opportune; last year were celebrated the centennial of vaccination and the semicentennial of the first public administration of ether. He stated that Sydney Smith's bitter query in 1820, "In the four quarters of the globe, who reads an American book? . . . what does the world yet owe to American physicians or surgeons?" was answered a quarter of a century later, and made all these "four quarters of the globe" our grateful and everlasting debtors.

Dr. Keen thought a most important factor in the improvement in surgery and in all departments of medicine was the immense advance made in medical teaching, and said that fifty years ago no text-books appeared in the catalogues of the Jefferson Medical College, the University of Pennsylvania, Harvard University, and the medical department of Columbia University. Even so late as 1860, when the orator began the study of medicine, there were no laboratories except that of anatomy—the dissecting-room—and he doubted that of the two hundred odd men who graduated with him in 1862 twenty had ever looked through a microscope or handled a test tube, palpated a tumor or auscultated a chest; and he wondered that any of them who graduated in the first twenty years of the half-century being celebrated ever learned enough to prevent some from rivalling Saul, who had slain his thousands, and the more nimble from being rivals of David, who slew his ten thousands, and their becoming possibly more than respectable practitioners was due to later incessant midnight labors rather than to early opportunities. He spoke of the graded four-years' course in the majority of medical schools, and of the post-graduate course in hospitals, in which after receiving their diplomas young men spend a year or more in actual practice of their profession, as evidences of great progress. Equally valuable, too, to the older medical staff, Dr. Keen considered these hospitals, and thought it not too much to say that every city or town establishing a hospital was repaid a hundredfold in the improvement of its medical men.

Forty years ago, with the exception of Pancoast's "Operative Surgery," every one of the text-books in use was the work of a European. Gross' "System of Surgery" was first published in 1859, and was a work far in advance of most of the surgical text-books then in use. The literary labors of American surgeons consisted chiefly in translating foreign surgeries or in annotating American editions of English text-books, but many distinctly American surgeries had been written within the last two decades, and the orator thought that we might say without undue national vanity that they are the equals of any similar European works. He said that the genius of our institutions was such that we could never look for government or State endowments of laboratories, but must depend on the far-sighted and broad-minded liberality of our wealthy fellow-citizens for the establishment of such laboratories and the consequent opportunities for investigation and discovery.

Allied to medical teaching and the most important adjunct to medical literature, Dr. Keen considered the establishment of extensive medical libraries, and said that in this, as an American, he was proud of his own country, for no foreign nation could point to any such medical libraries as have been developed within the last thirty years.

Dr. Keen then spoke of the scientific progress in this half-century of surgery as having separated us from the past. Great theologians, such as Calvin or Jonathan Edwards, were they recalled to life, could discourse as learnedly as ever of predestination and free will; great preachers, as Beecher or Spurgeon, could stir our souls and warm our hearts as of old; great jurists, as Justinian or Marshall, could expound

the same principles of law which hold good for all time; great forensic orators, as Burke or Webster, could convince us by the same arguments and arouse us by the same eloquence that made our fathers willing captives to their silver tongues; but to-day, so rapid has been our surgical progress, a Sir William Ferguson, a Pancoast, or a Velpeau, all of whom have died within the last thirty years, could not teach modern surgical principles nor could he perform a modern surgical operation. Even our every-day surgical vocabulary would be unintelligible jargon to him; and our modern operations on the different organs of the body would make him wonder whether we had not lost our senses, until, seeing the almost uniform and almost painless recoveries, he would thank God for the magnificent progress of the last half-century which had vouchsafed such magical power to the surgeon. Another lesson was taught by the splendid index catalogue of the library of the surgeon-general's office, in that, in law, the jurist or attorney deals with statutes and practices and to some extent with principles which are for the most part local; an American lawyer could not plead a case in Germany, nor a German lawyer in Russia, nor a Russian lawyer in Italy. An American or an English divine would be an alien in language and religion in Hindoostan, a Hindoo equally an alien in China; but surgery is one and the same the world over; a new remedy discovered in Japan is equally efficacious in Philadelphia, a new operation devised in America is equally applicable in Egypt. The index catalogue, which is a catalogue for all countries, contained them all; and this, with our noble stand as a profession against patenting any instrument, any operation, or any method of treatment, made every sick or injured man the physician's brother, and made the physician his keeper under every sky and clothed in any skin.

Foremost among the important studies which the past fifty years had seen established on a firm foundation is that of pathology and pathological anatomy, and the orator thought it not a little credit to America that the first work on pathology in the English language was written by a young American doctor in a then small Western town as early as 1839. In spite of Gross' book, however, pathology and pathological anatomy were almost unknown sciences in 1847. The Pathological Society of Dublin was founded in 1839, that of New York in 1844, that of London in 1846, and that of Philadelphia in 1857. The microscope, and especially microscopical methods of staining, section-cutting, and the like, were then in their infancy, but without these aids no accurate views of pathology could be entertained, and what is now the heritage of every first-year student was beyond the possibilities of the most advanced teacher of fifty years ago. Allied sciences have been put under tribute to surgery, and the discovery of the Roentgen rays and the advances of electricity as a means of diagnosis engender the hope that other forces and other means of investigation quite as marvellous may well be expected within the next fifty years.

Dr. Keen spoke of the startling and revolutionizing effect of the introduction of anæsthesia in the year before the organization of the American Medical Association—first of ether in America in 1846, and then of chloroform in Edinburgh in the following year—and he said that what this had done for the amelioration of the horrors of pre-anæsthetic surgery very few now living could appreciate.

Antiseptic surgery also was mentioned as a later revolution in surgical methods, which came in so gradually that the special day or year of its introduction could not be named, but the name of Lister, *primus inter pares*, was honored throughout the entire surgical world, and his recent distinction as the first medical peer of the United Kingdom was an honor conferred not upon Lord Lister alone, but upon the entire profession, and worthily marked a new departure in the recognition of medical science by the British government. Decried first as a "fad" or as "nothing more than surgical cleanliness," antiseptic surgery, the orator said, had now won its way over the entire world, and, although there are still a few laggards in the surgical army who do not practise modern antiseptic or aseptic surgery, the overwhelming majority of the profession recognizes that the world owes a debt to Lord Lister which no honors can pay.

Mention was also made of bacteriology and orrhotherapy as outgrowths from the practical development of antiseptic surgery, which had arisen as a wholly new science and method of practice and which bade fair to revolutionize our modern therapeutics. Like the antiseptic method, they have been of gradual growth, but modern laboratory research had verified the crude suspicions and shrewd guesses of thirty years ago, and transformed them into the certainties of modern science.

Consideration was also given to animal experimentation as having had a large share in the development of modern surgery. The whole question of the introduction of animal ligatures was begun in America by Physick, who used buckskin, and by his follower, Dorsey, who used kid and cut both ends short; by Hartshorne, who used parchment; and by Bellenger and Eve, who used the tendon of the deer. The use of these substances began principally by experiment upon animals, in order to determine accurately the behavior of such ligatures in the tissues. What a boon to humanity this single achievement had been could be appreciated, the author stated, only by his professional hearers. Dr. Keen considered that modern cerebral surgery also owed its exactness and success almost wholly to cerebral localization and antisepsis, both of which were first studied by experiment upon animals, and later by the application to man of the knowledge so gained. Bacteriology would not now exist as a science, nor would accurate modern surgery and a large part of modern medicine be possible, had experiments upon animals been prohibited, as some zoöphilous women, who love dogs better than men and women and even little children, desire.

The development of modern surgery has naturally been on two lines: First, that of scientific progress, based especially on pathology, bacteriology, embryology, and comparative anatomy; and secondly, within the last twenty-five years especially, there has come what might be called pre-eminently the era of the operative surgeon, due more especially to the introduction of anæsthesia and later of antisepsis.

In conclusion, Dr. Keen said that what the future has in store for us we could only dream. Two diametrically opposing tendencies are prominent in modern surgery—namely, radical interference with disease, so that there is scarcely now a single organ or portion of the body not within our reach; and, on the other hand, a remarkably conservative tendency in cultivating remedial rather than radical surgery. Joints so diseased as once to require amputation are now treated conservatively with the best results. Ovaries, a portion of which can be preserved, are kept in the abdomen; kidneys once doomed to extirpation are now partially removed, and bones so diseased that they once required amputation are now excised and the limb is preserved.

Jubilee Exercises.—Dr. N. S. Davis, the founder of the association, then appeared upon the stage, escorted by the presidents of many of the State medical societies and of the State boards of medical examiners. Dr. Davis was presented to the president of the

association by Dr. JOHN B. ROBERTS, chairman of the committee on anniversary exercises, who said that some fifty years ago at a meeting of the New York State Medical Society there appeared for the first time a young delegate from Broome County. Observation during his collegiate course had opened his eyes to the fact that there were radical defects in the methods of medical education. To remedy these evils and to organize the profession of the United States into a professional brotherhood with a common purpose, a common dignity, a common ethical standard, and a common humanity, he determined to use all the vigor which he possessed. It was his desire to separate medical teaching from medical licensing, and to organize the profession in connection with a central medical body. That his labors despite much opposition had been crowned with success was shown by the existence of a medical examining board in nearly every State in the Union and State medical societies in all parts of the country. The presence of the gentlemen who accompanied him to-day and the registration of two thousand delegates and members attested the approval given to the efforts of the ever-young man, Dr. Davis, whom the speaker then presented to the association.

DR. DAVIS, after being greeted in a few words by the president, then delivered his address. He recounted at some length the history of the origin of the association, spoke eloquently of the principles on which it was organized and the objects it was designed to accomplish, and concluded with a recital of how far, in his opinion, these objects had been attained during the half-century of the existence of the society.

DR. ROBERTS said that diligent search had shown that there were surviving only four of the original members of the association—Dr. Alfred Stillé, of Philadelphia; Dr. John B. Johnson, of St. Louis; Dr. David F. Atwater, of Springfield, Mass.; and Dr. N. S. Davis of Chicago.

Dr. Stillé was not present, but letters were read from Drs. Atwater and Johnson.

What the State Medical Societies Have Done for the People.—DR. GEORGE BEN JOHNSTON, president of the Virginia State Medical Society, spoke for the presidents of the State medical societies, and said it was worthy of note that every State in the union had to-day its medical society, and that, although their ages differed, all were filled with the same spirit and vigor of youth. In the aggregate, he said, they were stronger than the nation's standing army, and all were modelled after the same general plan and had common purposes in view, chief among which were a high code of ethics, the dissemination of useful knowledge, and the protection of public health. He stated that while on the one hand the tendency of increased personal intercourse among the members was to establish sound principles, to excite emulation, and to elevate all to the standards of the best, on the other hand the scientific meetings brought forth the highest talent of the separate societies, with the result that annually scores of valuable contributions were made to medical literature, the scope and importance of which could not be overestimated, and thus the societies acted as great educators, producing and diffusing useful knowledge. It was, however, from another standpoint that Dr. Johnston asked especial consideration of State medical societies. He set forth a great result in practical legislation achieved by these societies in stating that there were but few who could not recall the deficiencies of State laws regulating the practice of medicine existing until very recently almost without exception in every State in the Union. In most States, he said, there was formerly no requirement for a license beyond the mere payment of the tax, but to-day all was changed and now there was scarcely a State in which there was not a sufficient and well executed law by which only qualified men were admitted to practice. He said that the self-constituted doctor and the empiric were rapidly passing away and their places were being filled by competent, intelligent, educated men. The enactment of such laws as now exist was procured through the efforts of the State societies acting independently of each other, and there never was any well-directed attempt at co-operation, which accounted for the dissimilar character of the various statutes and the varying nature of the prescribed machinery for executing them. Yet in every case the object was the same—to furnish the people with only properly equipped practitioners. This called into existence many State examining boards, whose function was to select qualified men. It was soon made apparent that even many holding diplomas were not qualified. Careless and inferior schools saw their graduates excluded from the privilege of practice and their classes diminished, the effect of which was to elevate the standard of medical education. It soon became obvious that these legislative measures had come to stay, national bodies having taken them up, and the second annual meeting of the National Confederation of State Medical Examining and Licensing Boards was a legitimate and natural outgrowth of the efforts of the individual societies. Although yet scarcely more than embryonic, he thought the function of this confederation was well defined, and that it must become the leader in uniform laws regulating the practice of medicine. He also expressed his conviction that State societies ought to confer and co-operate with it to increase its strength and usefulness.

The State boards of health, Dr. Johnston stated, had in most instances been established through the instrumentality of the State medical societies, and were of inestimable value to the public in the way of promulgating the laws of hygiene, the prevention of epidemics, the suppression of those already existing, and the conduct of commerce in times of public fear. The results of the labors of the State societies were improvement in the material from which medical men are formed; the better preliminary education of medical students; the higher technical education of doctors; the binding together of the best medical colleges in a league, the aim of which was to elevate the standard of medical education; the enactment of laws which admit only properly equipped men to enter the practice of medicine; the rapid disappearance of the pretender and the ignorant quack, and the presence in every village or hamlet of a medical man whose character and attainments entitle him to rank with the best of his community, whose professional acumen and honesty fit him to discharge the duties of his high calling with confidence, skill, and success, and whose trained faculties constitute him the guardian of the public health.

Resolutions of sorrow for the death of Dr. Jerome Cochran, of Alabama, were adopted.

Officers.—The nominating committee put in nomination: *President*, Surgeon-General George M. Sternberg, U. S. A.; *First Vice-President*, J. M. Mathews, of Kentucky; *Second Vice-President*, W. H. Thompson, of Indiana; *Third Vice-President*, S. H. Wiggin, of New York; *Fourth Vice-President*, Thomas J. Happell, of Tennessee; *Treasurer*, Henry P. Newman, of Illinois; *Secretary*, William B. Atkinson, of Pennsylvania; *Assistant Secretary*, W. A. Jayne, of Colorado; *Librarian*, George W. Webster, of Illinois; *Chairman of Committee on Arrangements*, J. W. Graham, of Colorado.

To deliver the address in medicine, J. H. Musser, of Philadelphia: in surgery, J. B. Murphy of Chicago; in State medicine, Samuel C. Busey, of Washington, D. C.

Denver was selected as the next place of meeting.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FOURTH TRIENNIAL SESSION.

Held in Washington, D. C., May 4, 5, and 6, 1897.

WILLIAM H. WELCH, M.D., OF BALTIMORE, PRESIDENT.

(Continued from page 788).

AMERICAN SURGICAL ASSOCIATION.

Second Day—Wednesday, May 5th.

Operative Treatment of Irreducible Dislocations.—DR. EDMOND SOUCHON, of New Orleans, La., read a paper with this title. His study was based on one hundred and forty operated cases. All irreducible dislocations, recent, simple, or complicated with fracture, that were operated by reduction or resection, have given good results with two exceptions, in which death does not seem to have been due truly to the operation alone, but to complication of shock, unusually severe at that. Irreducible dislocations, old, simple, and forward, operated by resection through an anterior incision, are the most frequent, fifty-six cases against thirty-three by arthrotomy and reduction. Results remote show a great mortality in resection from injuries to vessels, mostly from sepsis, but this is avoidable with special care. The fatalities in reduction are due to sepsis, now preventable. The disadvantages of reductions are necrosis of the cartilage and of the bone of the head, calling later for sequestrotomies and resection. This probably is due to the greater dissections and denudations of the head and surgical neck necessary to reduce than simply to resect the head. Reduction is a more desirable operation than resection, because it preserves the head and all the movements depending thereupon: but the necrotic consequences are serious drawbacks, as is also ankylosis, which sometimes follows the reduction. The anterior incision is the one to be made in all forward dislocations. Cases reported as operated by subcutaneous section of fibrous bands, of tendons, of muscles, and by osteotomy, have given good results, but they are very few. Old and downward dislocations, four in number, were all treated by the axillary incision with resection, *i.e.*, removal of the fractured head more or less loose in the axilla, with favorable terminations. In one case, however, the head was "pegged back" and reduced, with a good result. One downward dislocation (Despré's) was treated by osteoclasis, but it was a failure, no false joint forming. Yet there are cases on record of forward dislocations in which the bone was fractured near the head or through the surgical neck during efforts at reduction, and which yielded a fair enough result. Old and backward dislocations in the adult have been reported twice. They were operated by resection with a very ordinary result. Congenital irreducible dislocations have been operated upon several times; they were old backward dislocations. Two cases were operated upon by reduction: one subject died; the other had to have the sequestra removed, and then did well. The result in the third case is not stated.

DR. J. EWING MEARS, of Philadelphia, thought the term irreducible should be changed to unreduced when applied to dislocations. He did not think any case irreducible when operative interference could be employed. He thought it was an important and practical point to decide when a dislocation should be termed an old one. He would term a dislocation an old one when it was deemed inadvisable to make manipulation efforts, *i.e.*, at the end of about six to eight weeks. He would make it a rule not to attempt to manipulate after that time. operative procedures should then be instituted for its relief. The speaker discussed the indications for operative interference in old dislocations, which were two in number—disability and pain. In operation for disability he advised section above the surgical neck. There was danger of limiting or destroying the action of the internal and external rotators. If the disability was not marked, he advised the use of massage and other measures. For the second indication, pain, it was undoubtedly the duty of the surgeon to interfere.

DR. JOSEPH RANSOHOFF, of Cincinnati, said it was only when dislocations were complicated that primary reductions were attended with difficulties. The speaker summarized in regard to the advisability of operative interference as follows:

1st. Immediate operative interference is indicated when ordinary methods of manipulation have failed.

2d. In irreducible dislocations operations should not be delayed until irremedial changes have taken place in the capsule or about the humeral head.

3d. In old standing cases the conditions found must determine the choice between arthrotomy and resection.

4th. In unrecognized dislocations of long standing, one year or more, only grave symptoms must be recognized as indications for interference.

5th. Special attention should be given to the prevention of sepsis—sepsis so often causes death, or by destruction of the humeral head or obliteration of the joint cavity has frustrated the very object of the operation.

Tendon Transplantation.—DR. E. H. BRADFORD, of Boston, read a paper on this subject. He said that infantile paralysis is the despair of the neurologist and has not been called to the attention of the surgeon as it should have been until recently. Tendon transplantation is of value only in the lower extremities. Over fifty cases have been operated upon in this country and the results are gratifying: the operations should be looked upon as being of great value. The speaker discussed briefly tendon transplantation for various conditions. He illustrated and briefly described his method of transplanting one of the peroneal tendons from the outer to the inner or paralyzed side, so giving a live muscle to reinforce a weakened or dead muscle. When the muscles attached to the tendo Achillis are paralzyed, one of the tibials or one of the peroneal tendons, or both, can be transplanted and stitched to the tendo Achillis; if necessary the latter can be first shortened. He wished to call attention to the fact that the sartorius muscle when paralyzed does not lie in its usual position, but is dropped more toward the posterior surface. Transplanting the sartorius on to the rectus femoris has been done with satisfactory results. We should remember that the rectus femoris has but little tendinous structure, it being made up almost entirely of muscular structure. This should make us the more cautious in sewing to make it strong enough to withstand the strain submitted to it. The results of tendon transplantation have been good and have stood the tests of time. One should be sure that he had a live muscle to deal with. This is easily determined in the adult, but in children it is often attended with great difficulty. It is important to know that the tendon transplanted is sufficiently strong to do the work. One should use good judgment in selection of cases. All cases have been followed by immediate improvement after operation. The question will arise: Can muscle which has been transplanted stand the work for any length of time? Cases which have been under observation for years have answered that question satisfactorily. Results have been particularly good in the lower extremities. The patella

sometimes slips to the outer side, owing to elongation of the ligamentum patellæ; when this condition exists it is important to shorten this ligament and also to transplant it to the inner side. He detailed the operation he had done with satisfactory results. The ligamentum patellæ was almost divided by an oblique incision running from above downward and inward. The inner triangular portion was switched off to the inside and fastened to the fascia of the leg. In an instance of this kind the operation, as first suggested and performed by Dawbarn, of New York, might be done. Dawbarn transplants the whole tubercle of the tibia to such another position on the tibia as will correct the displacement.

The Surgical Treatment of Suppurative Pericarditis.—Dr. John B. Roberts, of Philadelphia, read a paper with this title. He said that in 1876 he had suggested that pus in the pericardium be treated by drainage, and that this method had now been adopted in a considerable number of cases. He had collected a total of twenty-six cases of suppurative pericarditis treated by incision and drainage; ten subjects had recovered and sixteen had died. This made the ratio of recovery 38.4+ per cent. The results were, however, much more favorable than this would indicate, because of the sixteen subjects that died nine were septic when operated upon, and therefore not likely to survive. The remaining seven fatal cases all had complications, such as empyema, cardiac disease, or lesions of the lungs or pleura. He had obtained hints of one or two more cases, which he hoped to add to his table. Pericardotomy with drainage was advocated as the only method of treatment; and was to be employed as soon as the diagnosis of pyo-pericardium was made. Diagnosis between pus and serum in the pericardial sac could be made only by an exploratory puncture with a trocar or aspirating needle. The best point for the exploratory puncture was said to be in the xiphoid fossa of the left side close to the angle where the xiphoid cartilage and seventh costal cartilage unite. Irrigation of the pericardial cavity was advocated in shreddy membranous effusions, but not in cases in which the pus readily escaped through the incision and drainage tube. The danger of wounding the pleura and causing a complicating pleuritis by direct infection had led the author to devise and advocate a method of resecting the costal cartilages, which he believed was a valuable improvement in technique. He made a trap-door opening into the chest, by resecting portions of the fourth and fifth costal cartilages, and turned the chondro-plastic flap upward on a hinge. Thus he exposed the internal mammary vessels, lung, and pleura, which were pushed to the left without injury, uncovering the pericardium, which was then readily opened. A demonstration of this new operation was made on a cadaver.

Third Day—Thursday, May 6th.

Origin of Appendicitis.—Dr. Dudley P. Allen, of Cleveland, presented a paper with the above title. In operations for appendicitis in chronic cases unattended by abscess or inflammatory adhesions, the writer had observed, first, that in almost all cases there was a bend or flexure of the appendix; second, that at the point of flexure there was also a stricture; and third, that distal to the stricture were marked distention of the appendix and great thickening of its walls. Microscopic sections of the appendices thus removed show, first, that there were no evidences of inflammatory processes externally; second, that the muscular coats both longitudinal and circular were greatly thickened, in some cases to about five times their normal thickness. The stricture of the appendix sometimes entirely occluded its lumen. On the supposition that the bend in the appendix was the first step in appendicitis, its further progress could be explained as follows: the bend embarrasses the escape of the contents of the appendix into the intestine, just as a bend in a piece of rubber tubing prevents the flow of water through it. In order to empty itself of its contents, the muscular walls of the appendix are compelled to perform an extra amount of work. This produces a very marked degree of muscular hypertrophy. As a result of the pressure thus caused by the effort of the appendix to empty itself, the mucous coat at the point of flexion becomes eroded and inflamed, and the functional stricture finally terminates in an organic stricture. The effort of the appendix to empty itself causes recurring attacks of pain, which are similar to those of biliary or nephritic colic. When the appendix has discharged its contents the pain ceases. After a time, either on account of the increasing stricture or an impacted concretion, the appendix is no longer able to empty itself. Distention then increases to the point of perforation, and peritonitis ensues. The reason for assuming that the bend in the appendix is primary rather than secondary is that it is found bent in many cases in which there are no external evidences whatever of inflammation. The varying positions occupied by the appendix make it evident that it has no regular position. The variation in position is accounted for by the development of the appendix and cæcum during fœtal life. The cæcum originally occupies the right hypochondriac region. From this it gradually descends into the right iliac fossa. Both cæcum and appendix have their own mesentery. The process of descent causes a change in the relations of these organs to each other, and with this change in certain cases a bend of the appendix takes place. If this bend is sufficient to make the emptying of the appendix impossible, there gradually ensue those conditions of obstruction which terminate in appendicitis. The conclusion of the writer is, therefore, that appendicitis is in most cases a disease which results from gradual processes having their origin in fœtal development.

The Technique of Intracranial Surgery. — Dr. L. M. Tiffany, of Baltimore, read a paper on this subject. The speaker made a sharp distinction between traumatic and pathological operations, which were different in technique and outline. In the one, the general conditions were not known and we must operate at once; in the other, we could take more time and general conditions could be studied. The best way to gain access to the brain was by an osteo-cutaneous flap; the larger flap was the best flap, which should be fashioned in such a way as to give the best possible nervous and blood supply. If the opening is not large enough, it should be made so; he emphasized the importance of large openings. The operator must decide for himself the method of opening, whether by chisel, forceps, or saw. After operation upon the sides of the head, there is but little depression to be noted, whether bone is replaced or not. The time taken in opening the skull he considered to be of great importance. He thought it best to do operations in two stages. In the first stage, the bone should be attacked; in the second, the soft parts should be operated upon. The dura should be divided at a certain distance from the bone, to allow suturing. He usually considered the dura the same as a serous membrane anywhere. He referred to the great importance of cleanliness. In regard to hemorrhage from the skin, he had not had to resort to putting a ligature about the head. He used the hæmostatic forceps and a T-shaped bar. In hemorrhage from the bone, he had never found it necessary to plug; crushing bone with forceps usually sufficed to control it. If

hemorrhage occurred from the dura, he used ligatures; if from a large sinus, he sutured; otherwise he used pressure by gauze packing. He almost invariably used floss silk, of very fine pieces. Gauze packing had served good stead in one instance he related, in which the blood welled up enormously; many yards of gauze were used. In all operations about the head he preferred chloroform. Congestion of the head is marked with ether, but not so with chloroform. He had observed that during etherization the veins of the forehead swelled up very much, and that when he ordered a change to chloroform to be made this swelling disappeared. In regard to the recognition of the brain area presenting, he referred to cerebral topography and electric stimulation by instruments made for Dr. Keen, which were of great service. One could not recognize the consistence of any growth until one cut down upon it. Time and again had fine instruments been passed into a growth without its being recognized. The best instrument for determining the consistence of any growth was the finger. In speaking of the removal of intracranial structures, he said we did not know much about it. The restoration of function of cranial structures did certainly take place. He drew a fast line between encapsulated and infiltrated growths. With the latter the patient never does well, but usually dies. When the dura was adherent to the growth and was removed, the lost dura could be replaced with gold foil. In closing the wound, one could use bone, celluloid, and other material, but he only used gold foil. He had seen patients two years after operation, and they had done well with gold foil. He never entirely closed a wound when the operation was extensive; he always felt safer when drainage, as by gauze, was instituted. If he was certain that hemorrhage was entirely arrested, he might close the wound. He always sewed with silkworm gut, which held extremely well and never with him had caused suppuration.

Dr. W. W. Keen, of Philadelphia, opened the discussion. Two years ago, when abroad, he was struck by the fact that no disinfecting was done until the moment of operation. The patients were not uncommonly subjected to examination by members of the class and disinfection was done afterward. He did not know the results which followed as regards sepsis. He certainly believed in disinfection before operation. In regard to the best way of gaining access to the brain, it depended upon what we wished to do; for instance, for abscess he used the trephine; for tumor, it was necessary to make a very large flap, and as a rule he used Pyle's chisels, which he considered superior to Hartley's. With them he could remove one-quarter of the skull at one operation, or even one-half, as reported. The dental engine he did not use, for the reason that he was not accustomed to it and had not the manual dexterity necessary to run it; it was liable to penetrate cerebral substance. The chisel took longer. He did not trust dentists to use the engine, on account of their not being acquainted with asepsis. He thought the great objection to the chisel was the difficulty of its use and the length of time taken in penetrating a thick skull. In speaking of the question of replacing bone after operating, he said he had done so and never had met with disaster. The bone once lost its vitality in a case intrusted to an assistant. The care of the bone must be scrupulously attended to. If bone was not replaced, a membrane filled the aperture without much deformity. The speaker emphasized the importance of Dr. Tiffany's division of the operation into two stages; he thought the second operation should be done one or two months after the first. A prolonged interval is better than the brief one allowed heretofore. No surgeon ever meddled with a fresh wound; the second operation should certainly be delayed until the wound was healed. The two great difficulties to be overcome were: (1) Length of time necessary in opening by chisel; and (2) hemorrhage. The hemorrhage was the most dangerous of all problems of intracranial surgery to be solved.

Dr. R. F. Weir, of New York, wished only to emphasize certain points. First, in regard to hemorrhage from the scalp, he did not believe it was always easy to control. He had tried a number of devices. Rubber bands were serviceable, but pads should be placed in the temporal fossæ. Another point he called attention to was the matter of opening the skull. This was not to be accomplished quickly. He had given up the use of the chisel. He had found the skull one-fourth of an inch thick. He seldom resorted to the use of the osteoplastic flaps, for the reason that in these operations he operated mainly for acute traumatisms, malignant and tuberculous tumors, and in these cases he did not wish to replace a flap which was liable to cause the patient any trouble afterward. In exploratory incision he followed Horsley and used the electric saw. He first took out a button of bone, then passed through this the dura protector, and then set the saw to work. The objection to the saw was that it spattered so. The flap was then turned down, and was done in less than ten minutes. As a rule, he left the wound open. He had used a celluloid plate. Gold foil he had used twice; granulations might penetrate the gold foil.

Dr. J. Parmenter, of Buffalo, uses the gouge and hammer in entering the skull, which permits speed. The disadvantage claimed for it is the cerebral commotion which is thought to follow, but which he does not believe in; he has never seen that result follow. The surgical engine and electric saw he has used. If the cranial bones are vascular he does not object to the use of the latter, but if they are non-vascular he does object to its use. He makes a crucial incision through the dura. The Esmarch bandage about the head causes venous congestion. He controls hemorrhage from the scalp by means of sutures so placed as to compress the vessels. Bleeding from bone he controls by crushing the bone with sequestrum forceps. Sinus wounds he controls by lateral ligature. If the hemorrhage is from the cortex he tampons; this is the only practical way of arresting the hemorrhage. He has tried solution of antipyrin, but this may leave injurious after-effects. In regard to the recognition of the brain area, the electrical test is only one method we can use with assurance. He spoke of the bad practice some surgeons have of pushing fingers in between the dura and the brain. He never drains the wound if he can avoid it. He believes drainage is less necessary than we are apt to think it.

Dr. S. J. Mixter, of Boston, believes in making extensive skin flaps. In opening the skull, the trephine must often be used. He thinks it a great mistake to use the large trephine, on account of its being so awkward and clumsy; the trephine should not be over three-fourths of an inch in diameter. The use of the chisel is especially convenient about the line of the squamous suture. He advocates dividing the operation into two stages. He advises that a piece of gold foil, gutta percha, etc., be placed beneath the skin flap to prevent adhesions during the interval. Hemorrhage from the lateral sinus he has seen a number of times, and never has there been any trouble that slight pressure would not overcome. If the hemorrhage is from the deep sinus, the question becomes more important. The speaker then referred to the amount of pressure the brain will stand from packing. The question may arise as to whether a fatal result may not be due to the pressure on the brain.

Ureterectomy.—Dr. Christian Fenger, of Chicago, spoke briefly on this topic. He referred to the

(1) primary operation, in which the ureter is removed simultaneously with the kidney (Kelly, Tuffier, Postnikow, and Elliot); (2) secondary operation, in which after nephrectomy the removal of the ureter of the same side becomes necessary (Reynier, Poucet); (3) total operation, in which the entire ureter is removed (Kelly, two cases; Reynier); (4) partial operation, in which only a portion of the ureter is removed (Tuffier, Kelly, Postnikow, and Poucet). Of the methods of operation, he referred to: (1) Transperitoneal (Kelly, 1893; Postnikow, 1892). (2) Extraperitoneal (Kelly, 1895, two cases; Tuffier, 1891; Elliot, 1896; Reynier and Poucet). (3) Sacral. (4) Transvaginal (Kelly). Ureterectomy has been performed for: (1) Tuberculosis. (2) Suppuration in the dilated ureter. (3) Hydro-ureter, non-infected dilated ureter. A primary total ureterectomy was performed by Kelly in 1896. A primary partial ureterectomy was performed by Tuffier in 1891, by Kelly in 1893, and by Postnikow in 1892. A secondary total ureterectomy was performed by Reynier in 1892. A secondary partial ureterectomy was performed by Poucet in 1894.

Dr. A. T. Cabot, of Boston, said that in 1891 he read a paper on the anatomical relations of the ureter. The ureter could be reached by the Israel incision, which was the one he preferred. He thought that the transperitoneal method was at fault. He saw no reason for invading the peritoneal cavity when it could be avoided. Removal of a portion of the ureter had been done repeatedly. The question arose: Shall we remove the last few inches of the ureter or not? He could not see any special advantages in Kelly's operation of transplanting the end of the ureter into the vagina. In operations of this sort we had not yet had sufficient experience to guide us. It seemed to him that the operation of ureterectomy was hardly called for except in extensive suppurations or in cases of tuberculosis. In tuberculous cases the ureter should be cut off as low as can be, and the remainder taken off later if necessary to complete the operation.

Successful Treatment of Sarcoma.—Dr. J. McFadden Gaston, of Atlanta, Ga., read a paper with this title, and described a recent case. The proportions of the tumor underwent a gradual and constant diminution, with some induration continuing near the right horizontal ramus of the pubic bone after it had disappeared entirely from all other parts, and after the incision had completely healed over. The edge of this induration became distinct to palpation as separated from the bone during the latter part of the year 1896, and it was a consoling inference that the bone was not involved in the disease. The positive electrode with the medication had been applied above the line of the cicatrix, and the negative electrode had been placed over the indurated tissue between the cicatrix and the pubic rim of the pelvis, so as to bring about the removal of this deposition. On the 1st of January, 1897, no trace of induration was any longer present, but to make assurance doubly sure he had thought it best to keep up treatment. He was prepared by the foregoing considerations to make the following inferences:

1. The diagnosis of sarcoma being made by clinical observation and confirmed by the microscope, there ought not to exist any question as to the nature of the disease.

2. The evident adherence of the tumor to the abdominal viscera, and especially to the front wall of the abdomen, precluded surgical interference with the knife, and thus placed the case under the class of inoperable tumors.

3. There being a reasonable ground to expect some benefit in malignant growths from medicinal treatment, the combination of mineral and vegetable alteratives afforded the best prospect of relief in this condition.

4. The history of the treatment of benign tumors with the continuous galvanic current gives encouragement for its application in cases of a malignant type, and especially in that variety of neoplasm, known as sarcóma, in which its efficacy has been recently tested.

5. It is not requisite to employ a destructive or disintegrating effect of the continuous electric current to secure the favorable action upon tumors, and the process of electrolysis may be initiated with a few cells and gradually increased, without disintegration at either electrode.

6. This treatment may be commenced with the needle at the positive pole and the sponge electrode at the negative pole of the Waite and Bartlett battery, and so placed as to pass the current through the substance of the tumor. After the daily application thus for a week or ten days, the needle may be used with the negative pole and the sponge with the positive pole, the applications being made on alternate days.

7. The employment of cataphoresis, in which medication is applied upon the positive sponge electrode, while either the needle or another sponge electrode is connected with the negative pole, induces some irritation of the skin where the medicine is applied and conveys its properties into the substance of the tumor.

8. While the exact estimate of the force of the electric current would promote scientific results, the clinical observation of the effects upon the tissues subserves all practical purposes in the treatment of tumors by electrolysis and cataphoresis; and it is not requisite to be provided with the appliances for measuring the voltage and amperage or ohms of resistance in the use of a battery.

9. The time occupied in accomplishing a cure by the moderate current of electricity is greater than that which would be taken in a more violent application, yet the freedom from any destructive process renders the former more satisfactory to the patient.

10. This case, added to those already reported, in which medicated electricity has been efficient in the removal of malignant tumors, should warrant the profession in resorting to this mode of treatment. The writer can further vouch for the efficacy of internal medication with electrolysis and cataphoresis in the treatment of sarcoma.

11. Theoretical views in regard to the origin of malignant tumors should not prove a barrier to the adoption of general and local measures of treatment, which have been employed with satisfactory results in a case clearly diagnosticated to be sarcoma. Clinical observation in the progressive development of this neoplasm, with macroscopic and microscopic tests, clearly indicate its malignant character.

12. The process of atrophic decomposition and resorption of the sarcomatous structure under the operation of the medicated electric current favors the expectation that tumors of a carcinomatous nature may undergo like changes with similar treatment. We are therefore warranted in resorting to cataphoresis as a tentative measure of treatment for all kinds of malignant neoplasmns.

A Preliminary Comparison of Methods and Results in Operative Surgery at the Sea Level (New York) and in Places of High Altitude (Denver).—Dr. Charles A. Powers, of Denver, read the paper. After briefly outlining the general climatic conditions of Colorado, the author cited details of two hundred and forty-eight operative cases which had been under his care there, contrasting them with similar cases seen in surgical work in New York City. Certain modifications are found to obtain, particularly in the administration of anæsthetics and in operations upon the tuberculous. Differences, are, however, but slight, the author summing up his provisional conclusions as follows: (1) Operative surgery in dry climates having an altitude of one mile or thereabout is to be pursued

on the same general lines which govern it at the sea-level. However, (2) care must be exercised in subjecting those recently from a lower altitude to severe or prolonged surgical procedure, especially if the patient be a pulmonary invalid or if he exhibit cardiac weakness. And (3) it would seem that those who are thoroughly acclimated bear operation rather better when at home than when they go to tidewater, and this again is particularly true of patients afflicted with pulmonary tuberculosis. (4) Ether must be employed with greater caution and is more of an irritant to the respiratory mucous membrane. Chloroform may find wider employment than at the sea level. (5) The loss of blood seems to be rather less in the high, dry climate, possibly excepting cases in which the operative field is the seat of chronic inflammation. (6) Shock also seems to be less pronounced; patients rally rather more quickly after operation. In the tuberculous this feature seems to be marked. (7) Aseptic wound management must be the same in all regions. Infection when it occurs doubtless makes less progress in a dry atmosphere than in one containing a greater degree of moisture. (8) It is believed that accumulated statistics will show that operations for surgical tuberculosis are attended by a greater permanency of healing in the high altitudes, and that patients presenting such lesions, but whose lungs are yet free, do all possible to ward off pulmonary invasion by taking up their abode in such a climate as that of Colorado.

Symptoms and Treatment of Hepatic Abscess.—Dr. George Ben Johnston, of Richmond, Va., read a paper with this title. The subjective symptoms of hepatic abscess are pain in the region of the liver, usually constant and radiating backward and to the right shoulder, of dull aching character; less acute when the abscess is deep seated, but more acute when the abscess is near the surface and perihepatitis is present. Sharp pain caused by movement of the liver in the respiratory act may provoke dyspnœa. Profound depression and lassitude are out of proportion to the gravity of the disease and appear early, and insomnia may be an enduring symptom. Restlessness, headache, and irritability of temper are present in some cases. Sometimes lethargy and somnolence supervene. An abscess on the upper surface often produces irritating cough which the recumbent posture increases. The digestive disturbances are loss of appetite or perverted appetjte. The breath is often fetid and eructations are usually present; nausea is a variable symptom, and there may be vomiting after the ingestion of food. Diarrhœa or constipation may exist or alternate. The tongue is fiery red or denuded, and glazed or heavily coated with yellowish-white fur, in which case the margin and tip are usually very red. The most invariable of the objective symptoms is enlargement of the liver, as evidenced by bulging of the right hypochondrium. There is pronounced muscular rigidity over the affected region. On palpation, a large, smooth, and elastic tumor is felt. Fluctuation is often present and is then a most valuable symptom, but it is demonstrable only when the abdominal walls are very thin and relaxed. Jaundice occurs only when the common bile duct is occluded by pressure or when catarrh of the ducts is present. The posture is almost characteristic. Right-side decubitus is maintained when the abscess is near the front or on the under surface of the organ. If it is on the diaphragmatic surface, the body will be raised and inclined to the right. The thighs are flexed on the abdomen. Progressive emaciation is a conspicuous feature. The temperature is erratic in its course. Subnormal temperature is frequent. This in the presence of other symptoms is suggestive of hepatic abscess. It is not so apparent in other septic processes. The urine is of deep color, high specific gravity, and usually contains abundant deposits of urates. The most constant and therefore most valuable symptoms are: history in which dysentery and chill appear, general malaise, pain and tenderness over the liver, enlargement of the liver, hectic, sweats and rigors, right-side posture, erratic temperature, progressive emaciation, and gastric disturbances. The treatment should be prompt, bold, and radical. No measure is successful which fails completely to evacuate the abscess and allow free drainage. This can be done with precision and safety only by incision. Aspiration, puncture with trocar, direct puncture with scalpel, opening by caustics or thermo-cautery are uncertain, insufficient, dangerous, and unsurgical. Entrance to the liver may be transperitoneal or transpleural, but the latter increases the gravity of the situation. The line of incision is to be determined by the position of the abscess. If adhesions are found between the liver and the abdominal wall, the abscess may be opened immediately, an aspirator needle being used to locate the cavity with accuracy. If there are no adhesions the operation may be done in two sittings, the wound being packed and the adhesions forced; or it may be single, the margins of the hepatic wound being stitched to a deeper portion of the superficial wound. In passing through the pleura, resection of one or more ribs is necessary. The pleural incisions on the parietal and diaphragmatic surfaces must correspond, the cut margins being sewed together with continuous suture of fine catgut forming a "buttonhole," through which the diaphragm is opened and the operation continued. The opening into the liver should be as free as is consistent with safety. If the cavity is large, drainage may be provided by the use of one or more large drainage tubes and a light gauze packing. Packing suffices for small cavities. Healing is usually rapid. If slow, constitutional treatment and stimulation of the abscess walls by two-per-cent. carbolic solution will usually hasten recovery.

Officers.—The following officers were elected: *President*, Dr. Theodore F. Prewitt; *Vice-Presidents*, Drs. J. McFadden Gaston and Maurice H. Richardson; *Secretary*, Dr. Herbert L. Burrell; *Treasurer*, Dr. G. R. Fowler; *Recorder*, Dr. De Forest Willard.

The next meeting of the association will be held at New Orleans as near April 20th as possible.

ASSOCIATION OF AMERICAN PHYSICIANS.

Second Day—Wednesday, May 5th.

Pancreatitis Followed by the Formation of a Cyst.—Dr. A. McPhedran, of Toronto, read this paper. The speaker first saw the patient in 1891. He had repeated attacks of pain over the region of the pancreas, which grew in frequency. He went away for the summer to the seaside and came back worse. Gall stones were diagnosed and an operation was advised. On September 6th he had intense pain, prostration, and vomiting. These lasted for three days. Fever was 105° F. Then he began to improve but was still uncomfortable. He was given Carlsbad salts and ordered a light diet. On October 5th he had decided pain again over the pancreas. On October 8th a large cyst appeared on the epigastrium extending to the right over the pancreas. An operation was done and the temperature sank to 99.5° F. A clear serous liquid was obtained. At the bottom of the wound the pancreas was felt as a hard mass. The liver was normal. The gall bladder was not reached. The opening was closed without drainage. The pulse was 130; temperature, 101.5° F. He had cyanosis and dyspnœa ten days later. The fluid was a clear serous liquid with some purulent characters, and was probably the result of fat necrosis. The pancreas seemed to be increased

in size. In January he was much improved and went to his office. He suffered from indigestion. The urine was free from sugar. In the following March another operation was performed and a cyst with walls two millimetres thick was found. The fluid was thick, or flocculent, and alkaline, and contained albumin. There was no digestive ferment present. A good recovery was made, but a fistula persisted. The discharge was free and the skin was excoriated. The fluid now looked like pancreatic secretion, and it possessed some digestive powers. The general health continued good. The sinus still persisted, and the discharges continued. The first attack and subsequent ones were undoubtedly due to the beginning trouble in the pancreas. He referred to the simple, the hemorrhagic, and the suppurative pancreatitis, and mentioned the work of Fitz and others. The contents of the cyst were interesting.

Angina Pectoris.—Dr. J. H. Musser, of Philadelphia, read a paper on the relation of angina pectoris to dilatation of the heart. He said that patients who have had an attack or attacks of angina pectoris are relieved of the paroxysms if dilatation of the heart supervenes. Often, if dilatation persists, the patient may live for years and no other paroxysm occur. It seems the pain, as long ago pointed out, is due in large part to the stretching of a tense ventricle from intracardiac pressure. Such stretching is not so likely to occur in dilatation, because of "safety-valve action" in the heart. The idea appears to explain the infrequency of angina in the young; in mitral valvulitis with regurgitation; in women, possibly; and in the occupants of infirmaries and hospitals. In the latter class the vigor of the heart muscle is lessened from lack of food, etc. Certainly it is not because of the absence of atheroma of the coronary arteries, for endarteritis is very prevalent among senile, usually alcoholic, perhaps syphilitic inmates of the hospitals and almshouses. If the contention is true, the diagnosis, prognosis, and the treatment tentatively admitted are influenced thereby—the diagnosis, in that angina-like paroxysms in dilatation of the heart are probably not due to true angina pectoris; the prognosis, in that, if, as rarely happens, an undoubted attack of angina occurs in a case of valvulitis with dilatation, and even failing compensation, on the one hand the patient is not likely to perish from the angina, because of the safety valve, while, on the other hand, it indicates that there is sufficient strong muscle fibre to insure cardiac recuperation. Further, if a patient subject to attacks of angina presents signs and symptoms of dilatation, the angina will disappear, or at least never be so severe as to terminate fatally. That the pain is due to intracardiac pressure is more possible, because of the presence of dilatation of the heart in angina sine dolore.

Dr. Wharton Sinkler, of Philadelphia, said that the question of the cause of pain in these cases was of great interest. Dr. Musser's explanation does not seem to explain. We have also a pseudo-angina with great pain, and he related a case which simulated closely true angina, and in which one grain of morphine at a dose was given to relieve the pain, but which failed. In this case he had no evidence of disease of the heart at any time.

Dr. H. C. Wood, of Philadelphia, asked what was the cause of increased ventricular pressure in these cases. They can come from the condition of the heart itself. If angina pectoris is due to increased intraventricular pressure, we would expect the arterial system to play the chief rôle and not the heart. The action of nitrite of amyl is interesting in this connection. It relieves the aorta and takes away the resistance of the heart. Digitalis has a curious effect; and its use suggests this theory: If angina pectoris can be stopped by hypodermic injections of the nitrite of amyl, we can, if we give enough aconite, do away with intraventricular pressure altogether. If this is true, digitalis must be death to the heart in angina pectoris.

Dr. E. G. Janeway, of New York, mentioned a case of a man who had sudden pain over the heart and pain on the right and not on the left side. He was ashy pale. Dr. Janeway made a diagnosis of pericarditis and thrombosis of the coronary arteries, and partial rupture of the heart. The patient seemed to be getting better, when one day he sat up in bed and said he was going to get up, and fell over dead. The autopsy showed disease of the coronary arteries with rupture of the septum of the left ventricle and thrombosis of the right coronary artery. Dr. Musser's theory did not explain all this.

Pericarditis.—Dr. F. C. Shattuck, of Boston, said that pericarditis is often overlooked. The disease is well known. Rheumatism is the most frequent cause. Endocarditis and pericarditis often coexist when they are not suspected together. Often, especially in children, one does not see the beginning of the disease. It often comes from pneumonia. There is a very frequent association of pneumonia and pericarditis. In fifty-seven cases of pneumonia in his ward, twenty came to autopsy, and thirteen of them had pericarditis; five were detected during life and eight were not found in life. Thirteen were affected on the right side and six on the left. Osler reports only five in one hundred autopsies. The symptoms are not to be relied on. There may be none, especially if the effusion is dry or small. The primary disease is so severe as to mask complications, which are often less severe than the original disease. The less severe the original disease, the greater the necessity to look for complications. The diagnosis must rest on the physical signs. The friction sound is circumscribed. and may disappear between the examinations. He has often been chagrined by bringing cases before his students and finding no friction. Pleuro-pneumonia friction may be of pericardial origin. In many cases the pericardial effusion was looked for carefully and not found. In some cases no autopsy could be obtained and in one case the undertaker told him that when he embalmed the body a large amount of fluid came out of the pericardium. Dry pericarditis is hard to detect. The shape of the dulness is in his experience not pyriform or triangular, but similar to that of general enlargement of the heart. He does not find this triangular shape of the sac, but by percussing the cadaver carefully and sticking in pins at the edge of the dulness he is able to map out the heart itself. The change in the percussion note is important. He does not find the chest bulging out in pericarditis, as had been stated it did. The heart and lungs are pressed away from the chest walls. In six cases there has been repeated and sudden collapse. The diagnosis should not be difficult. Treatment other than rest is of little use. The effusion increases or diminishes with or without medicine. Opium for pain and alcohol are indicated. Blisters are of no use. Ice packs may be used for the comfort of the patient. With this treatment in seven cases six ended successfully, and he knows he saved two subjects who otherwise would have died. Absorption may follow the withdrawal of a small amount of the liquid. There is no hard and fast rule when to aspirate and when not. Each case must be treated on its own merits. He uses a moderate-sized cannula with trocar and side switch. His point of election in tapping is in the fifth interspace, one or two inches to the left of the left nipple. In one case he withdrew sixteen ounces of fluid, and in another thirty-six.

Dr. James T. Whittaker, of Cincinnati, spoke

of the latency of the disease. It is often unrecognized until the post-mortem is done. He thinks that a clear pericardial fluid due to tuberculosis will be found in many cases. He lets the stethoscope hang in the ears, just touching the recumbent patient, and he gets very delicate results in auscultation. Every case he suspects he taps in the second or sixth interspace, and often finds fluid there when he can get it nowhere else. He always feels the impulse of the heart against the cannula and knows he is in the right place.

Dr. Peabody, of New York, mentioned a case in which he introduced the trocar, and the cannula was stopped by a piece of cartilage.

Dr. H. A. Hare, of Philadelphia, said the danger of injuring the heart in tapping was not so severe as many believed. He had stabbed several dogs in the heart, and got no fatal results unless the heart centres were wounded, and they were not often struck. He examined these dogs later and found the heart wound healed and a little blood in the pericardium. He had a case of acute articular rheumatism which later developed pericarditis. He tapped twice and once punctured the heart. Later the man died and the heart wound was found healed. He asked if members thought that digitalis was the best heart stimulant to give.

Dr. Rotch, of Boston, said that Dr. Hare's work agrees with what he has done. It is hard to make a diagnosis, and the usual signs fail. The heart is floated up on the effusion. Tapping is done below and to the left with safety. It is better to avoid the heart if possible. He referred to a case, and said also that he had found that often there was a dull spot behind at the angle of the scapula where tapping could be done.

Dr. Norman Bridge, of Los Angeles, Cal., referred to several cases in his practice in which the effusion was slight and the diagnosis was very difficult.

Dr. James Tyson, of Philadelphia, said he had always found the triangular or pyriform dulness in pericarditis, and thought that Dr. Shattuck was almost too literal. We ought not to let the blister go in the treatment of pericarditis. It will save tapping sometimes.

Nervous Deafness in Diphtheria.—Dr. J. C. Wilson, of Philadelphia, reported a case of this unusual disease. The disease was in a married woman, aged thirty-three, with a follicular tonsillitis. There were sore throat, moderate fever, occipital headache, tinnitus aurium et cerebri, and albuminuria. She gave no history of syphilis. On the fourth day there were a dense pellicular exudate on the right tonsil, conjunctivitis, increased deafness, and albuminuria. The isolation was complete, and although antitoxin was injected later there was total deafness with slight vertigo, although some idea of sounds by contact could be obtained. He thought it was a disease of the labyrinth. There were great chemosis and gradual defervescence by the thirteenth day, at which date there were partial paralysis of accommodation, together with paresis of the extensor muscles of the head, persistent headache, slight vertigo, and absolute persistent loss of hearing. He found on looking up the subject that sudden, total, permanent bilateral deafness is very rare. Antitoxin was given three hours after the clinical diagnosis, and there was no reaction and no effect on the temperature.

Types of Œdema in Infancy and Early Childhood.—Dr. J. P. Crozer Griffith discussed the obscurity which attends many cases of œdema occurring at this time of life. He referred first to the possibility of nephritis being present in earliest infancy, and then took up the question of the production of nephritis by congenital syphilis. He reported two cases seeming to be proof of the occurrence of this form of renal disease, and referred to some instances from medical literature. The existence of nephritis in an infant as one manifestation of general septic infection was instanced by the report of a case. Œdema consecutive to heart disease and to marasmic conditions was then touched upon, and then that going by the name of œdema neonatorum. The relation of this condition to sclerema neonatorum was next considered, and an instance of the latter reported. He then reviewed the cases of sclerema occurring in America. Next angioneurotic œdema as seen in infants and children was reviewed, and the various reported cases were abstracted. He reported two instances occurring in his own experience. Finally instances of œdema of entirely doubtful origin were taken up. Two unusual cases were detailed.

Chronic Nephritis, Unassociated with Albuminuria.—Dr. D. D. Stewart, of Philadelphia, read a paper on this subject, which he said was a continuation of others which had been published in 1893 and 1894. It dealt with an unrecognized form of chronic nephritis with distinctive symptoms, in which albumin even in traces by the commonly employed tests was persistently absent from the urine, and yet uræmic symptoms were common. Although unable to present the result of a necropsy in a personally observed case of this sort, a portion of a kidney removed in life threw some light on the pathological condition present.

Cumulative Action of Digitalis.—Dr. H. A. Hare, of Philadelphia, read a paper recounting the results of some experiments undertaken to find out what effect the continued giving of digitalis would have on the musculature of the heart and vessels. He put twelve pigs, all of about the same weight, six in one pen and six in another. They were all fed alike, and to six he gave the tincture of digitalis until he was giving them fifteen minims three times a day. He then made observations on the two sets of pigs, and noticed that the non-digitalis pigs remained of the same size and were like pigs in general, while the digitalis pigs were very lively, wanted to jump out of their pens, and had grown so markedly that farmers noticed it. He then killed them, and found the hearts much enlarged their muscles increased, and their walls thicker. He said the cumulative action of digitalis was the more or less sudden development of the muscular action of the heart with gastric distress.

Dr. William Osler, of Baltimore, thought that the effects of cumulative action are excessively rare. When a man gives only two or three drugs he does not like to have any of them called in question. He gave digitalis largely and with a free hand, and he had never seen any bad effects. He thought that all observant physicians knew the digitalis pulse, which might be 40 at the wrist and 80 at the heart. In a case of chronic valvular disease he had given ten minims three times a day for three years, and had never seen any ill effects from it. The cumulative effects might occur, but they were so rare that they need not be considered.

Dr. E. G. Janeway, of New York, had looked up the records in cases of sudden death, and found that many of the subjects had been taking digitalis. They were cases of slow heart and slow pulse. Sudden deaths, he thought, were often due to the use of the drug and not to disease, and this was especially the case in pneumonia and in Bright's disease.

Dr. H. A. Hare said, in conclusion, that Dr. Osler had proved exactly what he did not intend to prove, for, when the heart pulse was 80 and the wrist pulse 40, there was no surer evidence of the cumulative effects of the drug. He said distinctly that the effect of the drug was cumulative and not the drug.

Third Day—Thursday, May 6th.

Neuroses of the Abdomen.—Dr. Norman Bridge, of Los Angeles, said that these reflexes are hard to understand. They give the patient annoyance and often cause suffering, and some even simulate grave diseases, and may continue for months and years. A common neurosis is increased peristalsis, causing a passage of gas from the bowels and diarrhœa. This form is frequent. It is a diarrhœa of the colon, and it is hard to understand why it follows so closely each meal when the passage is the remains of the previous meal. This diarrhœa is a reflex one. The emotions may bring it on, such as fear, diffidence, etc. It has attacked surgeons about to operate, and clergymen have been known to experience it when taking a new charge. The exciting cause is extra-abdominal. There may be formation of gas after a meal; there is intestinal indigestion, with flatulence and the passage of wind, and this escapes after meals with borborygmi. Women have it, and suffer from pain in the top of the head. Mental excitement may cause a similar collection of gas. Another reflex is slight sciatic pain on both sides, which is relieved after a passage from the bowels. Another reflex is "growing pains" from an overloaded condition of the stomach and bowels. A free evacuation will stop it. Prurigo of the legs is another reflex with the same cause, and is cured by the same treatment. Urticaria or rash from the ingestion of crabs, fish, strawberries, etc., is a well-known reflex. Asthma is a reflex from the spasm of the bronchiole muscles. Convulsions in children are usually from reflex causes. A good treatment for insomnia is an enema at bedtime.

Dr. William H. Welch, of Baltimore, referred to urticaria as a reflex phenomenon, and mentioned the work of Dr. Gilchrist in his laboratory, who has been studying a class of cases in which a slight scratch on the skin causes a rash. Dr. Gilchrist has cut out small pieces of the skin within five minutes after the irritation, and has found serum and emigrated leucocytes, and in fifteen minutes he has found a large collection of leucocytes. There must be something outside that attracts the leucocytes, but it is not clear. Reflex phenomena do not explain it. There must be something of a chemotactic action which attracts them.

Dr. Charles G. Stockton, of Buffalo, said there are two points which should be noticed in discussing this subject. One is the post-prandial diarrhœa, if it may be called that, which occurs with sufficient frequency and has a sufficiently regular pathological course to deserve a name. There is not only a hurried evacuation of the intestines after a meal, but later there is gastric anacidity. The stomach seems to lose its acidity. Again, in a number of his cases with this diarrhœa he has noticed a striking error of refraction in the eye. The diarrhœa may not depend on the error of refraction, but the two are certainly connected. Also he has noticed a painful neurosis in the abdomen and parts below; a descent of the abdominal organs will cause pain, and the fixing of a floating kidney, for instance, has caused a cure.

The Roentgen Rays in Thoracic Disease.—Dr. Francis H. Williams, of Boston, had been using the *x*-rays in about four hundred cases of thoracic disease, and had been greatly helped by them. He could examine the patients in any position, but he usually had them brought in on a stretcher, and with the Crookes tube below and the fluoroscope above he examined the thoracic organs.

Dr. Reginald H. Fitz, of Boston, showed some well-executed radiographs of aortic aneurisms.

A Case of Acromegaly.—Dr. Osborne, of New Haven, reported a case of acromegaly. A man, forty-seven years old, first came to the hospital complaining of swelling of the lower extremities. He grew better, but becoming worse again came to the hospital, where he subsequently died. He had had the disease for twenty-three years, and suffered first with tinnitus aurium. Gradually the face and extremities showed signs of the disease, and all parts of the body were hypertrophied. The photographs showed the condition of the face, the hands, and the feet. Dr. Osborne also showed the curved and anchylosed spinal column, the sternum with ribs, the clavicles, and part of the bones of the hands and feet. The heart weighed two pounds nine ounces, probably the heaviest heart on record. In nineteen cases which he had collected there was an enlargement of the thyroid, so that the trouble in this case was probably complicated with myxœdema. The pituitary body was enlarged, as is usually the case in acromegaly.

Fat-Splitting Ferment in Peritoneal Fat Necroses.—Dr. Simon Flexner, of Baltimore, read a paper on this subject. He said that the view has gained ground that the disseminated forms of necrosis met with in the peritoneal cavity, as well as the more circumscribed lesions in the pancreas itself, may result from a perversion of the pancreatic secretion. Since it has been shown that trypsin when injected into the peritoneal cavity does not set up this condition, the suggestion that steapsin might possibly prove to be the chief cause has been ventured. A suitable human case having presented itself, he undertook to prove the presence of this body in the fat necrosis and its absence from the normal fat. His conclusions were: 1. In peritoneal fat necrosis, the body is demonstrable. 2. It is present in the early stages and may disappear later. 3. The ferment is the direct cause, but this cannot be proved. 4. The escape of pancreatic secretion is the origin of the necrosis.

An Epidemic of Cerebro-Spinal Meningitis Caused by the Diplococcus Intracellularis Meningitidis (Jaeger).—This was a joint paper by Drs. F. H. Williams and W. T. Councilman, of Boston. Dr. Williams related the clinical history of the disease. There had been a small epidemic of cerebro-spinal meningitis in Boston, and he had studied the disease and treated it by lumbar puncture, withdrawing the fluid from a little below the spinous process of the second lumbar vertebra, and the fluid had been studied by Dr. Councilman. Weichselbaum, of Vienna, was the first to make out the organism in this affection, and published a series of cases. In some cases it had extended from an acute otitis media. Staphylococci, streptococci, and diplococci had been found by Councilman. He had found the organisms in seventy-seven cases in cultures from the cerebro-spinal fluid. He had also found it in nine out of twenty at the City Hospital, and in sixteen out of thirty at the Children's Hospital. The spleen was enlarged in some cases. He had found it also in the nasal sinuses, and once in an abscess of the tonsil. The organism grows best on blood serum.

The Earliest Possible Recognition of Tuberculosis.—Dr. James Whittaker, of Cincinnati, first showed a sample of the new tuberculin of Koch, which he had just received from Europe. He dwelt on the importance of recognizing the disease before physical signs reveal it. He said the use of tuberculin is very important. Few persons understand it. It is successful in cattle. It has been objected to on the ground that a reaction is obtained when there is no tuberculosis. Klemperer has said we have no right to diagnose tuberculosis just because there are tubercle bacilli in the body; but that is a bad argument. The test will react if bacilli are present. We begin with five milligrams, and give as high as two centigrams. Failure to get the reaction shows the absence of tubercle bacilli. Virchow's objection is that tuberculin may arouse latent tubercle bacilli and cause

the disease. It should not be used in too large doses or too late in the disease. There is a great prejudice against it, but it is a valuable remedy. Trudeau, Denison, and Klebs use it in a modified form. He has used it in one thousand cases, and has never seen any harm come from its use. It is a safe means of diagnosing doubtful cases. Klebs, Jr., says he gets a reaction in every case of chlorosis.

Dr. F. C. Shattuck, of Boston, had used it in his hospital, and had seen no harm from it. One difficulty is that persons react from it in whom there is no evidence of tuberculosis and in whom no reason for the reaction can be found. He mentioned the case of a patient with a supposed tumor in the epigastrium. The reaction was typical. The autopsy showed a cancer of the stomach and other organs, and at the top of the right lung there was a small cheesy nodule, which was insufficient to give any signs or symptoms. If tuberculin were regularly used, the number of cases would be increased and also the number of recoveries.

Dr. A. L. Mason, of Boston, said it had been used in the Boston City Hospital, and it had been valuable in determining the disease prior to laparotomies for tuberculous peritonitis.

Some Products of the Tuberculosis Bacillus and the Treatment of Experimental Tuberculosis by Antitoxic Serum.—Dr. E. A. de Schweinitz, of Washington, described two of the products obtained from tuberculosis cultures, one of these a crystallizable acid, and their probable bearing upon the progress of the disease. A brief sketch of some experiments showing the relationship of the attenuated tuberculosis bacillus to immunity was given, followed by a description of some methods for the production of antitoxic serum and its experimental application. The injection of living cultures was first practised on animals. The horse is the best animal. At no time has it produced toxic effects, but it has been very carefully used. Good results are to be expected from it.

Primary Renal Tuberculosis.—Drs. D. D. Stewart and A. O. J. Kelly, of Philadelphia, presented a communication in which the diagnosis, frequency of occurrence, and source of infection of tuberculosis of the kidney as a primary affection were discussed, and an unreported case of Dr. Stewart's, in which a limited primary tuberculosis of the pelvis of the left kidney occurred in a case of chronic nephritis, was presented.

(To be Continued.)

Ventro-Fixation.—Dr. W. A. Newman Dorland (*University Medical Magazine*, December, 1896) closes a paper on this subject with the following propositions: 1. From an obstetric, as well as gynæcologic point of view, the operation of ventro-fixation (as compared with other operative measures) for the cure of uterine displacement is the most desirable in its results. 2. If improperly performed, any of the operations of anterior fixation of the uterus may exert a deleterious effect upon subsequent pregnancies. 3. This evil influence increases in direct proportion to the low implantation of the fixation sutures; hence the vaginal operations are especially dangerous. 4. The abnormal conditions noted include pain and traction at the site of the incision, premature termination of the gestation, difficulties in micturition, excessive nausea and vomiting, abnormal presentations of the fœtus, mechanical obstruction to labor, uterine inertia, cervical rigidity, uterine rupture, placental anomalies, and post-partum and puerperal hemorrhages. 5. Over half of the subsequent gestations and labors offer some abnormal condition. 6. About fourteen per cent. of the women suffer from abortions or miscarriages, and over twelve per cent. show dystocia in varying degrees, after hysteropexy, while over twenty-seven per cent. abort after vagino-fixation.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEATH OF WALTER RIVINGTON—LOSS TO MEDICAL REFORM—DEATHS OF DRS. NUGENT, M'DOWELL, AND RICHARDSON—THE MERCER'S HOSPITAL DISPUTE—ADJOURNED DISCUSSION ON RED-MEAT DIETARY.

London, May 14, 1897.

A grievous and unexpected loss has fallen on the cause of medical reform. Walter Rivington died on Saturday, in his sixty-second year. You will remember that he was a candidate at the last election for the General Medical Council, and had he been earlier in the field, and his committee ready to incur the necessary expense, no doubt he would have been elected. But many voters were pledged before they dreamed that Rivington would be induced to stand, and many others did not receive his committee's circulars. His election would have been a suitable crown of a career so largely devoted to the work of reform and to all efforts to benefit his profession. Mr. Rivington was a distinguished graduate of the London University, taking numerous gold medals and other honors. He was B.A. in 1858, M.B. in 1863, and M.S. in 1864. His curriculum was at the London Hospital, to the staff of which he was elected in 1863, being already F.R.C.S. At the same time he was made demonstrator of anatomy and two years later succeeded to the lectureship. He occupied this chair until 1884, preferring it to others, but that year he took that of surgery. He became full surgeon in 1870 and held the appointment for the full period of twenty years, and was then made consulting surgeon. As a teacher Mr. Rivington was always exceedingly popular. His great stores of knowledge, combined with much humor, enabled him to make the dry bones of anatomy live, and students appreciated the painstaking teacher whose accuracy was as remarkable as his gift of imparting knowledge. Hundreds are mourning to-day for the man who lightened their educational labors. So, too, all medical reformers are lamenting the loss of a leader who had sacrificed much in the cause and was ever ready to espouse the cause of justice. His work on the civil rights defence committee I have more than once alluded to. That was his most recent effort, but from the beginning of his career he has been the same determined, active, fearless, but courteous champion of right, even when his personal interests were likely to suffer. From 1879 to 1883 Mr. Rivington was an examiner to the Royal College of Surgeons and in 1891 was elected to the council on the reform platform. "Would that he had lived to be president!" is the exclamation of college reformers. Last year he was elected to the fellowship of the university against Lister. Mr. Rivington had great literary power. Twice he carried off the Carmichael prize, and his two essays are a mine of medical history to which future writers on the medical profession must be indebted. These essays are full of information and remarkable for accuracy, as well as for the style in which they are written. Accuracy and fulness also characterize his surgical contributions to the societies and journals. Any of these may be taken up with the assurance that they are complete and exact up to the date of their appearance. As a surgeon his great experience gave confidence to his surgical judgment. As an operator he was perhaps a little unequal, due to the cautiousness inspired by fulness of knowledge. When all was clear, he was as brilliant in the operating-theatre as in his academical career.

Dr. G. L. Nugent, of Dublin, died on the 4th inst., aged forty-one years. He was registrar of the College of Physicians, and the president and fellows have passed a resolution of "regret at the death of their esteemed and valued colleague."

Dr. Ephraim McDowell, of Dublin, died on Friday last from, it is supposed, an overdose of a narcotic which he had been accustomed to take for the relief of insomnia.

Dr. A. J. Richardson, of Brighton, died from tetanus, which, according to evidence at the inquest, he had predicted he should die of on the following Sunday, although when he said so there were no symptoms. At his request antitoxin was injected. Tetanus afterward developed, and he died at the time he had predicted. The attack was attributed to a bicycle accident.

The question whether the medical staff of a hospital should be liable to dismissal by a committee is likely to come before the law courts, for the dispute at Mercer's Hospital, Dublin, has assumed a more acute phase, and the board has formally dismissed the whole staff and has invited the physicians and surgeons to apply for re-election. Its object, of course, is to get rid of Mr. O'Grady, who has given offence by informing the board of various shortcomings in its duties and declined to submit to its threats. Mr. O'Grady himself has been invited to apply for re-election, and replied that he has no intention of discontinuing his services, but he does not admit the power of the board to dismiss the staff, and that he will take steps to test the legality of its proceedings and to prove that it was in consequence of his demands for inquiry into serious charges that his dismissal is attempted. Mr. O'Grady has all along demanded inquiry; the board has obstinately refused, and there seems now nothing for it but a resort to law to show whether an incompetent board has power to dismiss an individual by dispensing with the services of the whole staff. I do not know whether any of the dismissed gentlemen will apply for re-election, and, if they do not, whether other Irish practitioners will degrade themselves by offering to take their places.

The adjourned discussion on red-meat diet took place at the Medical Society meeting on Monday last. You will remember that Mr. Armstrong had advocated an exclusive red-meat dietary in gout. Dr. A. E. Garrod pointed out the differences in various cases and said no single explanation could be applied to all, and he thought that Mr. Armstrong's method could have only a very limited application. Dr. Luff said there was no difference between the metabolism of animal and vegetable proteids, so there could be no objection to a meat diet in this respect. He repeated some of his criticisms on Dr. Haig's views offered at the last meeting, and pointed out many inconsistencies in that gentleman's statements. Dr. Haig, you will remember, declares that uric acid enters the system in meat, but Dr. Luff, who is a specially skilful chemist, tells him that the acid has never been found in meat, and as to xanthin the tests proposed by Dr. Haig are of no use. Mr. Freyer followed, but in a far less serious vein. He opposed Dr. Haig's restricted diet as much as Mr. Armstrong's, and recommended the rejection of all extreme restrictions, on the plea that it was better to enjoy all things in moderation. Dr. Maguire attributed the greatest influence to the vitality of the individual. When a man was strong he said the excretion of urea went on naturally, but only let his vitality be lessened and a reversion to the lower plane of excreting uric acid took place. Mr. Armstrong in the course of his reply mentioned a patient who had been under Dr. Haig's dietary for six months, but whenever he was worried or at all out of health uric acid appeared abundantly, and he would like to know what Dr. Haig thought was its source. He admitted that his treatment is appropriate only in a small proportion of cases, perhaps not more than three per cent.

Surgical Suggestions.

Fixation Abscess produced by oil of turpentine, ether, or nitrate of silver in subcutaneous injection so as to provoke inflammatory reaction, has recently come up, reminding one of the olden use of the seton, pea, etc., to produce supurative revulsion. The method has its dangers and may induce nephritis. It has been chiefly used in severe puerperal affections, purulent pleuritis, pneumonitis, etc.

Extirpation of the Rectum.—Dr. Byford (*Annals of Surgery*) gives the following advantages of the vaginal method: 1. The vagina can be made to take the place of the extirpated portion of the rectum. 2. The excision can be done as high up as by the sacral method, and with less traumatism, and, in case the peritoneal cavity is opened, with less danger. 3. An intraperitoneal exploration of the tissues about the rectum can be made before disturbing the rectum. 4. If the operation has to be abandoned after the incisions are made, the wound is less formidable and in a better place. 5. The patient is more comfortable after the operation than after the sacral methods.

Exophthalmic Goitre.—Fatal termination in six cases; recovery complete, or almost complete, in seven; improvement in seven; condition much the same in three; patient alive and following her occupation (exact condition unknown), one case. These conclusions furnish statistics which, I believe, represent fairly well the course of the disease.—R. T. Williamson, *British Medical Journal*, November 7th, 1896.

Obstetrics.—Twice I have seen life restored by intravenous saline injections for hemorrhage. Hemorrhage from the umbilicus I checked in two cases, by transfixing the base with harelip pins. Directly the child is born, I irrigate the child's eyes with boric acid, in solution 1–60, and wash the umbilical cord with the same, covering it with salicylic wool.—J. W. Dunbar Hooper.

Auscultation of the Œsophagus.—According to Frederick Treves' "System of Surgery," vol. ii., p. 546, this much-lauded method of diagnosis has not yielded the results which were expected of it. Indeed it may be doubted whether it ever yields as much evidence as the passage of a bougie. As first proposed by Hamburger, it consists in causing the patient to swallow some water or thickened fluid, such as gruel, and then listening either with the stethoscope or directly with the ear over the course of the œsophagus behind. It is not difficult to detect the stoppage or slowing of the food current at the seat of stricture, but no evidence of the nature of the stricture or other diseased condition is afforded by this procedure. Nor is much more information to be gained from the œsophagoscope, and the surgeon is compelled, therefore, to rely on his educated sense of touch and the bougie, coupled with such general indications as the special features of the case may supply him with.

Hemorrhoids and Anal Fissures.—Dr. Schmey (*Zeitschr. für Aerzte*) has used a two-per-cent. solution of nitrate of silver in many subjects of hemorrhoids and anal fissure, and has had uniformly good results. Daily brushing with this solution obviated the necessity for operation. In one case of coccygodynia, which

no treatment could relieve, the author, applying the brushing with the solution with great success to piles with which the patient suffered, found that after eight brushings the coccygodynia had also disappeared. In one case of fissure of the anus accompanying hemorrhoids, which rendered the patient sleepless by reason of the pain, the same solution effected a cure.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 29, 1897:

	Cases.	Deaths.
Tuberculosis	222	117
Typhoid fever	12	4
Scarlet fever	215	17
Cerebro-spinal meningitis	0	8
Measles	213	7
Diphtheria	310	39
Laryngeal diphtheria (croup)	2	3
Small-pox	8	1
Chicken-pox	24	0

Spread of Venereal Disease.—The departmental committee, presided over by Lord Onslow, the president and the council of the College of Surgeons in Ireland, investigated and reported upon venereal disease among the British troops. Their report was such an appalling one that at a recent meeting of the council of the Royal College of Surgeons in Ireland the following was unanimously adopted: "We, the president and council of the Royal College of Surgeons, Ireland, being deeply impressed by recently ascertained facts concerning the development and alarmingly increased prevalence of venereal disease among the British troops in India, and also the apparently exceptional virulence of the malady there, are strongly of opinion that the time has arrived when some active steps should be taken by the government to check the disease, not alone in the interests of those primarily affected, but of their immediate descendants, and of the community at large in India and the United Kingdom."

Eating.—Children should be trained to eat slowly, no matter how hungry or what important business is pressing. Much safer a little food well masticated than a hearty meal swallowed in haste. Cold food is even more difficult to digest than hot, if taken too rapidly. The normal temperature of the stomach is about 98° F.; food has to be raised to this temperature before digestion can take place.—*The Medical Council.*

Tuberculosis in Infancy.—Tuberculosis was formerly supposed to be a rare disease in infancy, but recent investigation proves this supposition to have been false. From statistics collected it appears that intra-uterine infection in cases of tuberculosis is very rare, the child often escaping even when the mother is suffering from active disease in an advanced form. Infection through the alimentary tract is also very rare, and will not explain more than one or two per cent. of the cases. The distribution of the lesions in tuberculosis of infancy and early childhood points conclusively in the vast majority of cases to infection through the respiratory tract.—L. Emmett Holt.

Vocal Hygiene.—Dr. Thomas F. Rumbold (*St. Louis Medical and Surgical Journal*, February, 1897) says, in regard to paresis of the uvula, that if this organ is not under the control of the voice user the voice must be imperfect. Let a person stand before a window, open his mouth, and inspect his uvula, aided by a small hand mirror. If he sees that the uvula moves freely up and down—that is, contracts and relaxes itself—then it is in a normal condition; but if he cannot cause it to move—that is, contract—then it is debilitated, and this debility is due to inflammation in the pharyngo-nasal cavity.

Unconsciousness from Constipation.—Very stout women have suddenly become unconscious from a long-continued constipation. A physician relates a case in which unconsciousness, with stertorous breathing in the night, simulated an apoplectic attack. By the aid of mustard to the feet and abdomen, with ice to the head, and a large enema of soap, water, and castor oil, a large evacuation was procured, with speedy return to consciousness.—*Health Magazine.*

Diazo Reaction in the Diagnosis of Typhoid Fever.—Solution A: Hydrochloric acid, 50; distilled water, 1,000; sulfanilic acid, q.s. ad sat. This solution should be most thoroughly saturated, allowed to stand some days before being used, and shaken up from time to time. Solution B: Five-tenths solution of sodium nitrite in distilled water. Should be kept in a cool place and black bottle, and renewed every week or ten days. Solution C (test solution): One part of solution B; one hundred parts of solution A. This solution should be freshly made for each day's testing. Method of applying test: Equal parts of the solution C and the suspected urine are thoroughly shaken up together in a test tube, and from one to two cubic centimetres of ammonium hydrate allowed to flow gently down upon the surface. If the reaction be present, a beautiful crimson or carmine band appears at the junction of the ammonia with the mixture. Upon shaking, a pink tinge is imparted to the foam. The following rules are all-important: 1. The urine must be fresh and filtered. 2. The urine must be acid. 3. The true color is red, and when the urine is shaken the foam should be slightly tinged with pink. 4. The test solution C is to be freshly prepared each day, and accurately measured. A medicine dropper and a marked test tube will insure this. 5. The sodium-nitrite solution must be accurately made, and renewed at intervals of a week or ten days, and be not stronger than 0.5 per cent. 6. The color band should be held against a white background, the light falling upon it from behind the observer. It must not be held against the light. 7. The exact method of procedure must be conscientiously carried out. 8. The test is to be made during the height of infection. It occurs sometimes in acute tuberculosis, septicæmia, and in carcinoma. It is chiefly important from the fact that a failure to find it gives a strong presumption against typhoid fever, as it is found in about ninety-five per cent. of all cases of that disease. This is Dr. Green's modification of Ehrlich's diazo reaction.—*Southern California Practitioner*, March, 1897.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Water and Public Health. By James H. Fuertes. 12mo, 75 pages. Illustrated. John Wiley & Sons, New York. Price $1.50.

Transactions of the New York State Medical Association for 1896. Vol. 13. Edited by Dr. E. D. Ferguson. 8vo, 624 pages. Illustrated. The New York State Medical Association, New York City.

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Original Articles.

CLIMATIC CONDITIONS IN RELATION TO HEALTH.

BY GEN. A. W. GREELY.

CHIEF SIGNAL OFFICER U. S. ARMY.

TEN years since it was pointed out that the spirit of the day demands the taking and collecting of such meteorological observations as may lead to a thorough knowledge both of local sanitary meteorology and of the fitness of local climates as a means of alleviating human suffering and the saving of human life.

When in charge of the meteorological service of the country, efforts were made by me toward national action along this line through co-operation with the Marine Hospital service under Dr. John B. Hamilton, who long ago published charts, without discussion, however, and data in his weekly "Abstract of Mortality Data." Lack of appropriations has caused the discontinuance of the charts inaugurated by Dr. Hamilton, but the data still appear. It is significant of the truth of the saying that a prophet is "not without honor save in his own country," that when the weather bureau initiated its monthly publications of *Climate and Health*, the efforts of the signal corps, of the Marine Hospital service, and of Dr. Baker of the Michigan board of health, were ignored, and the credit of this idea was officially given by Secretary Morton to England, as originating in a subordinate Cornwall County council's reports. After a year's issue of *Climate and Health*, this publication of the department of agriculture was suspended as not being within the law; but it is hoped that it will be renewed.

The attitude taken by the meteorological side of the weather bureau as to the influence of climate upon health cannot be more forcibly illustrated than by the statement that the *Monthly Weather Review* for August, 1896, contains no allusion to the fact that nearly one thousand persons died in the United States in that month from the direct effects of a prolonged heated term.

While the ability of man to withstand the vicissitudes of climate over the whole earth is unquestioned, yet it is realized that there is a practical limit of environment within which he is competent to perform that quality and quantity of work and to live out that span which is evidently the birthright of the normal man.

It is interesting to note that the only extended and satisfactory investigation of the geographic distribution of life in North America has been made by Dr. C. Hart Merriam, of the United States department of agriculture, and this study, excluding man, has reference only to forms of animal and plant life.

While the medical profession awaits investigations that shall outline in like manner the areas in which human life can best thrive and develop, yet no doubt obtains that the principles which dominate in the case of lower animals and plant life must to some extent be important factors in determining the congenial habitat of mankind.

In this connection the calculations and experiences of the great life-insurance associations of the United States harmonize with Dr. Merriam's formulated discoveries. He says:

"While it is not for a moment supposed that the subject has been disposed of in all its details, it is confidently believed that the principles controlling the geographic distribution of terrestrial animals and plants have been discovered, and that they may be expressed as follows: In northward distribution terrestrial animals and plants are restricted by the sum of the positive temperatures, *i.e.*, above 43° F., for the entire season of growth and reproduction. In southward distribution they are restricted by the mean temperature of a brief period during the hottest part of the year. It is believed that these two principles cover the fundamental fact of distribution."

He elsewhere points out that humidity modifies to a considerable extent the temperature conditions, but is all-subordinate to them. An important point in the distribution of plant life lies in the fact that each of the three great transcontinental faunal areas—boreal, austral, and tropical—furnish forms of animal and plant life that are in strict harmony throughout; that is to say, the mammals, insects, or flowering plants of each zone are peculiar to their climatic zones and cannot thrive in either of the other zones. The more important life region, the austral, is practically coexistent with the limits of the United States, the tropical region projecting northward only into southern Florida and the valleys of the lower Colorado River and lower Rio Grande, while the boreal region includes only the extreme northwestern Pacific coast and the mountain peaks of this country. Favored as the United States is in being within the austral zone of life, yet it presents climatic conditions that are at times and in places most detrimental to human health.

In an article of this brevity it is possible to treat only the most important factors, those of temperature and humidity respectively. It may be appropriately added that the only systematic and continuous investigations upon this subject are those which have been prosecuted under many disadvantages by Dr. Henry B. Baker, alluded to later, of the Michigan State board of health.

The hot wave of 1896, from August 4th to 14th, is fresh in the minds of all. During this period it was reported that no less than 1,000 deaths were directly or indirectly caused by the heat alone. At Chicago the ordinary death roll was greatly increased by the heat, there being 125 deaths reported on one day. Of direct fatalities, the following are the most important: In New York there were 231 deaths; in Chicago, 91; in Philadelphia, 30; in Baltimore, 25; in Owensboro, Ky., 16; and in Washington, 14. In St. Louis, of 200 prostrations, 40 were immediately fatal.

It is significant that death from sunstroke and exposure to heat is practically unknown over regions where the highest temperatures have not exceeded 100° F., that is, on the immediate Pacific coast, the region of the Great Lakes, over the Blue Ridge, Alleghany, Catskill, Adirondacks, and other mountains in the eastern part of the United States, and also the higher altitudes of the Rocky Mountain region, as well as at

certain places on the New England and New Jersey coasts.

It should be understood that the heated term of August, 1896, was unprecedently fatal to human life, yet it was only a maximum instance of frequently recurring heated terms within the limits of the United States.

Among the most remarkable of these in recent years may be mentioned:

July, 1876, the heat caused an increase in the death rate of many of the largest cities to the then highest reported percentages.

July, 1878, the direct fatalities from heat were very numerous, there being 163 deaths in St. Louis; in Memphis, 45; in Chicago, 30; and in Milwaukee, 12.

The Ohio valley suffered particularly, the temperature rising for fifteen consecutive days above 86° F., but New England was not entirely exempt, as shown by the death of 6 persons in Boston.

July, 1879, while the Ohio and Missouri valleys experienced some fatalities, yet the peculiar feature was 30 deaths at Charleston, S. C., where the temperature rose to 111° F.

In many respects the most deleterious effects upon the public health through climatic conditions occurred during the months of July and August, 1881. While as usual the most numerous fatalities occurred in the Ohio, lower Missouri, and upper Mississippi valleys, yet the Atlantic States suffered excessively. July 14th, the Cincinnati health officer reported 549 deaths in the previous week, of which 363 were caused by heat. In St. Louis 31 died from sunstroke, and in the valleys before mentioned 700 deaths were directly due to the intense heat. In August, while the fatalities were perhaps fewer, the heat conditions were more widespread, extending from the lower Missouri valley eastward to New England. The weekly mortality report of Chicago of August 8th showed a rate of 52 per 1,000, as against the normal rate of 18. These data are striking evidences of the injurious effects of high temperatures upon the public health.

Passing from the injurious effects of high temperature upon human health, a brief allusion may be made to a factor of secondary importance, that of the humidity of the air. Low humidity permits great ranges of temperature, so that very high temperatures of the summer month or of the middle of the day are followed by corresponding low temperatures both in midwinter and in early morning hours, thus aggravating certain forms of ailments or disease incident to humanity. Very low humidities with accompanying temperature changes are most noted over the Rocky Mountains and plateau regions of the United States; and at many points in Arizona the average daily temperature ranges run from 35° to 43° F., and on some occasions the temperature has changed from fifty to sixty-five degrees in a single day.

An important characteristic of the very low absolute humidity in the upper Missouri valley is the extreme absolute dryness of the air, there being in some of the winter months only about 0.3 grains of water to each cubic foot of air, as against 8 or more grains in southern Florida. The effect of such contrasting humidity conditions in the air necessarily inhaled is a question for medical experts on respiratory diseases.

Recurring to Dr. Baker's investigations, he shows that in Michigan the average amount of vapor inhaled from the air daily is but 0.74 Troy ounces in January, as against 4.06 in July. The differences are even greater in Minnesota and in the Dakotas.

Among Dr. Baker's papers on the health and meteorology of Michigan, the following are worthy of the attention of students of climate and health: "The Causation of Influenza and Allied Diseases," "The Causation of Pneumonia," "The Causation of Cold-Weather Diseases," "Relation of Certain Meteorological Conditions to Diseases of the Lungs and Air Passages." These and other similar studies are to be found in the reports of the State board of health of Michigan.

The climatic conditions which during the heated term are so injurious to health are evidently of a complex character and cannot be set forth until such time as a special study of the subject has been made. It has been claimed that deaths arising from heat are in inverse order to the humidity, but this rule does not hold good, as shown by the data herewith. The area over which very excessive death rates obtain during the heated periods extends from New York City westward through the Ohio and lower Missouri Valley. In these latter two regions the air is comparatively dry, and as we go southward t the Gulf, with increasing humidity and higher mean temperature, we find them marked by a diminished death rate, at least so far as is directly traceable to extreme heat. One, therefore, seems to be warranted in the belief that the temperature dangerous to mankind is that in excess of the temperature of the human blood, and that when the air temperature runs for a considerable number of hours above 98° F. the fatal effects of the great heat necessarily follow. It is obvious that casualties from the intense heat are greatly increased by the unsanitary conditions of life in the great cities, so that it is hardly possible to assign a suitable weight to unfavorable temperature conditions and to insanitation. It is evident, however, as has been shown elsewhere, that injury to public health comes rather with the summer heat than with the winter cold.

In *résumé*, it appears that the extreme heat of summer is injurious to human health in the United States, except along the immediate ocean coasts, in northern New England, in the lake regions, and on the elevated lands, say, from five hundred to two thousand feet; the elevation necessarily decreasing with the latitude and increasing with the distance from the sea.

Temperature conditions are ameliorated or aggravated by humidity conditions. Very dry air and great temperature changes, diurnal and annual, obtain to the westward of the Mississippi River and over the mountain peaks of the Atlantic coast. As a rule, the air increases in dryness in its distance from the oceans and great lakes, and especially with increasing latitudes. Very moist air obtains in Florida and along the Gulf coast for some distance inland, particularly in the lower Mississippi Valley and on the immediate coast line of the Pacific.

The Surgery of Pelvic Inflammations.—Dr. William Polk (*American Gynecological and Obstetrical Journal*, September, 1896) summarizes his paper as follows: 1. In acute inflammation, with implication of the cul-de-sac, incise and drain. 2. In unilateral suppuration, tuberculous inflammation excepted, treat the uterus and remove the diseased appendages by the vagina—anterior colpotomy. 3. In double suppuration, vaginal hysterectomy with enucleation and removal of the purulent appendages—the so-called pus sacs. 4. In suppurative disease, whether double or single, if the patient is too weak to stand the radical operation, evacuate the pus and drain, reserving the radical operation for the future. Choose the route (vaginal or abdominal) which the pus seems disposed to select. 5. In broad-ligament abscess—a matter to be determined by a vaginal exploratory section, if necessary—evacuate by approaching the pus through the utero-vesical region, or beneath the peritoneum along the route of the round ligament. 6. In suppurative disease do not do abdominal section, but, if you should, do not leave the uterus or the cervix.

THE COMMON ACCIDENTS OF SUMMER TOURISTS.

By JAMES E. PILCHER, M.D.,

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The number of cases that come to the physician with symptoms exaggerated by the officious efforts of anxious bystanders, or accentuated by the inattention of negligent friends, is large enough to cause every practitioner to wish for the prevalence among the laity of sufficient information to enable them to render to the sick and injured the necessary temporary first aid, without intruding upon the province of the physician. The absence of this kind of knowledge as a matter of fact may properly enough be said to be the cause even of death in not a few cases every year. Not long ago a prominent clergyman of one of our great cities, while emerging from an elevator in a large office building, slipped and fell so as to sustain an extensive laceration of the thigh and a rupture of the popliteal artery, producing a hemorrhage, fatal before a surgeon could be obtained. When one considers that it requires five or more minutes for a man to bleed to death, even in case of section of the larger vessels, the possibilities of cases such as this can readily be perceived. Proper pressure above the laceration would in this instance have saved not only a useful life, but, by rendering possible the continuation of the victim's public services, would have vastly benefited an entire community. Such cases of course are extreme, but the fact that great numbers of them occur every year, is sufficient justification for every one to be upon his guard against their possible occurrence in his own experience.

The medical department of the great army of competitors for the favor of the summer tourist is as yet lamentably insufficient. The railways, notwithstanding the enormous number of casualties incurred upon their lines—averaging nearly forty thousand cases a year—have done but little in the way of preparing for immediate aid in the treatment of either slight or severe accidents; but little if any more has been done by the masters of water transportation, and other lines of travel are absolutely wanting in facilities of this kind, while the remaining still larger number of caterers to the tourist have made no better provision than these.

It is desirable, then, that every traveller should be instructed to a certain extent in the first-aid treatment of accidents and emergencies, in order that he may be able to give to himself the assistance denied him by those who are catering to his amusement. The family physician may with entire propriety assume the position of instructor, since he will in so doing not only contribute to the possible comfort and safety of his clients but will also conduce to a more favorable condition of his patients in case emergency should bring them under his future care. He may give them personal instruction or he may direct the reading of a good first-aid manual. A very successful practitioner of the writer's acquaintance has presented each of the principal families of his *clientèle* with a first-aid book, the use of which he believes has very materially assisted in the successful prosecution of his practice.

In any case it would be well to call the attention of those contemplating travel especially to certain common accidents to which the tourist is particularly subject.[1] In referring to these matters the physician must bear in mind the entire absence of technical knowledge upon the part of the layman, and remember that information which is but the A-B-C of his experience is an unpenetrated mystery to his client. In this paper, then, the subject is viewed from the standpoint of the patient, to which fact must be attributed its very elementary character.

Foreign Bodies.—In camping parties particularly, insects are liable to find their way into the auditory meatus and produce great annoyance and sometimes no little pain. It will do no harm to hold a bright light to the ear in the hope that the intruder may be attracted to emerge, but it is better that every person should know how readily foreign bodies can be floated out of the ear by injections of warm water.

The eye is even more subject to travel accidents of this kind than the ear, and unless the body be embedded in the cornea or conjunctiva, which is comparatively unusual, no emergency is more readily relieved. There is no reason why the laity should not understand the simple manœuvre of exposing the lining of the lower lid by looking up, while gentle pressure is made just below the eyelid. The drawing of the upper lid down over the lower is equally easy and often effective in removing the foreign body; in case of failure, the removal may be attained by drawing across the eye, under the upper lid, a little corner of a very soft linen handkerchief moistened with the patient's saliva. Sufferers from this accident should be informed that a slight conjunctival abrasion, produced by a foreign body which has been removed, will continue the sensation of the presence of the body even after it has disappeared.

Cutaneous Accidents.—The burns of the stage of rubefaction and sometimes of slight vesication, produced by the exposure to the rays of the sun, of persons unaccustomed to outdoor life, are common to summer tourists. The recognition of the fact that this accident is a genuine burn renders its treatment readily understood. The numerous cold creams and other unguents sold in the apothecary shops serve well enough, but nothing can be better for general use in these cases than the carbolated petrolatum everywhere available.

The same may be said of the lichen tropicus or "prickly heat," to which delicate skins are subject in hot weather. The intense itching of this trifling but exceedingly annoying affection is also usually readily brought within the limits of endurance by carbolated applications. The little jar of carbolated petrolatum is a most advantageous constituent of every tourist's summer outfit.

The more severe inflammation produced by contact with the various species of rhus, the "poison ivy," the "poison oak," and the "poison sumach," is often temporarily treated with advantage in the same manner. These injuries, however, pre-eminently come under the category of matters in which the "ounce of prevention" is particularly applicable, and it is well for persons going into the country for an outing to be able to distinguish them from the harmless growths which they resemble. The beautiful woodbine or Virginia creeper is distinguished from the venomous "poison vine" by the fact that the leaf of the harmless growth consists of five leaflets given off from a common stem, while that of the toxiferous plant has but three leaflets upon the main stem. The "poison oak," or rhus toxicodendron, may be detected by the same conformation of leaf. The "poison sumach," or rhus venenata, which produces a cuticular inflammation similar to those already mentioned, may be distinguished from the ordinary harmless sumach by the fact that, instead of bearing close bunches of red berries at the ends of its branches, its fruit consists of slender clusters of small white berries given off from the axils of the leaves.

Wounds.—It is difficult to realize that in this day

[1] In a brief journal article, it is of course impossible to present the subject of first aid fully, and the reader who desires further information is referred to the author's "First Aid in Illness and Injury," published in New York by Charles Scribner's Sons.

and generation any person can be so ignorant as to treat slight wounds with anything but cleanliness and gentle pressure. But the cobweb, tobacco-quid, and filthy-mud heresies all still have enthusiastic partisans, and slight wounds are exceedingly liable to be transformed into poisoned wounds of considerable extent by the employment of such agents. It is well then to impress upon the traveller the fact that in wounds of no severity simple cleanliness and gentle pressure, maintained by a clean compress held by a clean bandage, comprise all the requisite treatment. It is worth while indeed to go farther and explain that filthy agents should be eschewed in any kind of wound. Why fresh cow dung or dust-permeated cobwebs should be considered to possess healing qualities is a question that the wisest cannot answer. But, with the predilection for those dressings which possesses the bucolic mind, it is a most wise precaution to warn contemplating travellers against them and in favor of clean applications; and to explain that anything contaminated with animal secretions is dangerous, from the mucus-laden handkerchief to the sweat-saturated shirt —clean paper being better than soiled linen, the ink of the printed sheet being rather an advantage than otherwise. The removal of a barbed fish hook by thrusting the point out through the skin and then, after breaking off the barb, easily withdrawing it, is so simple a procedure that it seems hardly necessary to mention it, but experience has shown how few of the uninitiated bethink themselves of this very natural manœuvre. It should also be understood that the temporary treatment for severe wounds, after checking hemorrhage and placing the parts in a comfortable position, is identical with that for slight ones.

Bleeding.—The most alarming feature of the more severe wounds is the bleeding, which, in case of an injury to an artery, may be dangerous to life. Every person should understand the differences between arterial, venous, and capillary bleeding. The bright red hue and spurting flow of the wounded artery should be recognized as an indication of danger promptly to be treated. The fact that pressure between the wound and the heart will control such bleeding should be impressed on every mind. The simple construction of a tourniquet from a large handkerchief, a bit of a garment, a suspender, or any similar article which can be bound firmly about a limb, and the method of tightening the bandage thus created by thrusting under it a rod of any kind and twisting it until the pressure exerted checks the bleeding, should be a part of the elementary knowledge of every one. To this should be added the fact that firm pressure directly upon the wound, in other than arterial bleeding, is the proper method of restraining the hemorrhage. The laity should be cautioned, however, to immediately apply pressure with the hands directly upon the wound, even in case of an arterial injury, until the extemporized tourniquet can be put in place. Death has been known to occur from an arterial wound while the amateur surgeon was so much interested in manufacturing his tourniquet that he neglected to control the bleeding in the mean time.

Fractures.—Some points with regard to fractures may be of the greatest value to the summer tourist—the main point being aptly expressed in the Scottish motto, *noli me tangere*. Fractures and dislocations are so frequently aggravated by meddlesome handling that the dictum to do nothing more than place the injured part in the most comfortable position possible for the patient and retain it there, should be most emphatically impressed upon the lay mind. Extemporized methods of immobilizing the parts in the easiest position should be generally understood, including the utilization of canes, umbrellas, sticks, and the like as temporary splints to prevent the accentuation of the pain and the aggravation of the injury by motion at the point of fracture.

Sprains are sometimes fully as painful and disabling as fractures, and like fractures they should not be made the object of unnecessary meddling. No injury is more frequent with the summer tourist than the sprain, particularly of the ankle. The mode of vacation life, with its admixture of athletic sports and unaccustomed exercise, particularly predisposes to this accident. The laity should learn to avoid arnica, turpentine, and other abominations in favor of immediate immersion in hot water for a considerable period, followed by elevation of the extremity and gentle retention of the parts by a bandage, the material for which may well consist of elastic flannel.

Heat Stroke or heat prostration is one of the more frequent results of exposure to unexpected exercise in summer travelling. It is well for tourists to understand the danger of prolonged exposure to the sun in very hot weather. The use of alcoholic stimulants or the drinking of water in excess should be avoided before going out, and the advantage of applications of cold water to the head in these cases should be well understood.

Drowning.—As the water enters largely into the plans of summer excursionists, the list of summer casualties naturally presents a large number of cases of drowning. While the great majority of these cases are beyond recovery before the body is taken from the water, there are still many in which artificial respiration, persistently and effectively applied, may restore the pulmonary and cardiac action. The Sylvester method is the most popular, consisting—the patient lying upon his back—of alternate contraction and expansion of the chest, by alternately pressing the arms upon the chest and raising them strongly over the head, from twelve to fifteen times a minute, all this of course after the water in the air passages has been emptied by gravitation. The best authorities believe that artificial respiration is often too soon discontinued, and advise that it be persisted in for from thirty minutes to an hour. It should be remembered that the body, until the lungs become filled with water, is buoyant and will float, not high up, but still with its upper surface above the water; and the addition of the merest trifle of assistance, such as is afforded by a small board, not to speak of an oar or larger floating body, will enable the head to be kept well out of the waves. If then one can have self-possession in the very disconcerting moment of submersion, he may be able to keep himself afloat until aid can arrive, or possibly until he can reach the shore unaided.

There are many other points in first aid, easily acquired and readily remembered, the application of which may not only contribute greatly to the comfort and ease of the ill and injured, but will also materially assist the practitioner in his future treatment of the case, should the accident require the ultimate action of a physician: but those here mentioned are perhaps of the greatest importance to the summer tourist. The whole subject is an important one, however, and the question of general instruction in connection with it is coming to be recognized as of steadily increasing consequence, while the number of persons qualified to stand in the breach in emergency is constantly growing, all of which is destined to result in a great saving of suffering in future injuries and a vast diminution in the mortality of future accidents.

Bromide of Potassium should be of the best quality and entirely free from impurities, such as iodides and chlorides, when given in large dose and for a long time, in order to insure freedom from eruptive and other disagreeable and even dangerous results.

SOME PHYSICAL EFFECTS OF ARCTIC COLD, DARKNESS, AND LIGHT.

By FREDERICK A. COOK, M.D.,

SURGEON OF THE FIRST PEARY NORTH-GREENLAND EXPEDITION.

GENTLEMEN: At the request of your worthy president and secretary I am here to-night to tell you something of the effects of Arctic cold, darkness, and light upon animal organisms. In this endeavor I find before me a series of problems surrounded by a mysterious halo —a fascinating mystery, as is everything Arctic from which it is difficult to extricate scientific facts. Nearly all previous Arctic expeditions, although nominally scientific in their aims, have proven to be popular ventures of rescue or bold efforts to discover a commercial highway to the Orient, and lastly, the determined strifes for the farthest north. In nearly every one of these expeditions the collections of pure scientific data were minor considerations. Even on the expeditions well prepared for scientific work hopes were shattered by unavoidable accidents. Hence I prefer to narrow the scope of my paper to personal observations, experiences, and deductions.

As we enter the frosty realm of the hyperborean regions we are first impressed by the simple and the primitive forms which all nature arrogates. On closer approach, however, we find it marked by the most stupendous features. The weird fantastic attitudes assumed by land and water and life differ as radically from warmer landscapes as if they belonged to another planet. The scenery is always strangely awful and dreary, and the frequent snow storms even in midsummer serve to enhance this impression. But during clear days there is always a bewildering panorama of bewitching scenes to which one is irresistibly attracted by the glimmer of mystery and the fascination of strange probabilities which surround all unknown lands.

There is such a perverted impression in the popular mind about the actual Arctic conditions that I always find it difficult to impress my listeners with a real knowledge of polar phenomena. The surroundings are of course wild enough to satisfy the most savage longings, but it must not be inferred that the temperature of the air is always below zero, nor that the land is completely buried by perennial snow, nor that the sea is always covered by paleocrystic ice floes or mountainous ice masses. During the long Arctic night such conditions are fairly constant, but for much of the year the genial rays of the sun are felt.

Our headquarters in 1891 were pitched on the northwest coast of Greenland, near the seventy-eighth parallel of latitude, which is about midway between the North Pole and the Arctic Circle. In this latitude the seasons are briefly as follows: A long nightless summer day of nearly four months and an extended dayless winter night of nearly four months. These periods are separated from each other by a season of advancing night during the autumn, when the sun gradually recedes but reappears for a shorter period every succeeding day, until it finally remains below the horizon on October 25th. In the spring there is a similar period, but it is the dawn of the coming day. The sun reappears on February 14th. It first remains only a few minutes, but each succeeding day it rises higher and sweeps more of the southern sky, until about May 1st it remains above the horizon and then the long Arctic day with its silvery glory begins.

The atmospheric temperatures during the winter range from zero Fahrenheit to 60° below; during the summer from zero to 60° above. The intervening periods have a temperature fluctuating from about 20° below to 20° above.

[1] Read before the Brooklyn Medical Society, September 18, 1896.

There are many elements which combine to make Arctic air the purest and in every way the most tonic of any known atmosphere. Those of us who have studied the conditions here know that the bed of atmosphere surrounding temperate and tropical zones is always a perceptible obstacle to vision. It seems at all times more or less opaque, and this is due to the presence in it of large quantities of floating dust and gases. The bustle, haste, and mechanism of civilization increase this atmospheric pollution. The ever-changing brilliant shades of sunrise, sunset, and rainbows are caused by the prismatic effect of this impurity. Rain and snow precipitate it. In the Arctic conditions are different. The insignificant particles of matter from bared cliffs are brought down by the frequent rains and snow. Dust and smoke are very rare, and except for the frequent fogs of summer the atmosphere is remarkably clear.

This is magnificently illustrated as one watches the polar sky as well as the cold earth beneath when it is painted by atmospheric reflections in primal colors of virgin purity. In a similar way this air fills life with primitive joy; for, while it arouses savage ambitions, it infuses men with a wine of action that permits great physical labor with little exhaustion.

The ice formation of the polar glacial bed is an all-important regulator of temperature and a forcible eliminator of air pollution. The great clouds of watery vapors which arise from the southern oceans are carried north by winds. As they pass over the polar basin the change in temperature quickly condenses the mass and it falls crystallized to the surface below. This phenomenon is constant. It snows through all seasons of the year. In the interior of Greenland there is a never-ceasing accumulation. The precipitations of atmospheric moisture for many centuries are there piled in successive sheets. This prodigious mass of snow, in some way with which we are not yet entirely familiar, is transformed into ice. The ice again finds its way slowly into the sea by the glacial streams. As it emerges from this glacial bed in disrupted masses, which we call icebergs, it floats slowly southward, only to be lost in the warm embrace of the heated southern seas from which it arose perhaps centuries ago.

In this complicated series of water transformation we have a beautiful illustration of the grand provisions of nature, a method by which it mitigates the excessive inequality of polar temperature which is caused by the prolonged withdrawal of the sun's heat: for if moisture was absent and only dry land exposed to the sun, it would be scorched by the incessant rays of the summer sun and pinched in the heatless darkness of winter by the most intense and unimaginable cold —a condition which would be fatal to all organisms.

We are in the habit of looking upon this snow and ice of the polar regions as the greatest enemy to life and to animal comfort. A mere thought of the endless seas of ice or the limitless Arctic snows is apt to arouse within us a protest to nature for permitting such an apparently hopeless condition of things. But it is a kindly provision, for neither animal nor vegetable life would be possible without the influence of the glacial phenomena in the constant equalization of extreme temperatures. Without this the prolonged and incessant heat of the summer sun would not be endurable. Certainly life through the winter darkness and cold would be impossible. None of the present animal or vegetable forms could endure such awful extremes. So long, however, as ice remains to thaw or water to freeze, the temperature of the atmosphere cannot vary beyond certain limits. Hence the gloomy snow fields and awe-inspiring ice masses are often a kindly protection to all Arctic organisms. Life under such conditions has to me a peculiar interest, but the

scope of this paper, the time at my command, and your patience, I fear, will not permit me to enter into a lengthy discussion of Arctic life.

The specific effects of cold and darkness and light are difficult of analysis, more so among the members of our party than among the native people and animals. The effect of isolation, of change of food, clothing, and habits of life are so potent that any physical or mental peculiarities must necessarily include these elements.

The withdrawal of heat is so gradual that the animal organisms have an opportunity to protect themselves. During the summer (the only time when the extreme north is accessible) the temperature and some of the meteorological conditions are much like our March and April weather. Incredible myriads of birds in summer plumage, fresh from the temperate zone, now congregate on the off-lying islands and moss-covered rocky cliffs. But with the first warning of the polar night, as the sun drops below the southern sky they quickly emigrate to a more congenial land, leaving apparently lifeless the cold shores which have been animated by their wild shrills of love and joy. Their powers and instincts are such that they have only to seek the lands which are best adapted to their manner of living. Many of the forms of sea life are able to do the same. But men and all other land animals must remain and become adapted to the changing conditions.

The polar bear changes his fur during the summer to protect him from the expected cold next winter, but life is to him an awful struggle during the long night. Nevertheless he early develops an ability to fast for prolonged periods, which is a faculty possessed by all other Arctic land life. The nearly complete covering of the sea by the winter ice deprives him of his accustomed source of food. Hence he must either hibernate or find his way far out over a lifeless sea of ice to the open water, where varying fortunes may put him in possession of an unwary seal. But with all bruin's ingenuity and hard-earned adaptability long periods of famine are always before him.

The superb adaptability of Arctic life to the ever-changing conditions is beautifully illustrated by the reindeer. No other animal is so well prepared to meet the changing vicissitudes which prevail at all times in the far north. It feeds upon the dwarfed grasses, the hardy mosses, and lichens which are abundant along the coastal fringe of land during the summer, but during eight months of the year the vegetation is very largely buried by the ever-present snow. Hence to maintain bodily heat and muscular strength to search for food makes life a fierce struggle against awful odds.

I studied the deer very carefully because I was convinced that here we had a most wonderful example of the peculiar transformation of organic life to surrounding conditions.

Its fur is the most perfect non-conductor of heat that I have ever seen. In summer it is short and dark, in color like the surrounding rocks. In winter it is long and nearly white, like the beds of snow under which it digs for food. It is thus protected even in color from its natural enemies.

When the deer is well fed, every part of the body is uniformly developed, and if prosperity continues there is a plentiful storage of fat for future use. But this fat is not diffused all over the body, as is the case with an overfed man; it is placed over the dorsal and lumbar regions, where it affords least resistance to locomotion. As winter advances and food becomes scarce or more difficult of access, the fat is used first, then the muscular tissue begin to atrophy, and finally every vascular part of the body is partly used. Indeed, when the sun returned, every deer which we killed was reduced about one-half its weight. Even the skin was wasted to a mere film, but the fur which protected the body was more effective than ever.

The physical adaptation of the deer, including as it does the many organic transformations to meet the hard necessities of Arctic inclemency, bespeaks the laws of all northern life. It is imperative for man and beast to roam about and constantly hunt for new sources of food and new places of shelter.

The native people, like the animals, have evolved a system of life and adaptation to their habitat which could not be much improved by civilized aid. They are able to withstand long periods of famine like the deer and bear with no apparent injury except a loss of bodily weight. Their cutaneous circulation is always profuse. The muscular outlines are largely obliterated by an envelopment of fibro-fatty tissue like that of the seal and walrus. The intestinal capacity is greatly increased to afford greater surface for the absorption of nitrogenous and fatty foods.

These are perhaps the most important physical changes. The increased peripheral circulation and the blanket of fat protect them from the harsh and changing temperatures, while the abdominal enlargement affords the increased intestinal surface which we know is necessary to digest an absolute diet of meat.

The light of the Arctic summer is in itself an interesting study. The sun, always low on the sky, sends rays over snow, ice, and water at such angles as to reflect and bend the beams which fairly burn the skin even in low temperatures. It is to this mirrored reflection of polar sunbeams that we must ascribe the intense bronzing of the exposed skin of explorers and natives. This luminous glow is also an efficient tonic to the mind and body; but before the night begins the stimulation is replaced by a progressive depression. The darkness, cold, and isolation then drive the mental faculties on to melancholy.

The resistance of the body to low temperature depends upon several important elements. First there must be a system of healthy elastic arteries, a sound heart, and normal kidneys; second, a liberal allowance of food and non-stimulating warm drinks, preferably tea; third, a total abstinence from all alcoholic drinks, for no man can long retain elastic arteries or a well-balanced vasomotor system who consumes alcohol in even moderate quantities. The first effect of low temperature is to augment the internal production of heat, which goes to supply the increasing loss without.

Then follow a sense of warmth and increased vigor, a ravenous appetite, and an irresistible desire for muscular exercise. If the body is well clothed and a cheery sunlight prevails, a feeling of pleasure and general well being is extended over a period of weeks or months. Darkness and the gloom of stormy days, however, always induce a temporary depression of vital forces.

Our animal temperatures during the summer season were always normal, even though we were exposed to an atmospheric temperature of -50° F., but long continued darkness almost invariably induced a subnormal temperature.

Next to darkness the greatest enemies to polar life are humidity and wind. The disagreeable effects of low temperature depend as much upon these as upon the absence of heat. To judge the temperature by its effects upon our feelings was always deceptive. We frequently went out for a stroll in a temperature of -50° F., when the air was calm and dry, and found ourselves as comfortable as in New York with the thermometer above zero. At other times, with an air charged with moisture and driven by winds, we were unable to travel in a temperature of -30° F. When we felt the effects of extreme cold, one of the first sensations was that of piercing needles in our appendages,

particularly the hands and feet. Then our arteries felt as though vichy was poured through them from siphon bottles. Next ideas followed slowly and our minds became blunt, while the general cutaneous sensation was diminished.

I am not prepared to state what influence, if any, the Arctic conditions have upon the functions of the organs of generation in Caucasians. Among the natives, however, I observed many significant facts. Their genital sense is not particularly affected by low temperatures. Certainly a northern buck will not miss a good opportunity, nor will a female object because there is no shelter or because it is cold and stormy. If it has been mutually agreed, copulation takes place usually with only the canopy of heaven above them and an unmeasured depth of snow beneath. Indeed they delight in telling stories of how they stripped in the face of a driving snow storm.

The genital sense of these people is decidedly periodical. They seek gratification to some extent throughout the year, but during the night the sexes are more or less indifferent to each other. There is a grand annual outburst of sexual rage soon after the return of the sun. It comes with such force and overtakes them with such suddenness that they frequently quiver for days with passions. This culminates during the first summer days with what might be called an epidemic of venery, when wives and husbands are frequently exchanged with becoming grace and good intentions. For the rest of the year life resolves itself into a hard matter-of-fact existence—a continuous series of fierce struggles for food, clothing, and shelter, during which they have little time or ambition to nurse or gratify amorous instincts.

The reproductive organs of the primitive Eskimo mature rather late. The men do not as a rule copulate until after twenty. They rarely marry before twenty-two, but the sexual appetite seems to be acute in the aged long after the reproductive functions cease.

Girls marry at ages ranging from thirteen to sixteen and sexual congress begins at once; but they do not as a rule menstruate until after sixteen. The sexual appetite is probably not developed until after menstruation is established, which occurs between the ages of sixteen and twenty. Occasionally impregnation takes place before menstruation, but that is rare.

The menstrual function as a whole is strikingly peculiar to this far northern tribe—a people which by the way is the most northern on the globe. The first discharge usually begins during the annual period of sexual excitement. It is rather profuse in quantity and highly colored with blood. At the same time there are other hemorrhages from the mucous membranes of the mouth or nose. It continues about five days. Every succeeding monthly flow becomes paler and less profuse, until the advancing night checks the discharges almost entirely. During the very cold and dark periods of the year there is rarely more than an unusual serous moistening of the vagina for a few days every month. This is the usual history of the menstrual functions of most women until they are thirty-five years old; then the discharge becomes ever less bloody and less in quantity until about forty years, when it usually ceases.

Ideas seem to melt and flow like the fresh glacial streams in the mellow sunshine of the Arctic day; but as we were submerged under the darkness and gloom of the long night, the mind was depressed and all animal functions became less active. Our temperatures were usually subnormal, 97°–98° F.; pulse from 60 to 70; respiration, 14 to 20. All the secretions were scant and there was usually a gastro-intestinal stasis. Vague muscular pains, vertigo, cerebral congestion, and anæmia indicated the sluggish circulation or the lack of vasomotor stimulation. At about Christmas, which is the polar midnight, matters reached a climax. Although laboring under a superficial and false exuberance which suppressed real outbursts of anger, we soon found ourselves lethargic and more or less overcome by spells of melancholy. As the light returned we found our skins jaundiced and pale. We were incapable of prolonged exercise without great prostration. Although we had not lost weight during the night, we did lose vigor and ambition and interest in our surroundings. Our condition was a mixture of the vague elements of chlorosis and the profound debility of anæmia. With the return of the sun came a rapid transformation. The jaundice, the pallor, and muscular debility quickly disappeared. Periods of profound vasomotor disturbance and of mental and nervous excitement followed each other like eddies in a spring freshet. Before the sun had reached its summer altitude our bodies were quivering with the renewed buddings of animal passions. Our skins, which were nearly bloodless, were now flushed. The mucous membranes were now congested and all the secretions were excessive. The eyes which were dry now sparkled; the saliva at times fairly trickled from our lips. We bled easily from nasal membranes upon active excitement. Indeed, the return of the sun started life into a renewed rivalry of bursting springs.

I shall always remember our camps while travelling over the trackless wastes of snow during this period, particularly the stormy scenes. We undressed in the open air, crept into our sleeping-bags, and with a rare delight stretched out upon the virgin fields of snow for a long sleep. There was nothing but the high blue sky above us, and often there were many hundred feet of snow and ice beneath us. At first after reclining we were nearly stiff from cold, but this was soon followed by a glowing reaction, when we were conscious of bounding streams of heated blood sent throbbing through tense arteries. We felt doubly the wild pleasures of primitive life, as we heard the roaring storms and felt the snow-charged winds blasting against our protected bodies.

Such storms always brought us to sharp consciousness of the superb animal comforts, as comforts go in the Arctic. All of this served to enhance our admiration for the wonderful mechanisms of the human body. Nothing could bring one to a keener realization of this than our experience. To feel the heart force heat and life to the surface while resting over and sometimes under a blanket of protecting snow, is to feel the electric glow which for the want of a better term we call life.

In conclusion, I wish to emphasize the fact that it is not the low temperature of the Arctic from which explorers suffer. It is the long and intense darkness and the inability to carry sufficient food and accustomed aids to personal comfort. But this is easily counterbalanced by the acute passions of life as they are brought out by the prolonged noonday splendor and rested in the lasting darkness. The white lights and dark shades entering into the soul make life a long dream—the spirit now effervescing, then smothered again, almost frozen, only to be thawed out for an ascent into an atmosphere of heavenly purity.

In my judgment, polar grandness lifts the mind's horizon, and as a whole the experience affords a wild, weird, and poetic existence long to be remembered. It fires the soul with new flames and instils the body with renewed action. The dayless nights and the nightless days and fierce storms are bewildering, but these maddening contrasts are productive of clear and forcible intellects. I am confident that many forms of nervous, gastric, and pulmonary diseases would be greatly benefited by some of these conditions, particularly the congenial summers. Those who have early exhausted the sparks of youthful enthusiasm, who seek

the elusive elixir of life, who long for the fugitive balm of perpetual youth, would find in the raw Arctic wilderness a new interest in what has become a weary life. There the strong relentless conditions incite the mind, but throw it back upon itself. They inspire the imagination without satisfying its curiosity. There the atmosphere is charged during the white splendor of summer with noble sentiments. It is also illuminated with an endless mirage of fetching perspectives. These conditions, excluding the winter darkness, are indeed a true nursery to the exhausted body and the worn brain.

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TUBERCULOSIS AND CLIMATE.

By E. T. CAMPBELL, M.D.,

tabor, iowa.

Nothing within the whole range of medicine has given the physician more discouragement and heartache than tuberculosis; and nothing does he hail with more joy than a treatment which gives promise of better things—that gives promise that that dreaded disease may be stayed or modified if not cured. Not a drug listed in our pharmacopœia but has had its brief day as a champion for first place in the cure of this disease, only to be retired after a short time to the place it formerly occupied; some to appear for a second trial, with like results. All the solids, all the liquids, and all the gases have in turn been "weighed in the balances and found wanting." Many, it is true, have won permanent places as aids to alleviate certain conditions or symptoms, but one and all have been denied first place.

The discoveries of Koch mark the beginning of a new era in the battle with this prince of destroyers. Founded on this established truth, investigation and experimentation have established a more rational line of treatment. In place of the empirical administration of medicines, we now have a definite object in view, viz., the destruction of the bacilli and the repair of the damage done.

Until recently the disease-resisting power of the system has not been sufficiently considered, the germicidal properties of the white blood corpuscles have been overlooked; but now the plan of treatment is to assist nature in her battle with the countless millions of enemies which are besieging the portals of our being, and the question now is: "In what way can we most quickly and safely help nature to shake off her enemy and repair the breech?"

Our most efficient means at present are climate, hygiene, and diet. We find that in low, moist localities, with great extremes and sudden changes of temperature, great humidity, and dearth of bright sunshiny days, this disease works deadly havoc; whereas in localities of higher altitude, more sunshine, lower humidity, less variation and fewer degrees of temperature, and better drainage, the disease is arrested and often cured.

Too great an altitude is not to be advised, as it is dangerous save in incipient cases in which there is no associated heart trouble, an altitude of from fifteen hundred to two thousand feet above sea level being better in a vast majority of cases than much higher altitudes.

A uniform temperature also is to be sought for, not too cold in winter or too hot in summer, and freedom from sudden changes and a large proportion of bright sunny days.

Above all, climate must not be taken in given doses, like medicine, but continuously, *ad infinitum*. Those affected should seek a desirable climate to live in, not to get cured in, for innumerable subjects apparently cured have returned to their former homes only to have the disease return.

One essential factor in the climatic cure of tuberculosis has been touched on only slightly, and that is the presence of ozone in the atmosphere of those elevated regions. Ozone we know to be a powerful disinfectant and respiratory stimulant. In a recent paper read before the Iowa State Medical Society, Dr. Braunworth spoke of the purifying effect of the electric-arc light, attributing this effect to the light itself, whereas the purification was due undoubtedly to the ozone produced by the electric current.

Colorado and parts of California are perhaps most noted as resorts for tuberculous patients, but other parts of our country are claiming attention as possessing the necessary qualities to recommend them. The vicinity of Asheville, N. C., is becoming very well known, and not without cause. And again, on the southern slope of the Ozark Mountains in southern Missouri we find all the advantages of elevation, large number of sunny days, freedom from extremes of temperature, the thermometer seldom registering more than 90° F. in summer, or below 15° F. in winter, with always cool nights in summer, freedom from sudden changes such as occur in higher altitudes, large proportion of ozone, plenty of pure water, and good drainage. Many have come to this region while in the first and second stages of consumption, and found complete restoration.

One point in favor of this country, perhaps above all others, is that, it being a comparatively new country, lands are cheap, thus giving the man of limited means a chance to come and buy a home. It being in the lumber region also, lumber is cheap.

It is a most important factor in the treatment of any disease, and especially tuberculosis, that the patient's mind be as free as possible from all worry; and patients with limited means cannot gain the advantages of curative climates when the expense thereof is beyond their means, or so great as to be a source of worry and anxiety to them.

In a meeting of the New York State Medical Society, one member suggested that in the place of consumptive hospitals we have consumptive farms; and this will surely prove the keynote to success in the treatment of this disease. To live continuously in the pure ozone-permeated air, with good wholesome food, water, and plenty of exercise, cannot but work wonders.

And the exercise should be of a constant, not periodical character. If possible, the patient should be continuously in the fresh air, attending to work about a farm if possible; if not, then wandering at will over the hills, botanizing or geologizing, or bent upon some object. Above all, let the mind be constantly diverted from himself toward some interesting occupation.

Hygiene, in conjunction with a favorable climate, is essential. Frequent bathing and well-ventilated rooms both day and night, good wholesome food, pure water, and good drainage, combined with a suitable climate, will prove our most efficient means of combating this most dreaded disease.

Intravesicular Injection of Sterilized Air has been carried out in three cases of tuberculous cystitis by Dr. Raymond (*Jour. des Prat.*, February 13th) with some relief of symptoms, which he thinks warrants renewed trials. The urine is completely drawn off and through a soft catheter from one hundred to three hundred cubic centimetres of air, passed through sterile cotton in the end of a hydrocele syringe, are forced in and allowed to escape, at first through the catheter and afterward by forcing the sphincter. It is especially adapted to enfeebled subjects who would not bear operative procedures.

OUTLINES OF RURAL HYGIENE.

By HARVEY B. BASHORE, M.D.,
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MEDICAL men in general, unless they have made a special study of the subject, have little idea how defective are the sanitary arrangements in rural districts. The text-books on hygiene tell us all about water supply and waste disposal for large cities; medical teachers, apparently forgetting that their pupils will practise for the most part in outlying districts, tell them all about municipal hygiene, but neglect the sanitary conditions of isolated houses and of ill-constructed villages. So it has come about that the rural districts, in which the greater part of our population lives, are singularly devoid of sanitary arrangements save in a few individual instances. True, the boards of health have inspectors for such places, but unsalaried positions do not lead to much advancement or development. England and continental Europe are much ahead of us in this respect. One can hardly pick up a copy of the great English journals which does not contain something about rural sanitation, but then the English are pre-eminently a "country people." Some localities, of course, are worse than others, but in general there is much defect. Cemented cellars and damp-proof walls, ground air, and ground moisture are factors unknown to the country builders. The old-fashioned privy still reigns supreme for the disposal of excreta. Not one family in a thousand uses an earth closet; indeed, most country people seem to have no knowledge or idea of any method of disposal save the privy.

In the case of water supply there is great deficiency, but the people are beginning to make some progress along this line, for many towns are procuring a public supply from neighboring springs or streams, but in the lack of watchful care, which should be exercised over such small gathering-grounds, I fear that the story of Plymouth will be repeated many times. A public supply is undoubtedly desirable, but great care must be used in procuring it.

For certain isolated places wells, it seems, must continue to be used, but advancing progress demands that they be better than they are at present. When wells are used, the ground water must not be fouled by leaking privies; consequently the question of water supply from wells resolves itself into the proper construction of the well and the elimination of leaking privies and sewers. The old well, when not already infected, might be treated as Dr. Koch has suggested, and made into a tube well containing a surrounding sand filter; or one might dig a new well and make it according to Dr. Poore's directions. In certain other places, especially along the Atlantic coastal plain, a public supply from artesian wells furnishes all that can be desired.

There is a source of water supply for rural districts which is generally overlooked, *i.e.*, the storage of rain water in cisterns; with a properly constructed cistern containing a partition and a filtering layer of sand, gravel, and polarite, we can procure as wholesome and pure a water as is available anywhere. The problem of the old well is best solved, to my thinking, by the cistern, and if we would turn to this source of supply the death rate from typhoid would be greatly lowered. Another point is the examination of wells and well water. Each physician should know especially the chlorine normal of his locality—the amount of chlorine present in the unpolluted streams and springs. Then he can readily discriminate whether this or that well might be or might not be dangerous.

Waste disposal is a second chapter in rural hygiene. In the disposal of excreta the country population has made no advancement since the days of our prehistoric ancestors, who likely left their excrement on the surface of the ground. This would be almost, if not altogether, as good a method as the filth-containing privies. The proper way and the only proper way for people who live in places cut off from water service to dispose of excrement is by some form of earth closet. This may seem very primitive, but the fact is that the earth closet is a very scientific piece of furniture. It depends for its action on facts which we have only lately learned from the biological laboratory, for adding the earth is simply adding certain nameless nitrifying bacteria which we are yet unable to isolate from their natural habitat. Schloessing, Müntz, Warrington, and Winograwdski have done much on this line, but there is yet much to be done. Personally I think that in the house the ash closet is a little more desirable, because it is more absorbent and lighter; of course it is sterile as far as nitrification goes, but if the mixture is buried or scattered over the surface of cultivated land nitrification is only a little delayed. Infected fæces should not be received into an earth closet, but a special receptacle should be used, and the contents disinfected and then buried two or three feet beneath the surface. If the contents are buried without disinfection, we run the danger of the pathogenic germs being washed away by a sudden rain, and infecting a large neighborhood, as happened lately at Bayreuth.

The matter of slop-water disposal is easily solved by the method of subsoil or surface irrigation. Surface irrigation is, I think, less likely to cause trouble, for in this sunlight and oxygen are always at work.

The construction of a surface drain is very easy. An old perforated tin roof gutter, twenty or thirty feet long, supported a foot or so above a garden bed, will dispose of all the slops of an ordinary family of four or five. The ground underneath the drain needs a little raking now and then. The gutter may be directly connected with the kitchen sink and bathroom, or a tin-lined slop bowl placed at one end of the drain may be used to receive the water. It is a good plan to have two buckets set aside for kitchen slops, one for liquid and one for solid refuse. If a perforated basin is placed on the one, the liquid can be readily separated from the solid. This method of waste-water disposal, if used with care, I know to be practically very efficient.

Professor Poore has recommended another kind of surface drain, constructed of perforated bricks arranged over a suitably prepared trench. This is highly praised by some English physicians, and if properly constructed would likely give entire satisfaction. In certain places subsoil irrigation might be the only method available, and if well made with agricultural drain tiles would probably answer all the requirements of a good drain. Solid kitchen waste can either be buried, or, if soil is available, be placed on the corner of the garden bed, covered with earth from time to time, and allowed to nitrify. Another way of disposal is by the fire of the kitchen range or a specially constructed furnace.

For the reception of broken crockery, tin cans, etc., nothing serves so well as a flour sack. When necessary to empty it it may be tied, carried away, and the contents used for filling. Sewage disposal sometimes forms an item in rural hygiene. It has been customary for isolated houses to dispose of their sewage into a cesspool. Instead of a cesspool a shallow tank should be constructed, and the contents disposed by irrigation over a neighboring field. This is the scientific way to dispose of sewage.

The proper construction of dwellings may be considered a third chapter in rural hygiene, for nowhere else are the houses so badly constructed. The foundations and the cellars are almost always damp, and the large amount of phthisis, muscular rheumatism, and catarrhal inflammations in rural districts other-

wise healthy is ample proof of the factor of dampness. Heating and ventilation are both very crude.

School hygiene, which deserves a separate chapter, is beginning to make a little progress, yet the floor and air spaces are usually much too low and the lighting is always defective. Heating and ventilation are especially bad. I doubt if there is one country school in Pennsylvania where these points are anything like the sanitary requirements. Even when hot-air furnaces are used, the misplaced outlets carry off the warm air before it has circulated around the room. A common stove, such as is used in all country schools, can be made into a very effective heating apparatus by properly constructing it into a "ventilating stove" and by having the foul-air outlets suitably placed. The old idea that the warm-air inlet should be at the lowest part of the room and the foul-air outlet at the highest point are well-known fallacies.

HOT SPRINGS, S. DAK., AS A HEALTH RESORT.

By C. W. HARGENS, M.D.,

HOT SPRINGS, S. DAK.

Climate, mineral water, and the element of change, as adjuncts to other treatment, will often bring relief to invalids afflicted with certain chronic diseases when everything else fails. As a result the general practitioner is frequently consulted concerning the merits of the different health resorts in this country, and it becomes necessary for him to have a knowledge of medical climatology.

Within the last four years Hot Springs, S. Dak., has attracted considerable attention, and the object of this paper is to set forth the climatic and sanitary conditions of this place. The climate of any locality depends largely on the latitude, altitude, local topography, precipitation, temperature, winds, nature of the soil, vegetation, watersheds, and the contiguous territory.

The ideal health resort possesses a moderate altitude, minimum rainfall, equable temperature, porous soil, swiftly moving streams, little wind, and air currents from regions uncontaminated by contact with ponds, small lakes, or a soil saturated with or encumbered by masses of decaying vegetation. Such a place we have in Hot Springs, S. Dak. Our climate at Hot Springs differs as widely from the climate generally accepted, and in fact generally true, of South Dakota, or even of the Black Hills as a whole, as the climate in the Valley of Mexico differs from that on the summit of the adjacent mountains. The local topography separates us absolutely from the surrounding country, and the reports of weather-bureau stations are not a proper index to our climate.

Hot Springs is situated on the southern border of the Black Hills, in the angle made by the plains to the south and the hills to the north, with an elevation of thirty-four hundred feet. It is the lowest point in the Black Hills; within a few miles it is protected by mountains attaining an elevation of over five thousand feet. On the north and west, twenty-five miles out, it is protected by mountains attaining an elevation of six thousand and eight thousand feet. Thus situated in a narrow canyon from two hundred feet to a mile wide, with a drainage incline of one hundred feet to the mile, sheltered from winds, free from dust, it basks in perpetual sunshine. The atmospheric currents pass over it, and heat radiation in this angle is so great that a warm current is constantly rising, and precipitation is rare, because mist and clouds are dispersed when cold currents come in contact with warm ones. During my service of four years as voluntary United States weather-bureau observer, I have found the precipitation as low as eleven and not more than seventeen inches in any one year. This alone would give us an unusually dry climate, but combined with the excellent drainage and the exceedingly porous soil it makes this element in our climate an unusually important one, as the precipitation is less than one-half of that of Iowa, Illinois, and Michigan and neighboring States, one-third of that of the Southern States, and one-fifth of that of our Arkansas competitor. The small amount of annual precipitation, the mountain protection, the medium elevation, assure us of few cloudy days, sunshine being greatly in excess. Combining the effects of minimum precipitation, mountain protection, dry air, porous soil, we have a resulting warm atmosphere and soil, a resulting temperature much above that of contiguous territory, a temperature not subject to sudden and wide ranges, a climate always regulated by cloudless skies, thus preventing the accumulation of heat with resulting sultry conditions; a dry, warm, sunshiny day, and cool, clear mountain night; air always calling for a pair of blankets at night, while the shade in summer always affords a cool and inviting spot. As an example of the dryness and purity of the atmosphere I will cite the fact that beef killed and cut into pieces convenient for handling may be hung in the open air and will cure without the aid of any of the metallic salts usually employed for that purpose. Now these climatic conditions are not accidental; they are the result of the local topography and the influences already enumerated. We have but little snow fall, and that, influenced by the warm soil, sunshine, and chinook winds, rapidly disappears. The mountains cut off all supply of moisture from the Pacific coast, while the great distance from the Gulf, the Atlantic, and the lakes exhausts the moisture from these sources before it reaches us. To sum up, we have here an ideal climate, climatic conditions that will at once appeal to the practitioner as being of inestimable value in the treatment of many chronic affections—prominent among them, tuberculous, pulmonary, and bronchial affections, subacute and chronic rheumatism.

Combined with favorable climatic conditions, this resort possesses the advantages of about seventy-five mineral springs, varying in temperature from 86° to 96° F. Among the mineral constituents in these waters we find the sulphates of sodium, potassium, magnesium, and calcium; the chloride of calcium and magnesium; the carbonates and phosphates; nitrate of magnesium; chloride and chlorate of sodium; bicarbonate of magnesium and iron. Coupling the mineral water and the various uses thereof with the climate, we have a number of valuable factors; however, this does not suffice. It is a well-recognized fact that a patient's mental attitude has a marked influence on his ultimate recovery, and this is especially true in many chronic ailments. When the weak condition of the patient prevents much outdoor exercise, we are certain to have greatly depressed mental states that need relief. Very often the simple element of change will relieve the mental depression, but my experience has been that to obtain a prolonged impression it is necessary to have at hand a large variety of attractions and pursuits that will gain and hold the attention of the invalid; this variety can be found in and within a short distance of Hot Springs. The scenery of the Black Hills is unrivalled by that of any other section in America, and this is truly the Switzerland of America. We possess all the advantages of a mountain country; great pine forests, a beautiful lake, camping, hunting, and fishing, mountain climbing, horseback and donkey riding, wind and crystal caves, marvellous freaks of nature, the great Homestake Gold Mining Company with its immense mills and smelters, Battle Mountain, Harney Peak, the Needles, the Bad Lands, and other

neighboring attractions of natural formation. Our magnificent Plunge Bath, with its crystal pool fifty by two hundred and fifty feet, and its inflow of one hundred thousand gallons per hour, with a constant temperature of 96° F., is alone ample attraction for a journey to this place, as the waters are laden with elements which cure, while the plunge entertains the patient: there are also many other magnificent bath-houses, beautiful parks, nooks, drives, etc.

To the above advantages we can add other civilized advantages of the city of Hot Springs, among them four and five story hotels, the equal of which cannot be found west of Chicago, from which it is only two nights and a day's ride. I recently took Sunday night's 10:30 train from Chicago on the "Northwestern Line" and had breakfast at home here Tuesday morning at 7:30. Travelling accommodations are now so universally good and comfortable that such a trip is a luxury rather than a hardship, and no one need be deterred from getting the benefit of this magnificent climate and other superior advantages on account of the journey.

SOME THOUGHTS UPON ALCOHOLISM.

By G. H. McMICHAEL, M.D.,

BUFFALO, N. Y.

Careful observation during the past ten years has forced me to the conclusion that every human being has a congenital predisposition toward some form of disease. Favorable conditions in many cases prevent the development of the disorder, but the special susceptibility—the diathesis—is always present. There are some brains which react toward alcohol to a marked degree. In their case the nervous system has a special affinity for intoxicating drinks, and if they are indulged in the alcoholic habit is quickly acquired. The class of brain to which I refer is one of bad quality. Want of balance and an unstable nervous system are signs of degeneration, and if the man who drinks four small glasses of whiskey, or their equivalent, every day has any grandchildren, there is likely to be an idiot or an epileptic among the number. Further, it is well recognized that the Koch bacillus has a special predilection not only for drunkards but for their descendants. What is a drunkard? it may be asked. The answer is that any person who habitually consumes one and one-half ounces of absolute ethyl-alcohol per day (Anstie's standard), in any form, is a drunkard; whether alcoholic narcosis takes place or not is quite immaterial.

Persons who possess brains specially susceptible to alcohol have usually a strong desire for cerebral stimulation; they appear to be constantly looking for some pleasurable outlet for their energy, and they generally have an aversion to ordinary routine work. While some of them never see a woman without lascivious thoughts coming into their minds, others are remarkable for the interest they take, always for a short time, in some important question, which escapes their memory before a month has passed. Obviously these characteristics are of comparatively little moment unless they are very prominent, and unless other qualities which act as a check upon the alcoholic predisposition are deficient.

To the normal child alcoholic drinks are distasteful, as they are to many men who have never been in the habit of taking them. But there are children who display a liking for alcohol and for other drugs at a very early age. Dr. Clouston, in an article upon "Diseased Cravings," has given some examples of this phenomenon which have come under his notice. One other point occurs to me, viz., some children and some adults—especially women possessing a particularly delicate nervous system—are seriously affected by extremely small doses of alcohol and other drugs. If this peculiarity is very pronounced, it may be taken as evidence of the alcoholic diathesis. As this assertion may be disputed, I wish to remind my readers that the alcoholic diathesis is merely a special susceptibility toward alcoholism. To become a drunkard one must habitually consume some intoxicating drink.

There are certain men whose nervous condition seems to compel them to "explode" without any sufficient provocation. It is manifested almost every day in the matter of drinking. I can remember quite a number of men who have indulged in prolonged sprees without any appreciable reason for so doing, having started out without any intention of getting drunk. These bouts of drunkenness are often periodic, and they are valuable as demonstrating the connection between the alcoholic and the insane diatheses. The tendency toward alcoholic excess, whether congenital or acquired, is present in many persons whose self-control is in a marked degree defective. This condition is of course due partly to some impairment of the functions of the cerebrum and partly to the absence of suitable education.

The public believes that every new function acquired by any animal produces some alteration in the reproductive elements whereby the acquisition is transmitted to the next generation. This belief, under the name of neo-Lamarckism, is supported by Professor Eimer (of Tübingen), by Mr. Spencer and Mr. Mivart. When the name of Professor Cope (of the University of Pennsylvania) has been added, all of the eminent neo-Lamarckians have been mentioned. Having done justice to my opponents, I refer my readers to the doctrine known as neo-Darwinism, which is as follows, viz.: the reproductive element of life, what Weismann calls the germ-plasm, when suitably nourished is almost independent of environment, and is virtually uninfluenced by changes produced during the lifetime of the individual. Acquired characteristics, pathological or otherwise, are very seldom transmitted—if they are at all. But the nervous organization favorable to the acquisition of a variety of disorders is passed on to the next generation, and the surroundings are responsible for the particular disease. What I desire to emphasize is that drunkenness in the parent does not, through the direct influence of heredity, make any difference in the character of the offspring. A tendency toward alcoholism in a child, however, may be the result of the blending of unsuitable paternal and maternal characteristics, though neither parent may have been addicted to drink. Indeed, the children of neurotic parents are very liable to become drunkards, just as they are liable to become tuberculous or insane. In short, if a child has inherited an unstable nervous system with its various susceptibilities from an alcoholic parent, it will probably become a drunkard, unless an environment is provided which specially guards against that form of disease. The habits of the parents are the most important factor in moulding the child's character, chiefly because they furnish the example which it consciously or unconsciously follows. Hence hereditary susceptibility is exaggerated by vicious surroundings into actual disease.

Drunkenness is not the only disorder which is apt to transmit the alcoholic dyscrasia. Any form of vicious life—and persons who lead vicious lives are really morally insane—is generally due to a neuropsychopathic constitution, which is transmitted to the next generation with great certainty. Of course the defect in the nervous system may take many forms, but alcoholism is as common a form as any other. To expect

the children of habitual criminals and of prostitutes to be sober men and women would be absurd, since these persons systematically lower their vitality by continually subjecting it to severe and prolonged unnatural strains. Further, these persons usually furnish an additional factor in the development of drunkenness in their children by surrounding them with as vicious an environment as can be imagined. I have heard of professional thieves who did not drink to excess, and I have been told of prostitutes who were total abstainers; but I have no hesitation in writing that the members of these two classes, representing, as they unquestionably do, the degenerated portion of the community, are in the majority of cases disposed to inebriety. This article is not a temperance lecture, nor is it an attempt to explain away the vice of the drunkard. It is an effort to study a nervous disorder; and let it be remembered that any man who habitually consumes spirituous liquors without food is dangerously near that disorder—call it narcomania, inebriety, alcoholism, or any other name you like.

The answer to the question: "Why do men and women drink alcohol?" cannot be anything more than approximate, because it involves so much that is unknown. At present we know only some of the most probable reasons. The desire for food is physiological and normal; the desire for alcoholic drinks is pathological and abnormal. Our knowledge of both cravings and of the processes connected with their satisfaction is still very vague. Ethyl-alcohol is an anæsthetic to the nerve centres, and it seems temporarily to quiet the warning voices of certain strains; it conceals the distress signals of fatigue and acts as a seductive narcotic, bringing for a short time what seems to be an ideal condition of rest.

Persons who are predisposed to the drinking habit usually possess a lax moral character which causes them to blame others for their bad habits rather than to place the entire blame upon themselves. The excuses given for drinking are, in the majority of cases, nothing more than subterfuges; but if one fact connected with this question is any more certain than another, it is that the lazy habit quite prevalent among physicians, of prescribing alcoholic drinks for the "tired feeling" so common in neurotics, has frequently been the first scene in the well-known every-day tragedy which, unless proper treatment be resorted to in time, ends with insanity, or paralysis and death. Dr. Norman Kerr, in the third edition of his book on "Inebriety," relates some cases which undoubtedly prove what I have written.

If alcoholism had no pathology, the treatment of it might be left to the minister of religion; but as it is a nervous disease, very closely allied to insanity and epilepsy, some general idea of treatment is necessary.

The real problem is how to reconstruct the character of persons whose indulgence in the pathological pleasure of drinking has deprived them of those qualities which constitute a useful life. All surplus energy has left these patients, and their power of ordinary attention to any given subject is small. While it is true that alcoholic indulgence impairs any man's best qualities, yet very many inebriates, under proper care, are capable of getting back their will power and of developing a new line of life.

It is on record that when cerebral disease has destroyed the basis of certain functions, new areas of nervous mechanism have taken up the functions of the lost parts, and have eventually acquired some proficiency in the performance of their new duties. Some process similar to this is what must be searched for in the case of the drunkard, and it is necessary to consider how new ideas can be suggested to his mind and how the requisite energy can be best directed, if it can be brought into existence. Of course, if the latter object cannot be accomplished, the case is most unpromising.

The opinion of alienists is that, as a rule, the way to try to cure a sufferer from delusions is neither to contradict his assertions, nor to laugh at him, but simply to ignore what he says. The same method answers with the drunkard, for the experience of the nursery is almost always confirmed when any other plan is attempted. In short, to forbid indulgence is much the same thing as suggesting it. The patient must abstain from alcoholic drinks, and a total abstinence pledge may be of some use if it binds the maker for a short time only; but there is nothing to be gained by allowing an inebriate under treatment to attend meetings at which drinking is abused and denounced. Indeed, the consequences of such attendance are likely to be detrimental. The application of external control is obviously requisite. However successful any treatment may be in arousing the patient's interest, stimulating his energy, and giving him back his will power, the result will be lost if the opportunities to drink are at hand, as they usually are. First, then, the patient should live in the physician's house. Secondly, the physician must be his patient's friend and confidant as well as the keeper of his conscience. A drunkard, being a creature of habit, has no power of origination, neither has he any judgment worthy of the name. His memory is defective, and his power of observation is quite limited. The doctor must take the initiative for him; must attempt to arouse his dormant will power, and must in everything either take him by the hand or drive him. Of course he is a liar; all drunkards are; and while he must be distrusted, it is well not to let him know that little of what he says is believed. Above all, he must not know that he is not doing the thinking and acting himself. When anything has to be decided upon, the suggestion is the most satisfactory process, for then the patient feels that the choice was his. As the treatment continues he must be taught to believe that he is growing strong and never to imagine that his personality is being lost.

The cure of drunkenness demands great attention to the requirements of each particular case, as the moral cause of each breakdown often gives some indication of the nature of the remedy that is required. One more suggestion can be made. In human life, whenever a new adaptation to environments is being evolved, the organs which fulfil the new function command for a time the resources of the organism, and may even hamper more essential functions. Whatever introduces any man—even the normal man—to a new point of contact, absorbs for a time a great deal of his attention. This fact must be seized upon by physicians who treat alcoholism, for it is necessary to start the drinker upon a new line of life, and to make it permanent if possible. The patient's enthusiasm must be aroused; and yet fanaticism of any kind must be guarded against.

Drugs alone are of little value without moral training. It is well to administer a cathartic as soon as the patient commences the treatment, for drinkers' stomachs are generally disordered. Other medicine may or may not be necessary. The prescriptions given by Dr. Norman Kerr, upon pages 269–275 of the third edition of his excellent work upon "Inebriety," are all that can be suggested. A nourishing diet and plenty of fresh fruit are an essential part of any serious attempt to cure alcoholism.

75 West Tupper Street

A New Styptic.—Antipyrin and tannin rubbed together produce a sticky compound very useful as a styptic. It may be applied with a sponge.

Progress of Medical Science.

Rupture of Healthy Œsophagus from Vomiting.—At a recent meeting of the Pathological Society of London, West and Andrews (*Lancet*, April 10, 1897, p. 1,027) exhibited the œsophagus from a man, fifty-five years old, who came under observation on account of acute pain referred to the left side of the chest, together with persistent vomiting. After death a rent three inches long was found in the posterior wall of the œsophagus near the cardiac extremity. There was dark fluid in the posterior mediastinum as high as the root of the lung and in the retroperitoneal tissue below the diaphragm as low as the pancreas. There were also collections of brown fluid between the base of each lung and the diaphragm. There was no sign of previous disease of the œsophagus, and the rupture appeared to have been caused directly by the vomiting.

Osteotomy of the Femur in the Treatment of Tuberculous Disease of the Hip in its Early Stages.—Tobin (*British Medical Journal*, April 24, 1897, p. 1,034) contends that no treatment better than rest, combined with constitutional remedies, is known for tuberculous disease of the hip. In a large proportion of cases this disease, especially in those in which flexion has occurred, goes on to suppuration, and one of the chief causes of its doing so is the difficulty of giving the joint rest. Much of this difficulty lies in the fact that the position of greatest ease for the tuberculous hip-joint is one in which it is very awkward for the patient to carry the limb, very difficult for the surgeon to fix it, and therefore one in which the joint is constantly exposed to disturbance. It is possible, and in many cases advisable, to remove this difficulty by such an osteotomy of the femur as will allow the limb to be put straight, while the upper of the fragments retains "the natural position of rest." The operation also does good in some cases by relieving tension in the bone. An osteotomy of the femur, when done in this respect, is not as formidable an undertaking as it is under ordinary circumstances, for it is not the division of the bone that is formidable in this operation, but the constrained position in splints and the long period of rest required for union. As these latter incidents are a great gain for the tuberculous joint, they must be put to the credit of the operation, thus leaving very little to be entered upon the debit side.

Strangulated Hernia in an Infant Four Months Old.—Dowd (*Archives of Pediatrics*, May, 1897, p. 321) has reported the case of an infant, four months old, whom he found suffering from strangulated right oblique inguinal hernia. The child had been carefully examined for hernia after birth, and none had been found or become evident before the day of operation. The strangulation had existed for six hours and an effort to reduce it by taxis had already been carefully made under ether. The hernia was as large as a goose egg and was very tense. Immediate operation was undertaken, the method of Bassini being followed. The outcome was successful and the little patient recovered without complication. Strangulated hernia in infants is rare, and from a study of the fourteen cases collected from the literature, in conjunction with his own, Dowd concludes that infants less than a year of age endure operations for strangulated hernia remarkably well. The mortality, according to the accessible statistics, differs little from that encountered in adults. From the histories of reported cases it would appear as if delay, while the strangulation existed, has been the chief source of danger. When strangulation has occurred, the following procedures are recommended: (*a*) Elevation of the legs, with the infant in a warm bath, accompanied by very gentle pressure upon the hernial sac. (*b*) Very gentle taxis under anæsthesia, which, if unsuccessful, should be followed immediately by operation. If strangulation has existed for a long time, taxis is more dangerous than operation. The records indicate a mortality of less than ten per cent. when the operation is done promptly.

The Treatment of Diabetes by a Diet from which all Carbohydrates have been Excluded.—As a result of careful personal observation of a typical case of diabetes, as well as from the quoted experience of others, Munson (*Journal of the American Medical Association*, May 15, 1897, p. 922) has undertaken to show that a diabetic should be placed under no different conditions of diet than are granted the healthy individual, and that a rigid exclusion of carbohydrates from the diet is productive of abnormal metabolic changes, which result not only in progressive emaciation and weakness, but also in the production of various toxic bodies, to which the severe cerebral symptoms of this disease are to be attributed. From this study the conclusion is reached that sugar is always present in the blood, and that the absence of carbohydrates from the diet does not cause a disappearance of the blood sugar. Hence, sugar must have some other source than the carbohydrates ingested. This other source of sugar is the ingested and systemic albumin, through a process of decomposition. An increased albumin decomposition, due to the rigid enforcement of a purely nitrogenous diet, means an increased metabolism and consequent loss of body weight. Hence the cutting off of carbohydrates from the diet directly produces an increased metabolism. *Vice versa*, the administration of carbohydrates retards metabolism. The diabetic has an especial predisposition toward metabolism. The diabetic has by no means lost the power of burning sugar; therefore, sugar must, even more than in health, be allowed in order to prevent loss of weight and muscular weakness, which may eventuate in one of the natural endings of diabetes, death by asthenia. The abnormal albumin metabolism, which is especially produced by a rigid proteid diet, results in the production of toxic bodies, for the action of which the depressed nervous condition of the diabetic is especially favorable. The production of toxic bodies is prevented or retarded by the administration of carbohydrates. Hence, carbohydrates should be administered to the diabetic to prevent the formation of certain toxic bodies and the severe and often fatal nervous and cerebral symptoms which they induce.

The Plague.—I. Varieties: The varieties of plague known under the names fulminant, typical, and pestis minor are allied. The cause of fulminant and typical plague is a diplobacterium in the blood and tissues. The cause of pestis minor may be an allied diplobacterium, but with a lesser toxic power. An appropriate name for the fulminant and typical plague is "malignant polyadenitis." An appropriate name for the mild variety (pestis minor) is "benign polyadenitis." II. Infection and contagion: Plague is infectious chiefly from the dust arising during the cleansing of dwelling-houses which plague patients have occupied. Plague is contagious by prolonged and intimate contact with the plague stricken, as in the case of a nurse carrying a child ill of the disease. III. Distribution: Plague is met with in a definite area of Asia, which may be termed the "plague belt." The home of plague is at the present day in Mesopotamia and the countries adjacent. From Mesopotamia as a focus the

plague may spread northward to the Caspian Sea, westward to the Red Sea, southward as far as Bombay, and eastward as far as (Formosa) the China Sea. During the present century plague has shown a western retrocession and an eastern accession of virulence. IV. The bacillus: Typical plague (malignant polyadenitis) is associated with pestis minor (benign polyadenitis). A bacillus of somewhat similar appearance microscopically is reputed to be found in both. The bacilli differ in their toxic powers only. A benign polyadenitis may run its course without being preceded or followed by the malignant variety. Malignant polyadenitis may run its course without being preceded or followed by the benign variety. The bacillus of the benign variety attains malignancy by passing through some intermediate host, possibly, but not probably, the rat.—Dr. James Cantile (*British Medical Journal*, January 9th).

Clinical Department.

A CASE OF MERYCISM.

By H. A. MINASSIAN, M.D.,

DES MOINES, IOWA.

The following history was given me by Miss G—— on December 3, 1896: Aged twenty-five years, bookkeeper. For more than ten years she had suffered from various gastric disorders, the present morbid condition being of one year's standing. Its immediate precursor was involuntary regurgitation of ingesta, which insidiously merged into rumination. The transition from one to the other was not perceived by her. She ruminates now, commencing about half an hour after meals and continuing from one to two hours, according to the amount of food taken; regurgitates her food with perfect ease and returns it to the stomach after thorough remastication. The food brought up is not sour nor unpleasant, although she derives no pleasure from the act. She can ruminate at will, but rumination occurs largely unobserved by her and without detracting her attention from her daily work. Water and fluid food in general enhance regurgitation. Nausea, pyrosis, pain, or distress referable to the stomach and all other subjective symptoms of organic disease are absent. She is a hearty but hasty eater. Family history is negative. She is not a neurasthenic.

Physical examination: Patient is a robust and well-nourished young woman. Tongue clear; size and position of stomach normal (by percussion, later confirmed by inflating the stomach). Firm pressure on the epigastrium elicits no tenderness. All thoracic and abdominal viscera normal.

Ewald's test breakfast was ordered, and on December 4th, two hours after the test meal, the patient was asked to regurgitate as much of the stomach contents as possible. After persistent effort she failed to eject any food whatever. Consequently the stomach tube was passed, and expression and aspiration were tried, also without success. The stomach was then washed with a pint of water, the latter containing a mere trace of the meal. Examination of this fluid gave: Faint acid reaction; HCl = 0; erythrodextrin and achroödextrin +.

Following the first examination, through a period of two weeks analyses of the gastric contents were made once each day with special reference to HCl and total acidity. The quantity of food found in stomach four hours after a Leube dinner or two hours after a Ewald breakfast was so small that only half the usual time was allowed before removing the same, which was easily accomplished by the patient. The variation in the results of analysis on different days was insignificant; hence the following specimen is representative: December 9th, quantity of food ejected, eight ounces; color, white; odor, none; reaction, acid, admixture of glairy mucus; total acidity = 3; HCl = 0; pepsin and rennet ferments present; dextrins present.

Two points worthy of note in the above are: (*a*) the abnormally rapid passage of food through the stomach, and (*b*) the uniform absence of HCl. Hyperprochoresis and not pyloric insufficiency was believed to account in this case for the former, since there was no evidence of regurgitation of intestinal secretions and bile into the stomach. Was not this increased motor function compensatory to (*b*)? And does it not sustain causal relation to rumination? There being practically no gastric proteolysis in the absence of HCl, on the one hand the food is returned to the mouth in small portions for remastication and more thorough ptyalization, and on the other it is forced on more rapidly than normal into the intestines.

It would be taking too much for granted to claim that during the entire period of one year through which she ruminated hydrochloric acid was uniformly absent from the gastric secretion; nevertheless it is true that positive achlorhydria existed from December 4th to 19th inclusive. This in itself is sufficiently striking and furnishes the key to the cause of rumination in this patient. The achlorhydria itself was doubtless a neurosis, since carcinoma and advanced chronic gastritis were inadmissible. The results obtained by treatment fully confirmed this.

Considering the condition as a neurosis, the following schema is offered indicating the relative positions as well as order of the development of the three principal elements of the disease in this case:

1. Achlorhydria, primary neurosis.
2. Hyperprochoresis, consequent to (1); compensatory.
3. Merycism, dependent on (2); compensatory.

Treatment was commenced on December 20th, and consisted of the administration of six minims of strong muriatic acid (largely diluted) after each meal in three divided doses at intervals of fifteen minutes. Patient was advised to suppress rumination as far as possible, to masticate her food thoroughly, and take but little fluid with her meals. No special diet was thought necessary. Intragastric galvanization was recommended, but patient begged to have this postponed until it was found absolutely necessary.

January 9, 1897: Patient reports improvement. She had been instructed not to use hydrochloric acid during the past two days. She voluntarily ejected a portion of the stomach contents, which upon examination gave the following results: Reaction, acid; HCl present; acidity = 11.

January 27th: No muriatic acid taken past two days, as before. Gastric contents removed with the stomach tube to avoid ruminating. HCl present; total acidity = 20.

February 8th: HCl +; acidity 35. Rumination has practically disappeared.

She left the city shortly, and was advised to continue the use of the acid in smaller doses as long as necessary.

The successful stimulation of HCl secretion by the administration of hydrochloric acid in the above case is certainly of great interest.

Tuberculosis of the Peritoneum with Effusion.—Dr. Senn says: "Diffused tuberculosis of the whole peritoneum begins practically always in females in the pelvis, as a distinct tuberculous salpingitis. The usual history is one of tuberculous metritis followed by tuberculous salpingitis, the latter in turn by tuberculous peritonitis."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE SEMICENTENNIAL OF THE AMERICAN MEDICAL ASSOCIATION.

THE fiftieth anniversary of the foundation of this great medical society was fittingly celebrated in Philadelphia last week by one of the most successful meetings recorded in the annals of the organization. The attendance was unusually large, the number of registered members being over two thousand, but so efficient was the management of the committee of arrangements that there was no confusion whatever, and the exercises were carried out according to programme without a hitch. In addition to this being the largest it was also one of the most harmonious meetings that the present generation of members has ever had the good fortune to see, and it was most gratifying to find that the protests of the MEDICAL RECORD against the quarrels which had become so frequent at the general sessions, which protests were rendered yet more effective by the earnest words of the president in his address at the opening meeting, had borne fruit so abundantly.

The addresses of the president and of Drs. Flint and Keen, full abstracts of which were presented to our readers last week, were worthy of the occasion as well as of the authors. That of Dr. Senn, as is the custom in the presidential address, contained a number of suggestions for reforms and improvements in the manner of conducting the meetings. Had his genius risen to prescience, he undoubtedly would have uttered a word of protest against the publication of all the addresses in full in the daily papers, along with the portraits—dreadful caricatures—of the authors and others. The publication committee of the *Journal* would seem to have had a very loose hold upon the original copies of these addresses, for we cannot believe that the authors themselves would give them out to the press in direct violation of a rule of the association.

The committee on nominations could not have made a better choice for president than that of Surgeon-General Sternberg, who is honored throughout the medical world, apart from his rank, for the vast amount of original work he has accomplished in many lines. The other officers and orators were also well chosen. The selection of Denver as the place of meeting in 1898 was well made. That city is nearly as accessible from points in the middle West and South as is Philadelphia, and it contains so many physicians who began their medical life in the East, after forming friendships which they have always kept up, that it will draw many men to the meeting who might not be tempted to go so far to any other city.

Dr. N. S. Davis was rightly the central figure of the jubilee exercises, and any man might well be proud to occupy such a position as his, at a moment when two thousand physicians were present in person, and many thousands more in spirit, to do honor to the founder of the association. Not only does the body owe to him in a measure its very existence in the form it now has, but his wise counsels have carried the organization through many periods of stress and danger. To few men is it given to watch their work for fifty years, and to see it grow and spread and finally become established firmly as a monument to his zeal more lasting than one of stone or brass. We trust the father of the American Medical Association will be spared yet many years to watch over and guide his fifty-year-old offspring.

The meeting, finally, will be memorable as the one at which the labors of Dr. Gihon, the indefatigable chairman of the Rush monument committee, were crowned with at least the promise of success. In a few moments pledges were given by men whom he had moved by his eloquent appeal for an amount many times greater than the total that had so far been obtained by years of toil and entreaty. Few men would have persevered in the face of apparent defeat, as Dr. Gihon has done, and when the monument is finally erected as a result of his untiring efforts justice will demand that his name be graved with that of Rush on the granite pedestal.

THE DANGERS OF CONTAMINATED WATER.

THE coming of summer brings with it the important question: Where shall we go for a holiday? The rate at which we live in these days makes a rest from toil and the worry of business a necessity rather than a luxury. A change of scene and in the mode of living is essential to every one. The facilities, too, of locomotion enable those who are not rich to travel farther from home than was possible years ago and to view "fresh fields and pastures new." Yet, although a holiday is both necessary and pleasant, a certain amount of discretion should be observed in the choice of locality; reliable information as far as is possible should be obtained as to the sanitary arrangements of the selected place, and particularly in regard to the water supply. The remark that "water is sometimes the most deadly drink you can take" is unfortunately true; and that disease can be conveyed by drinking-water has been undeniably proved, so that even the lay mind has now grasped that fact. In these days the bacteriologist has to some extent superseded the chemist. At one time the judgment of the chemist on any water was considered final. This, however, is not the case now. Bearing on this point there has lately been held a discussion among the bacteriologists of

New York State "On the Relation of Impure Water to Disease," an account of which has been published in the *Albany Medical Annals*. Many important facts in connection with water-borne diseases that have been investigated and established were set forth in a brief and practical manner. The relation of impure water to typhoid fever was the main subject of discussion. Statistics of the comparative death rate of the large cities of the world from typhoid were given as one of the means of proving the connection between that disease and contaminated water, and it was pointed out that the large towns of the United States were far behind those of the European continent in respect to their water supply. But, as is well known and as was demonstrated in the paper on "The Dangers of the Domestic Use Other than by Drinking of Contaminated Water," it is not only from the use of water for drinking purposes that danger of infection is to be feared; water containing pathogenic bacteria may cause disease in many other ways than by being used for drinking-purposes. Various articles of food will carry bacteria from contaminated water, as, for example, milk, oysters, ice, cream, which are also themselves good media for the growth of bacteria. That oysters by the agency of contaminated water will convey pathogenic bacteria to the human body has been conclusively proved, and it is probable that other shellfish share a like property. Thus it will be seen that in eating and drinking, care should be observed both by those who travel and in a lesser degree by those who stay at home. Those who require their bodily health improved by pure and invigorating air should be on their guard lest they fall into a death trap. Often the change of air, regarded as a necessity, is fraught with danger, and the majority of people would be safer in their healthy homes, so long as they have no means of insuring a sanitary residence at the place of their selection.

SOME UNUSUAL CAUSES OF COUGH.

That the origin of a cough cannot in many instances be traced to any pulmonary complication or to any affection of the respiratory tract is well known. These unusual kinds of cough are often a source of much trouble to both the patient and the medical man. Thomson classifies coughs as expectorants or as non-expectorants, useful or useless, and puts the number of useless coughs at fourteen. In a paper read before the New York State Medical Society at Albany in February last, Dr. Emil Mayer touches upon some unusual causes of cough, and presents an account of cases occurring in his own experience. He says: "The literature on reflex coughs is abundant, and there are those among the more recent writers who still maintain a purely neurotic theory, despite all that has been said to the contrary." Various authorities are then quoted who hold views at variance with these, and numerous cases are cited in support of the antineurotic theory. Perhaps the most interesting is the one reported by Kurtz, in which a woman who was pregnant four months suffered from a terrible cough, and was found to have two polypi in the uterine canal. These were removed without the patient's knowledge, and on the following day the cough had disappeared. In this paper it is also demonstrated that the paroxysmal hacking cough of children may be due to an unbalanced central nerve action; that umbilical hernia, cutting of a tooth, a foreign body in the ear, swallowing a peach stone, worms, etc., will cause cough. The reports of seven cases treated by Dr. Mayer himself are given, in which the coughs were caused by adenoids with hypertrophied tonsil, follicular pharyngitis, hypertrophied lingual tonsils, leptothrix pharyngealis, and foreign body in the ear. In all these cases, when the cause had been diagnosed and removed the cough ceased The view that these unusual coughs are all neuroses is strongly combated, and the signs are given for arriving at the conclusion that the cough is of reflex origin: 1st, When it is spasmodic, practically constant, without expectoration and temperature; 2d, when the physical signs of pulmonary disease are absent; 3d, when it persistently resists all medication, 4th, when the general health remains comparatively undisturbed; and 5th, when upon removal of cause it promptly ceases.

In addition to the unusual causes of cough referred to in this paper may be mentioned the two given by Rice: 1st, hypertrophied glossal papillæ, overlapping an epiglottis which is bent far forward but otherwise normal; and 2d, a congenitally asymmetrical epiglottis, which has been made still longer by inflammation caused by constant friction with the tongue. "The hacking cough of puberty," so named by Sir Andrew Clark, is also worthy of notice.

THE USE AND ABUSE OF TOBACCO.

A leading English review of this month treats of "Tobacco in Relation to Character and Temperament." The extraordinary increase in the consumption of tobacco in the British Isles is the *raison d'être* of this article. Statistics are given of the consumption of tobacco in various countries. Holland is at the top of the list, with a trifle over 7 pounds a head of her population; United States, 4.5 pounds; Austria, 3.8 pounds; Denmark, 3.7 pounds; Switzerland, 3.3 pounds; Belgium, 3.2 pounds, Germany, 3 pounds; Sweden and Norway, each 2.3 pounds; France, 2.1 pounds; England, a little under 2 pounds, Italy, Russia, Spain, 1.25 pounds. It is estimated that 2,000,000,000 pounds weight are used annually, of a money value of more than $2,500,000,000.

These stupendous figures are calculated to excite curiosity, and the question that naturally occurs to one is: What effect does this consumption have upon the general health? Of course opinions vary as to the harmfulness of the use of tobacco, but the highest authorities on the matter have come to the conclusion that the pathological action of tobacco is not nearly so pernicious as its opponents claim it to be. Sir Benjamin Richardson, who studied closely the effect of tobacco on the human system, said that "smoking increases pulse rate and decreases arterial pressure;

that it acts as an irritant on the motor parts of the nervous system, not as a narcotic on the sensational; that it does not decrease the amount of urine eliminated, but rather increases it; and that it does retard waste of tissue." In regard to the action of excessive smoking on the heart, Richardson says that it does not produce organic disease, although it has a tendency to produce debility, and he denies that cancer can be caused by smoking. In a broad way, it may be said that the effect of the use of tobacco varies with different temperaments and under different conditions. A man of phlegmatic, easy-going disposition can smoke heavily without receiving harm, while a highly nervous person who smokes to the same extent will probably injure his health considerably. Again, a man who is much in the open air and takes sufficient exercise will experience no ill-effects from smoking, while a man who leads a sedentary life may suffer much. Tobacco would appear, after tolerance has been established, to be a cardiac stimulant (objectively) and a nervous sedative (psychologically and subjectively). The smoker imagines he is only being soothed. It will be found in most cases that he is being vascularly stimulated.

Of the various forms of using tobacco, cigarette smoking and chewing are the most harmful, and doubtless are the cause of many functional derangements. Laryngitis, pharyngitis, and nervous irritability may also often be laid at the door of the soothing weed. In phthisis, although it does not set up the disease, it aggravates it. Thus it may be laid down as a rule that smoking to excess is always more or less harmful, and that smoking by the young is in every case to be reprobated. It is more than likely that an excessive use of tobacco does occasionally deteriorate the moral character—in the same way as chloral or bromide of potassium may deprave the mind—by lowering the tone of certain of the nerve centres by narcotizing them and impairing their nutrition. Tobacco is not of much therapeutic value, on account of the difficulty in obtaining it in uniform strength, although its antiseptic qualities are lauded by many.

THE CHARITABLE INSTITUTIONS OF NEW YORK.

The report made annually by the "Department of Public Charities of the State's Charities' Aid Association of New York City" is always worthy of serious attention, and, in view of the discussion in regard to the abuses of medical charities, the last report is more interesting than usual. It is reassuring in a high degree to take a retrospective survey of the former condition of these charities, and to compare it with its present one Not many years ago the mode of management of the charitable institutions of this city was a scandal to a rich and civilized community. Politics held the sway, and the state of affairs existing then seems incredible in these days. The institutions one and all were conducted in a careless, almost inhuman manner, the public was callously indifferent, and the sole object of those in authority was to spend as little as possible upon the unfortunate inmates, and to publish a satisfactory report. Up to the year 1850, hospitals, penitentiary, almshouse, workhouse, and lunatic asylums were all huddled together, while prisoners from the penitentiary and workhouse were utilized to perform various duties in the almshouse, hospital, and insane asylums. Abandoned women were employed as nurses in the hospitals, and prisoners as attendants in the insane asylums. In 1850 the attention of the public was drawn to these methods of conducting charitable institutions, pressure was brought to bear upon the authorities, and gradually, but very gradually, reforms were introduced. In 1896 a sweeping and radical reform was effected when by a State law prison and charitable administration were placed in separate departments, and at the same time it was enacted that prisoners should not be employed in any capacity in the wards of any hospital. There is still, however, room for considerable improvement; though much has been done, much has been left undone; prisoners are still employed in the wards of the hospitals, and in several of the institutions the amounts appropriated to substitute paid help for prison help has been expended in other ways. Many structural repairs and additions are required, some of the buildings being in a state bordering on dilapidation. The equipment of the almshouse is deficient in all that goes to produce comfort and decency, the overcrowding is excessive, not to mention the unsanitary side of the question. There is no need that these institutions should be made too easy, and so become pauperizing, but at any rate they should be decent and in a good sanitary condition.

Perhaps the most gratifying feature in connection with these reforms is the great change for the better in the care and treatment of the insane. The truth that insanity is simply a disease, subject to a large extent to the same physical conditions as other diseases, is recognized more and more every day, and although this fact has been grasped and great progress made in the curative treatment, yet the places in which the insane are received are still too much of the asylum and too little of the hospital type. The State has a distinct duty to perform to its insane, and at last seems to have arrived at a proper appreciation of that duty. To Dr. Weir Mitchell's scathing indictment of the fossilized methods in use up to 1894, much of the credit for the improvement in lunatic treatment is due. The progress made since the State hospitals were removed from the domain of politics and vested in the State board of charities is most encouraging. The New York system of treating and housing the insane, which at one time was a byword, is fast becoming an example to other countries.

THE "MEDICAL RECORD" AND PUBLIC BATHS.

It is gratifying to note that the suggestions offered in a recent issue of the Medical Record concerning the means to the end of carrying out the law on the public-bath question have borne substantial fruit. The New York *Herald* with its powerful influence sec-

onded our endeavors and brought the matter still more directly to the attention of the powers that be. His honor the mayor was thus prepared to listen to the appeal of the committee of the Academy of Medicine and gave it his assurance of substantial assistance. The consequence is that one or more of these baths will be erected at once upon property belonging to the city and located in the crowded tenement districts. There are plenty of available places for the purpose named which can be fitted up at comparatively small cost, and the large buildings originally proposed are entirely unnecessary.

News of the Week.

Address on State Medicine before the American Medical Association.—Dr. J. B. Hamilton, of Elgin, Ill., delivered an address on the prevention of tuberculosis, at the closing session. This disease causes about one death in every seven reported in the United States; about one death in eight is caused by tuberculosis of the lungs alone. Excluding injuries by mechanical violence, it is safe to say that localized tuberculosis causes nearly one-third of the surgical diseases for which operation is required, and is responsible for seven-eighths of the crippling spinal and joint diseases. It is now the province of State medicine to point out the methods by which this plague may be gradually extinguished. This cannot be accomplished in a day, but its ravages may be made less by such prompt measures on the part of our boards of health as can easily be taken, provided the laity is taken into confidence. The public must be fully educated to an understanding of the causes and methods of propagation. The public must be made to understand, he said, that since the discovery of the bacillus tuberculosis the disease has been added to the list of preventable diseases. The public schoolmaster must be taught that he may render his healthy boys and girls immune by gymnastics and calisthenics which increase their vital resistance, for it is known that the healthy cell has a power of resistance which may be increased so as to form a nearly impenetrable barrier against bacillary invasion. The consumptive must understand fully that he has no right to allow himself to become a centre of infection by carelessness, or to marry. There is no longer any question of the possibility of infecting the lower animals by the injection of tuberculous milk, but direct evidence of transmission of tuberculosis to man by the ingestion of milk is yet wanting, except in cases of udder tuberculosis. Tubercle bacilli have been found in the flesh of horses, cattle, and swine. Birds and fowls also become infected. The careful cooking of meat and boiling of milk before eating and drinking these articles will prevent them from doing positive harm, but few would relish food if it were known to be tuberculous, however much it were cooked. The danger from animals, however, is not great in comparison with the dangers which confront us in daily contact with consumptives. The great danger is from the dried sputum, and other existing causes are of much less importance. The local infections found in the bones and in the internal viscera are produced by invasion through the circulation, while the infection of lymphatic glands is caused by direct absorption through lymph channels. After the methods of infection are known, the means of prevention of the spread of tuberculosis are sufficiently apparent. The factors in successful prophylaxis are (1) a guarding against infectious food and drink being issued to the people anywhere; (2) the prompt destruction of cattle proved to be tuberculous; (3) proper notification to the sanitary officer of the occurrence of cases of tuberculosis, especially walking cases of pulmonary consumption, in order that the officer may, in conjunction with the attending physician, make sure that proper precautions shall be taken to secure thorough disinfection of sputum and bedding. An early diagnosis is important as a curative procedure as well as a means of prevention. Physical signs are not always pronounced and the bacilli may escape observation. The tuberculin test is therefore not less valuable in man than in animals, but the dose should be carefully graduated.

"Pediatrics," for June, is devoted to the children's side of the Congress of American Physicians and Surgeons. In addition to complete reports of the American Pædiatric Society and of the American Orthopædic Association, it contains abstracts of all papers on pædiatric subjects read at the meetings of the other component societies of the congress. This is an evidence of enterprise which it is unusual to find in a journal devoted to a single specialty, and it shows that the large measure of success to which our contemporary has attained is well merited.

The Society of the Alumni of the Newark City Hospital elected the following officers at its annual meeting (May 10th): *President*, Dr. Gilbert Van Vrancken, of Passaic, N. J.; *Vice-President*, Dr. Maurice Asher, of Newark, N. J.; *Secretary and Treasurer*, Dr. F. C. Jacobson, of Newark, N. J. The paper of the evening was by Dr. Peet, of New York City, and was entitled "Gonorrhœa in the Female."

The American Electro-Therapeutic Association.—The next meeting of this association will take place on Tuesday, Wednesday, and Thursday, September 21, 22, and 23, 1897, at Harrisburg, Pa. The Harrisburg Academy of Medicine has offered the use of its building, and the Dauphin County Medical Society has appointed a special committee of arrangements to act for the association. The president of the association is Dr. William T. Bishop; the secretary, Dr. Max Einhorn, of New York.

Dr. G. La Breche-Smith has been appointed to the medical staff of the New Amsterdam Eye and Ear Hospital.

The Late Dr. Benjamin F. Sherman.—At a special meeting of the Ogdensburg Medical Association, held Monday evening, May 31, 1897, at the office of Dr. G. C. Madill, the following resolutions were adopted as a mark of respect to the memory of Dr. Benjamin F. Sherman, who had for many years been the president of this society:

"*Resolved*, That in the death of Dr. Sherman this association has lost a member who was endeared to all by his attractive personal qualities, and who added honor to the association by his scientific work and his distinguished professional attainments.

"*Resolved*, That the Ogdensburg Medical Association extend to the family of the deceased its earnest sympathy for them in their bereavement, and assure them that the members share in the deep sense of personal loss which Dr. Sherman's death has occasioned.

"E. H. BRIDGES, M.D.,
"J. H. BROWNLOW, M.D.,
"WILLIAM MABON, M.D.,
"*Committee.*

"It was also resolved that a copy of the above resolutions be transmitted to the press of the city, the MEDICAL RECORD, and the *New York Medical Journal*, and that an engrossed copy be sent to the family of the late president.

"It was resolved that the members of the association attend the funeral in a body.

"W. N. BELL, M.D., *Secretary.*
"G. C. MADILL, M.D., *Vice-President.*"

The Craig Colony.—Governor Black has signed the bill passed by the last legislature, making an appropriation of $126,600 for the Craig Colony. There are at present two hundred and four patients at the colony, and no more can be received until new buildings, to be constructed under the above appropriation, have been completed.

The Medical Society of New Jersey.—The one hundred and thirty-first annual meeting of this society will be held in the United States Hotel, Atlantic City, on Tuesday and Wednesday, June 22 and 23, 1897.

Obituary Notes.—DR. FRANCIS LEMUEL DICKINSON, one of the oldest physicians in Connecticut, died at Rockville on June 2d, at the age of eighty years. He was born in Chatham, Conn., in 1817, and was graduated from Yale Medical School in 1840. He retired from active practice a number of years ago.—DR. ASA F. PATTEE died a few days ago in Boston. He was a native of New Hampshire, and was descended from a long line of physicians extending back to William Pattee, who was said to have been physician to Oliver Cromwell and Charles II. He was graduated in medicine from Dartmouth College, and in 1859 began practising in Amesbury, Mass. He was professor of materia medica and therapeutics at the College of Physicians and Surgeons, Boston, was a member of the Massachusetts Medical Society and the American Medical Association, and for several years president of the Boston Therapeutical Society. He was an honorary member of the Botanical Society of Italy.—DR. GEORGE THOMAS, professor of laryngology and physical diagnosis at the College of Physicians and Surgeons, Baltimore, died in that city on June 3d, of pneumonia. He was thirty-eight years old, and a native of Maryland.—DR. CHARLES O'LEARY died in Providence, R. I., on May 31st. He was born in Ireland in May, 1832. He came to America in May, 1850. He had practised medicine in Providence for thirty years. He was a brigade surgeon during the civil war, serving through the Peninsula and Maryland campaigns.—DR. W. H. STRANGE, of Toronto, deputy surgeon-general of the militia force of the Dominion of Canada, died suddenly on June 5th.—DR. WILLIAM D. ALDRICH, of Warrensburg, N. Y., died suddenly on June 4th. He had complained of feeling ill and had retired. A few hours later he was found dead in his bed.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending June 7, 1897. Medical Director T. N. Penrose retired from June 6th.

A Mosquito Bite is an Accident.—The court of appeals, sitting in Louisville, Ky., recently decided a suit against an accident insurance company brought by a woman for $30,000 for the death of her husband, which resulted indirectly from a mosquito bite. The lower court held that the bite was not an accident in the meaning of the word as used by insurance companies, but upon appeal the plaintiff got peremptory instructions in her favor.

Father Kneipp, of water-cure fame, was reported recently to have died in Woerishofen, Bavaria, where he has his church and his dispensary. He is very ill, but the report of his death was premature.

The Metric System in Great Britain.—A bill has been introduced into the House of Commons to legalize the metric system of weights and measures.

Baltimore Eye, Ear, and Throat Hospital.—The directors of the Baltimore Eye, Ear, and Throat Hospital intend to tear down the present building used by the hospital, and erect a new and handsome structure.

Registration in Connecticut.—A dispatch to the *Evening Post* from New Haven says that with the prospect that the "medical-practice bill" will become law, establishing examinations by a State board, there has lately been a rush of practitioners from outside the State, many of them irregular, for registration under the present loose statute. Twenty have recently been registered in Greenwich, the Connecticut town nearest New York City.

Systematization of Fresh-Air Charities.—Representatives of twenty-one fresh-air and summer charities have organized a "Council of Fresh-air Charities," the object of which is, as stated in the constitution, "to bring the fresh-air charities of New York City into closer relations with one another, in order that the benefits afforded by such agencies may be systematically and fairly distributed among those who need such aid, so that 'overlooking' as well as 'overlapping' may be reduced to a minimum." A central bureau of registration is to be established, to which the fresh-air charities are to be asked to send lists of their beneficiaries, and from which each agency may ascertain the number of outings which any child has already had.

Summer Health Resorts.

It has become the custom of the American people to take a summer vacation for health and recreation, but too often without sufficient discrimination with reference to the main object. Our purpose is to aid discrimination in this regard. But so numerous are "health resorts" that it is alike impracticable and inconsistent with our purpose to do more than present such as offer the best advantages in their natural relations, leaving the detail with regard to local conditions as the legitimate and always important subject of inquiry by the would-be health seeker or sojourner at any place.

In presenting the readers of the Medical Record with a list of summer resorts for 1897 it will not be so much our aim to go into details as it will be to mention such as will be safe, that the physician desiring to advise his patient may find some practical suggestions which will commend themselves to him. More particularly will this be proper as applying to those who must consider the expense, not only of the journey but also of maintenance at the resort selected. It often happens that a very short journey and very inexpensive entertainment will afford the greatest amount of pleasure and the most marked benefit to a patient.

The United States and the Canadian provinces afford an almost limitless number of seacoast summer resorts. The North Pacific coast is dotted with resorts where the summer heat is tempered to an enjoyable degree, affording comfort and health to the inhabitants of the heated valleys and the desert regions of the interior.

Atlantic Coast Resorts.

Beginning with the seacoast resorts of the eastern Canadian provinces, we find, first:

Cape Breton, usually spoken of as an island but consisting really of a number of them, while there is also a large number of peninsulas which are with relation to the ocean practically islands, and whose climate is essentially insular. Though they are surrounded by salt water, nature has dealt lavishly with these islands in the abundance of sweet fresh water too, and it is to this that Cape Breton owes much of its charm for the summer tourist.

The primitive simplicity of former days is still to be found in many portions, but the advent of the railroad, opening up the interior to easy access, has brought with it many of the modern conveniences for the comfort and entertainment of the tourist, or of such invalids as may encounter a high humidity of the atmosphere without injury, or even find it favorable in some conditions; for example, some classes of neurasthenics and overworked business men. The average temperature during the summer months is about 65° F., and there is sunshine during about forty-five per cent. of the time possible for the sun to shine.

Prince Edward Island, called the "Garden of the Gulf," lies to the northeast of Cape Breton Island, and is reached by the Intercolonial Railway or by steamer. Charlottetown is the capital and principal city of the island, and affords good hotel accommodations. The climate is essentially the same as that of Cape Breton. The weary tourist who has been used to the confusion of the conventional summer resort will find here the cool ocean breezes that charm the mind and soothe the nerves, and while it is a place of rest it is also a paradise for the fisherman and sportsman.

Nova Scotia, a peninsula, in climatic conditions possesses the characteristics of an island, while it has the advantage of accessibility by rail. Fogs are prevalent during the summer and the atmospheric humidity is very high. The mean temperature during July and August is about 66.5° F. Warm clothing should be plentifully provided. No part of the provinces can be recommended for the genuine invalid.

Halifax, with its magnificent harbor, its strong citadel garrisoned by British troops, and its essentially English environment, might lead the tourist who had not kept good account of himself to suspect that he had left America behind him. It is strongly British in its manners, customs, and sympathies. The citadel commands a view of land and water for many miles, and from its towers the visitor may enjoy a view of the harbor with its islands, the sea with its ships, the city with its busy streets, and the distant hills and forests, that are seldom equalled for beauty and variety. Halifax affords good hotel accommodations and a journey thither is a very good substitute for a "trip to England" for those who dread the water. Hay-fever sufferers are free from their trouble in its climate.

New Glasgow is as essentially Scotch in its characteristics as Halifax is English, and the country around, with its fertile fields and its little villages of Maxwelltown and Arrisaig, are strongly suggestive of the Caledonian origin of its early settlers. New Glasgow is the largest town on the north coast, and a convenient point from which to reach the uplands and fine farming-sections of Nova Scotia. From here too are seen and easily reached the Antigonish Mountains, which serve to remind the tourist from the west that America is still within reach.

St. John is the principal gateway to all points in New Brunswick reached by the Intercolonial Railway. It is accessible either by all rail from Boston and all other points, or by steamer. The city is handsomely laid out, with wide streets and avenues at right angles, and the location is admirable in every respect as a seaside resort. Besides almost unlimited variety in the way of sailing-trips, the surrounding country affords many attractive drives. The River St. John, which has been called "the Hudson of New Brunswick," offers many very attractive features, and the trip to Fredericton, the capital of the province, is one which tourists should not fail to take.

Moncton is the junction point from which departure is taken for Prince Edward Island, Cape Breton, Nova Scotia, or westward to the western provinces. Moncton has not so much of attraction to offer as other points, but the tourist may well stop here a few hours to see that great natural curiosity, the "bore" from the Bay of Fundy, or the rising tide. The town is essentially a railroad town and of modern growth, while most New Brunswick towns remind one of old-world origin and association.

Dalhousie is the fairest of many fair spots on the Gulf of St. Lawrence. It is situated at the head of the Baie des Chaleurs, one of the most beautiful bays in America. The sheltered position of the place gives it a freedom from the raw winds and fogs which are characteristic of the more exposed points on this coast and the terror of so many invalids. Baie-des-Chaleurs is ninety miles long and twenty-five wide, and affords safe passage to the largest ships. Fine beaches and water of moderate temperature tempt the bather. There is no finer yachting locality on the Atlantic coast.

Campbeltown is a pretty village with great possibilities as a resort, and every facility for salt-water bathing, salt-water fishing, and boating. Campbeltown lies at the junction of a broad and beautiful river with Baie-des-Chaleurs.

The Gaspe Peninsula is out of the route of general travel, and consequently but little known even to the professional tourist. It has not a promising look on the map, and unless something has been learned of it in advance the tourist is likely to pass by a region

that affords more of the quaint and curious in a small space than almost any other part of the American continent. This peninsula is formed by the Bay Chaleur, Gulf of St. Lawrence, and River St. Lawrence, and is almost a *terra incognita* to the average American. From Crown Point to Port Daniel extends one long street or highway, settled from one end to the other. On the one hand is the sea with its ever changing panorama, on the other rise the mountains, one overlapping another to a height of four thousand feet, clad in primeval forest growth.

Perce, on the eastern end of the Gaspé Peninsula, gives the most adequate idea of the beauty of the scenery. This is one of the places of the beauties of which language fails to convey a correct idea. It must be seen to be appreciated. The walks and drives are delightful, and immediately back of the town lies "La Table à Rolland," the summit of Mt. Anne, at a height of thirteen hundred feet above the sea.

The town of Gaspé is situated on the heights overlooking the Gaspé Basin, and is so securely protected by the hills that it seems an ideal place of shelter. There are good hotel accommodations in the town, and its variety of pleasure excursions need be limited only by the inclinations of the visitor. For the weary man or woman, weary in mind or body, who desires to get "sixteen miles from a lemon," where no care of conventionalities need worry and where a mixture of sea and mountain can be enjoyed at the same time, it is doubtful if a more ideal spot can be found on the Atlantic coast of America, and but few comparable to it along the Pacific coast.

Quebec, Lake St. John, and the Jaws of the Wonderful Saguenay are the points of a triangle which marks the route covering the grandest of Canadian summer resorts. Tourists may now cross by rail from Quebec to Lake St. John and half-way down the eastern side of the triangle to Chicoutimi, thus avoiding the tedious portages or dangerous rapids of the old route.

Quebec, the starting-point, has been called "the sentinel city that keeps the gates of the St. Lawrence," and for grandeur of situation, romantic associations, and picturesqueness in details has no equal on the American continent. There is scarcely a foot of ground which is not historic or which has not been consecrated by the blood of those who fought either to gain or to save the half of a continent to their respective countries. While enjoying these and other attractions, the tourist may make his home at one of the most elegant hotels of the continent, the Château Frontenac. Built upon the famous Dufferin Terrace, overlooking the St. Lawrence and surrounding country for miles, it occupies probably the finest hotel site in the country. Quebec has also other good and much-frequented hotels, and ample accommodations for all classes.

From Quebec to Lake St. John the tourist passes through many picturesque and interesting villages, with French names, French customs, and French language, over the Laurentian Mountains, which geologists claim to be the oldest mountain chain upon the crust of the globe.

Lake Edward, the largest body of water between Quebec and Lake St. John, is also the most beautiful; with its numerous small and wooded islands, which rise often to a considerable height from the water, a more picturesque combination than this it would be difficult to find. The water is so clear that often it is possible to see handsome red-bellied specimens of the salmo fontinalis, weighing from four to six pounds each, lingering in refreshing indolence twenty feet below the surface in a quiet pool. There are excellent hotel facilities, as also good camping-facilities for those preferring this free-and-easy mode of life.

Lake St. John is almost an inland sea, as from the Hotel Roberval, even in the clearest weather, the opposite shore can scarcely be seen. It is fed by a number of very large rivers, most of them bearing musical Indian names, while all of them are swarming with fish. The Hotel Roberval is a first-class hotel, with accommodations for over three hundred guests. Steamers make excursions up all of the rivers for some distance, and are then supplemented with bark canoes and guides as far as time and purse will allow.

Cacouna, which is called the Newport of Canada, lies on the south shore of the St. Lawrence, and is the resort of the wealth and fashion of Canada. There are many handsome cottages, and one of the most popular hotels of any on the St. Lawrence is here.

Riviere-du-Loup is also an important watering-place, with several good hotels and many elegant private cottages. The half-hour's drive between Rivière-du-Loup and Cacouna is one of the most picturesque in the country.

The Seacoast of Maine boasts of several delightful summer resorts. All the varieties of fish that frequent the New England coast are to be caught in abundance in season in the vicinity of these resorts, affording sport and healthful exercise to all piscatorially inclined.

Portland may properly be considered the distributing point, as from it many well-known resorts are easily accessible, either in a few minutes or at most in a few hours. Among those best known and in the closest proximity are Old Orchard Beach, Scarborough Beach, Pine Point, Isles of Shoals, Kennebunk Port, Biddeford, Bath, Popham Beach, Bar Harbor, Mt. Desert, Rockland, and Boothbay—all points where tourists will find entertainment and facilities for enjoying the coast advantages to their full desire.

Mount Desert Island, with its Bar Harbor, wears the crown of all the scenery of this unrivalled coast. Forty years ago a few summer wanderers discovered the beauties of the region, though it had been explored by Hendrik Hudson's Dutch mariners early in the seventeenth century. At Bar Harbor there are to-day a score of immense hotels, innumerable boarding-houses, and cottages for rent, while for miles along the shore are the beautiful summer homes of millionaires from nearly every city of the land. To the eastward between Mt. Desert and Portland extends a reach of wild coast, abounding in unusual and beautiful scenery, and containing the towns of Gouldsborough, Milbridge, Harrington, Jonesport, Machias, Cutler, Trescott, and Lubec, "and there are others," reachable only by stage coach or small steamer, but containing many charming resorts for the summer tourist and invalid.

The Isles of Shoals, off the coast of New Hampshire, are an available summer resort, where the benefits of an ocean atmosphere may be had on solid rock. Appledore Island, the chief of the group, has a good hotel and several cottages, where invalids are supplied with every comfort.

Portsmouth, the only large town on the New Hampshire coast, though not particularly noted as a resort, possesses the advantages common to the seacoast, has good accommodations and many attractive features. The summer atmosphere is a little warmer, about seven degrees, as compared with that of Eastport, Me., and the percentage of sunshine is a little larger, being fifty-two per cent. against forty-five per cent. at Eastport.

Nantasket Beach, twelve miles from Boston, is to the "Hub" what Atlantic City is to the "City of Brotherly Love," and has become celebrated as one of the finest ocean shores on the Atlantic coast. It affords a variety of lowland and high bluff but seldom found in close juxtaposition, and in the midst of the

clustering highlands and headlands are its noted hotels and cottages dotting the hillsides. Owing to the almost direct east-and-west trend of the beach, it escapes much of the effects of a hard blow direct from the bosom of old ocean. Its climate is essentially that of Boston, having fifty-two per cent. of sunshine for the summer months.

Martha's Vineyard, off the south coast of Massachusetts, has been for many years a favorite seacoast resort. Its shores in many places consist of bold bluffs and cliffs, picturesque in the extreme, while its accommodations in the way of hotels and cottages have grown to the extent of a "Cottage City." The weather statistics of Block Island Station, R. I., probably come as near to covering the condition of Martha's Vineyard as any obtainable. These show for the summer months sixty per cent. of sunshine; mean relative humidity, eighty-four per cent.; and mean seasonal temperature, 67° F. While this temperature and humidity would not indicate to the votaries of high altitudes a favorable condition for pulmonary troubles; still the equability, large percentage of sunshine, and pure sea air ought to render it a favorable place for palliation in advanced cases, and for all nervous conditions.

Nantucket.—What has been said regarding Martha's Vineyard may at least be said of Nantucket, also an island, lying some twenty-eight miles farther out. Being farther out in the Alantic, it probably enjoys a more equable temperature than that quoted for Martha's Vineyard. No exact data are at hand.

Newport, R. I., is so well known as a summer resort that it needs only mention. It offers but little of attractiveness to those seeking rest or health only, but much to those seeking or sharing the pleasure of wealthy display, and the city itself is laid out in excellent taste, with broad avenues, bordered by the grounds surrounding the most magnificent villas in the country. The climatic conditions are essentially those of Block Island.

Block Island lies fifteen miles off the coast of Rhode Island. In area it is about seven miles by three, and it contains in its centre a salt-water pond or lake, which nearly bisects the island. Small as is its area, it has a diversity of hill and valley that is quite remarkable, and lends additional charm to the many attractions of a strictly marine resort. Block Island is a regular station of the United States weather bureau, and its climate is probably a fair specimen of that of other islands similarly situated. Temperature for summer, 67° F.; for autumn, 53° F.; for winter, 32° F.; for spring, 43° F.; annual mean, 50° F. Mean annual rainfall, 53 inches. The relative humidity for summer is 84 per cent.; for autumn, 79 per cent.; for winter, 75 per cent.; for spring, 74 per cent.; annual mean, 77 per cent. Sunshine, for summer, 63 per cent.; for autumn, 43 per cent.; for winter, 51 per cent.: for spring, 48 per cent.; annual mean, 53 per cent.

Long Island, N. Y., has gained a high place in the public estimation as a resort. There is an endless variety of attractions, and its contiguity to America's centre of greatest population renders it accessible to more people for local patronage than almost any other resort region. There are beaches and surf bathing on the south shore, and bluffs and quiet water on the north, and in the central portion pine groves, lakelets, and trout streams. The sea breezes sweep across from the ocean to the Sound, and the summer temperature is generally several degrees lower than in the same degree of latitude on the mainland. Taken altogether, it is difficult to find any other region that furnishes a greater diversity in style of entertainment for from six dollars a week to six or more dollars day, and a climate that leaves little to be desired. Manhattan Beach, Rockaway, Ocean Park, Wave Crest, Bayswater, Far Rockaway, and Lawrence are fair samples of beach resorts for transient visit. The whole south shore of the island is dotted with ancient villages, which have become nuclei of innumerable summer cottages. Eastward as far as Eastport these are situated upon Great South Bay; beyond they are close to the ocean beach. There are few hotels at any of these places, but good boarding-houses with reasonable charges abound. The heat of summer is tempered by prevailing "on-shore" breezes. Fogs sometimes blow up, usually in June. The Long Island Railroad Company issues a guide book.

New Jersey.—Of all the States on the Atlantic coast, New Jersey presents the most superb, best appointed, and most elegantly equipped surf-bathing beach. All the way from Cape May to the foot of the Highlands of Sandy Hook is the cleanest of sandy beaches, and with scarcely a break a continuous line of admirably policed accommodations, suited to every taste and every purse.

Cape May, the model of seaside cities, comprises all of the most delightful features of a seaside resort. For safe and enjoyable surf bathing Cape May is unexcelled, if indeed equalled, by any other ocean resort. For healthfulness and the very best of all the elements one expects to find in a seaside resort, there is no other point on the Atlantic coast more promising.

Atlantic City approximates, even if it does not quite equal, Cape May in all that is most desirable and enjoyable. The recently completed sewerage works and an abundant supply of pure artesian-well water have greatly added to its attractiveness.

Long Branch has long been noted as the resort of the wealth and fashion of New York and Philadelphia, and its palatial hotels, built upon the main avenue upon the crest of the bluff overlooking the sea, are filled with people attracted by the excitements afforded rather than by the quiet offered. Long Branch is the seat of the Monmouth Park race course, one of the most celebrated racing tracks in America, the great iron grand stand of which will seat ten thousand people.

Asbury Park is a relatively new and admirably planned resort. The ocean bathing is excellent, its beach being among the best, while three fresh-water lakes furnish unlimited amusement in the way of boating and fishing. Asbury Park is the centre of a number of resorts more or less famous for special attractions, such as Seagirt, the camping-place of the New Jersey National Guard; Avon, the home of the Seaside Assembly and Summer School of Philosophy; Elberon, made historic as the place where President Garfield suffered and died; and near by are the famous Highlands of Navesink, Atlantic Highlands, Monmouth Park, and Loch Arbor—all places of more or less note and favorite resorts.

Spring Lake deserves mention as a rare combination on the New Jersey coast of pastoral scenes with the ordinary beach sands and waves of the seashore. Against the bluff beat the waves of old ocean, while back of it rest green fields, blooming orchards, and shaded groves, which, together with the beautiful fresh-water lake, affording safe boating, render it a most desirable family resort and one which has rapidly grown in favor during the last few years.

Ocean City, Md.—While Maryland has but a limited ocean coastline, known as Sinepuxent Beach, what it has affords one of the most attractive resorts for the health seeker and sportsman to be found anywhere on the Atlantic coast. Ocean City is about midway between Atlantic City, N. J., and Old Point Comfort, Va. The Gulf Stream comes nearer the shore at Ocean City than at any other point of the coast, except at Cape Hatteras. The air is exceptionally clear, fogs and dampness being very rare. The

natural beauties of the place have made it a centre of gayety for many summers.

Old Point Comfort, Va., is among the oldest and most fashionable resorts at all seasons. Surrounded by the waters of Chesapeake Bay and Hampton Roads, but within the influence of the Atlantic as well, and in a latitude which insures an evenness of temperature, it enjoys the double advantage of being not only a summer resort but a most desirable winter one as well. The Point is a government reservation, containing among its attractions Fortress Monroe, the largest fortification in America. The presence of the large garrison adds much to the social features of the place, while the surrounding waters provide ample sailing and fishing, and in the summer fine bathing. Its great hotels furnish ample accommodations suited to all classes. Old Point can be reached by railway, but those caring for travel by sea can leave New York in beautifully appointed ocean-going steamers, arriving at Old Point within eighteen hours. The new Hotel Chamberlin is an attractive feature here.

Virginia Beach, Va., fifteen miles seaward from Norfolk, with nothing beyond but the broad Atlantic, and on its shore the Princess Anne, one of the finest of hotels, comprises all the most recent improvements adapting it to an attractive seaside resort. Surf bathing in all its unalloyed glory can be most thoroughly enjoyed here. While delightful in summer, it is none the less an all-the-year-round resort for both health and pleasure. Excellent shooting can be had here at all seasons, and good fishing from May to October. Back of the hotel is a dense forest of pine trees, much of which is laid out in a park. Under the Vanderbilt management success is assured.

Pacific Coast Resorts.

San Diego, though essentially a winter resort, is also possessed of many characteristics of a summer resort. It has an exceptionally equable climate, is never cold and never excessively hot; and with its Coronado Beach it affords comfort and health in summer as well as in winter.

Santa Catalina Island.—One of the most typical summer resorts of the Pacific coast is Avalon, on Santa Catalina Island, twenty-eight miles from the mainland. The island affords a variety of conditions, from sea level to a number of thousand feet of altitude in the interior, which is easily accessible by good roads. Avalon is situated upon a small bay, completely shut in on three sides by high mountains, and is consequently free from the heavy winds or storms of the Pacific. The humidity is considerable, though the town is not often enveloped in fog, which is a common factor of the climate just outside the bay. Avalon is a place where every taste can be suited, with hotel accommodations at from three to four dollars a day, or with a cottage or tent corresponding with the length of the purse. Its hotels are good, though not elegant. The ocean trip from San Pedro is a delightful one if the tourist is a fair sailor.

Long Beach is a popular resort for families and is provided with many cottages and tents. This is the seat of a Chautauqua association and attracts many of literary tastes. While not a fashionable resort, it is frequently crowded. It has fine bathing and boating facilities and an agreeable climate.

Santa Monica is the more popular resort for Los Angeles people, and attracts many tourists from the interior regions. It has a large tourist hotel and many of more modest pretensions, and many boarding-houses. The bathing-facilities are good, as in addition to its beach there is a very large natatorium, where the sea water is warmed and can be enjoyed at all seasons. It is connected with Los Angeles, twenty miles distant, by electric as well as steam roads.

Santa Barbara is a popular summer as well as winter resort, being a favorite place with many of the inhabitants of the interior towns and with tourists who have spent their winters in Arizona and New Mexico. There are few spots in California around which clusters so much of romance as around Santa Barbara, "the City of Roses." The Santa Barbara Mission is one of the most interesting of the old landmarks connecting the present with the past century. There are some twenty hot springs, varying in temperature from 60° to 130° F., and of varying chemical composition, but all strong in sulphur. These are reached by one of the finest drives in the State. The hotels at Santa Barbara are noted for their excellence, and invalids who go to California for its winter climate will find Santa Barbara fully as delightful in summer.

Monterey lies on the southern shore of Monterey Bay and forms the centre of one of the most popular summer as well as winter sections of the Pacific coast. The quadrangular peninsula between the Bay of Monterey on the north and Carmelo Bay on the south embraces a number of very popular features, among them the famous Hotel del Monte and its park reservation of seven thousand acres; Pacific Grove, one of the most popular of family resorts; and the world-famous seventeen-mile drive. The climate of this peninsula is unsurpassed anywhere for either summer or winter. Monterey has many attractions aside from its famous hotels.

San Francisco offers about as many essentials for a summer resort as any of the more celebrated places. So far as a cool and invigorating summer climate can make it, San Francisco has all the requisites. Besides this there are many attractions to be enjoyed that are found nowhere else. With her beautiful Golden Gate Park, her wonderful Cliff House and its accessories, the Sutro Baths, and the magnificent drives through the Presidio, or army reservation, magnificent hotels, and unrivalled street-car service, by which all her attractions can be reached quickly and cheaply, San Francisco certainly stands in the front rank of Pacific coast summer resorts. The objections to the climate are the prevalence of fogs and that the nights are so cool that good warm wraps are always needed after nightfall, but these are healthful conditions when properly provided for. There are many delightful summer points upon the coast north of San Francisco, as yet accessible only by steamer, but which furnish many attractive excursions for the tourist making San Francisco his base of departure. The sun shines fifty-seven per cent. of the time; summer temperature is 59° F., and relative humidity eighty per cent.

Portland, Ore., though not situated exactly upon the seacoast, is a seaport so near the mouth of the Willamette River that while avoiding some of the severities of a coast resort it yet enjoys most of its advantages. The city is bounded on the west by a chain of hills about one mile distant, and the view from any of the hundred elevations is very beautiful. Long rows of fine mansions skirt the foothills, while below lie the well-built business portion of the city and the broad river, literally dotted with palatial steamboats and large ocean-going steamships and other vessels. No city on the Pacific coast is better equipped with fine hotels than is Portland, and the tourist will find many attractions. Portland shows sixty per cent. of sunshine for the summer months, a temperature of 68° F., and relative humidity of sixty-nine per cent.

Tacoma, Wash., is built upon a peninsular promontory of triangular form, jutting out into Puget Sound some five miles and with a base of about five miles. From the water the land slopes gradually up to the highest point of the promontory, which is in the centre. No better natural location for a city could be

conceived. The residence portion is situated upon the higher ground, and is thus lifted above the stir and noise of the city. As the streets rise one above the other like the rows of chairs in a theatre, the windows of nearly every house enjoy an unobstructed view of the magnificent scenery of the sound spread out before it. Tacoma has the best of accommodations and endless scenic attractions for the tourist. The bay with its quiet waters is given a spirit of life by a multitude of water craft, from the tiny canoe to the full-rigged ocean ship. Above this scene rises the imposing majesty of great Tacoma, as it lifts its head far into the clouds. There are higher mountains than Tacoma, but no other known peak that rises so grandly and alone from the level of the sea to such a height. It is covered with a complete robe of snow from the line of green foothills to the top, where the steam of a slumbering volcano hovers over its crown, forming what is called the "liberty cap."

Seattle is built upon a hilly strip of land from two and one half to five miles in width, between Puget Sound and Lake Washington, twenty-five miles long and five miles wide, lying parallel with the sound. The sight on approach by the sound is of a city set upon a hillside, the large buildings standing out by themselves, affording a fine view of the city. Seattle has been a marvellous instance of western enterprise and push, growing from almost nothing to fifty thousand population in twenty years, and having been nearly wiped out once by fire. With her fine hotels, good natural sanitary advantages, and pleasing variety of topography, Seattle is well worthy of the consideration of the summer tourist or of the invalid to whom this pleasant climate is suitable. The percentage of sunshine for the summer months is forty-nine; relative humidity, sixty-one per cent.; and seasonal temperature mean 61° F.—a very favorable combination.

Victoria is beautifully situated on the southeast extremity of Vancouver Island. Fort Victoria was a depot of the Hudson Bay Company established in 1843. Gradually Fort Victoria was merged into the city of Victoria, with its government buildings and varied interests, and Victoria is now one of the most interesting of the Pacific coast cities. A thorough system of macadamized roads radiates from the city, furnishing over one hundred miles of beautiful drives, many of which are lined with handsome suburban residences surrounded by lawns and parks. The topography is varied, the view from the upper streets or from the summits of Beacon or Church hills being very fine, commanding as it does a large expanse of water, the Olympic range of mountains, and the imposing form of Mt. Baker in the east. The climate of Victoria is more distinctively marine, since it gets the full benefit of the air from the broad Pacific unmodified and unbroken, rendering the summer climate cool and delightful.

Alaska.—A summer trip to Alaska is one of the luxuries of travel that should be indulged in by the tourist. The best time to visit Alaska is from June to September. The latter month usually is beautiful and the sea smooth and calm, but the days begin to grow short. As there are no "palace" hotels in Alaska, the temptation will not be strong to remain over a trip, so that the time required will be only from twelve to twenty days. The rainfall is usually very large and provision of umbrellas and rain coats should be made. Warm and comfortable clothing should be provided, as the air is cool enough even in July to render heavy wraps a necessity during much of the trip. Alaska is the largest and most northerly domain owned by any country on the North American continent. Its glaciers, its mountains, its archipelagoes of islands, and its mighty rivers are typical in their grandeur and beauty. Among these dwells a primitive race, whose history is lost in the shadows of antiquity. Its members live as did their ancestors; they make the same basket and blanket work, build the same canoes, use the same household utensils, and the same primitive methods of catching and preparing their food (fish) as were habitual to their early progenitors. Great misapprehension exists regarding the climate of Alaska. The Yukon district, including all that part of the territory north of the Alaskan range of mountains, has severely cold and long winters and short hot summers. Southeastern Alaska, including a narrow strip of mainland and the large group of islands known as the Alexander Archipelago, is warm and moist, the thermometer seldom going above 85° F. in summer or below zero in winter, the mean annual temperature being about 45° F.

Lake and Mountain Regions of New England.

The Rangeley Lakes.—The chain of lakes known as the Rangeley Lakes lies near the boundary between the States of Maine and New Hampshire. These are sometimes called the Androscoggin Lakes, because their final outlet forms the river of that name. They are six in number, and with but few exceptions they lie in unbroken wilderness. They vary in altitude from twelve hundred and fifty-six feet to fifteen hundred and eleven feet above the sea, thus being among the highest lakes of any extent in the country. They are easily accessible from many directions, and they have become renowned as summer resorts for all lovers of nature. The combination of lake, pond, and river scenery, coupled with pure air and water, a most delightful summer climate, and the conveniences of hotels, clubhouses, camps, and private dwellings for the entertainment of visitors, have made Rangeley Lakes a favorite resort.

Moosehead Lake, Me., is the largest of the New England lakes, being thirty-eight miles in length by fifteen in width. It is about one thousand feet above the sea and of very great depth. Promontories, headlands, and islands almost innumerable mark its contour, while the characteristic scenery is that of the most primitive wilderness. It is one hundred miles from the ocean, and has many hotels and community establishments where the tourist can be accommodated in almost any way his fancy may dictate.

Gorham, N. H.—Space will permit of but very brief mention of a few of the many attractions. For river scenery in connection with impressive mountain forms Gorham can hardly be surpassed. The Androscoggin sweeps through the village, while the nearness of the great peaks of Washington, Madison, Jefferson, and Adams gives a grandeur to the environs seldom equalled. The village is eight hundred and twelve feet above sea level and the air is dry, invigorating, and healthful. Added to these many attractions is a first-class homelike hotel. Gorham is the nearest village to Mt. Washington and also to the great northern peaks. It is in fact, as in name, "the gateway to the White Mountains."

Lake Winnipiseogee, N. H., lies at the base of the White Mountain region in central New Hampshire. The lake is four hundred and seventy-two feet above the level of the sea, is twenty-five miles long, and from one to seven miles in width. Scattered over its area are islands, large and small, to the number of nearly three hundred, many large enough for habitation, but the larger part being simply islets forming most attractive scenic features on all sides. These islands constitute most desirable excursion points. The shores of this lake present a series of summer resorts, as Alton Bay, Wolfborough, Centre Harbor, and Weirs, which are chiefly centres for summer visitors, being indeed little more than such, while all the towns and villages in the neighborhood partake largely of the

same characteristics. The mountain scenery about Winnipiseogee is very fine. Long Island, one of the larger of the islands mentioned, has two summer hotels and is about eight miles from Centre Harbor.

Laconia, N. H.—Just to the south of Lake Winnipiseogee, on the shores of Lake Winnesquam, is the thriving city of Laconia, with its adjunct, Lakeport, occupying almost the entire eastern border of the lake. Lake Winnesquam is about nine miles by two, and is a most picturesque place, its surroundings and scenery being exceedingly primitive and attractive. Laconia and Lakeport afford excellent accommodations and invite many summer visitors.

Newfound Lake, N. H., situated among the highlands of southern New Hampshire, at an altitude of five hundred and ninety-seven feet above the sea, affords many attractions. It is beautifully situated among wooded hills which present many attractions for campers; the farmers of the neighborhood open their houses to summer boarders, and the most quiet and unconventional life possible can be enjoyed. The fishing is unexcelled.

Lake Sunapee, N. H., is about nine miles long by three in width and is eleven hundred feet above the sea, amid hills and mountains which greatly diversify the scenery. All about this lake are the establishments that mark the section as a favorite summer resort for people of wealth and refinement. The water of Lake Sunapee is so exceedingly transparent that the rocks and sands along the bottom may be clearly seen even to the depth of thirty feet or more. The air is cool and delightful, and the mosquito is almost unknown on its shores.

Groveton, N. H., has some remarkable scenery in its vicinity. The village itself is surrounded by mountains. The Perry Peaks on the north will attract the most indifferent observer on account of their wonderful symmetry of form and color. Cape Horn, three miles distant and twenty-seven hundred and thirty-five feet high, can be easily ascended.

The White Mountains are situated mainly in Coos and Grafton counties in the northern portion of New Hampshire, and consist of a number of peaks from four thousand to six thousand feet in height, the highest being Mt. Washington, sixty-two hundred and forty-three feet above the level of the sea. Mt. Washington is the centre of many attractions for tourists, each having some peculiar charm. "The Notch" is a narrow gorge, the entrance being but twenty feet wide, between two enormous cliffs, and extending two miles, abounding in cascades and precipices. "Franconia Notch" contains several natural curiosities, among which is "the Flume," a waterfall of two hundred and fifty feet. "The Old Man of the Mountains" is a profile of the human face delineated by a peculiar combination of the surfaces and angles of five massive granite blocks at the height of one thousand feet, on the surface of a bold jutting cliff. "Tuckerman's Ravine," the "Gulf of Mexico," and "Oakes' Gulf" are deep ravines in which snow and ice remain till late in summer. The "Devils' Den," "Gibbs' Falls," and many other well-known places are accessible to visitors from excellent hotels which are situated in the immediate vicinity of the attractions mentioned.

Besides the places we have already mentioned in some detail, contiguous to the White Mountains are others of as much prominence as points of departure for the mountains, and very popular as summer resorts. Among these are Fabyans, North Conway, Lancaster, Scotts, St. Johnsbury, Wells River, Woodstock, and Bethlehem. This whole region is noted as a favorable resort for hay-fever sufferers. The seasonal data of Mt. Washington for summer are: sunshine, sixty per cent.; mean relative humidity, ninety-one per cent.; mean temperature, 46° F.; but these of course must not be taken as the standard of the region in general, as the data are for the summit of Mt. Washington, where the humidity would be very high and the temperature very low. As the towns mentioned are all about fifteen hundred feet above sea level, the temperature average would probably be very near to 60° F.

Profile House, N. H.—The nearest the tourist can get to hotel accommodations at two thousand feet of altitude in the White Mountains is at the Profile House in Franconia Notch and on Profile Lake, nineteen hundred and seventy-four feet above sea level, and aside from its high altitude it offers many other attractions to the invalid and tourist.

The Green Mountains. Lying east of Lake Champlain and extending from the northern boundary of Vermont almost to the southern line of Massachusetts, are the Green Mountains and their continuing hills, which form the watershed between the Connecticut Valley and the valley of the Hudson River in New York. These mountains are not so high or so abrupt as those of the White Mountain region, nor is the scenery quite so much of the type found in the greater mountains of the West, but the Vermont hills and the Green Mountain region are noted for their great pastoral beauty and a fine climate, and together constitute one of the favorite summer-resort regions of America.

Northfield, Vt., is ten miles south of Montpelier, in the very heart of the Green Mountains. The scenery is varied and picturesque, presenting an attractive place for such as wish to escape the dust and excitement of the city. Within three or four miles of the village in all directions are eminences from which most extensive views of Green Mountain scenery are obtainable. To one seeking a quiet home for the summer, among intelligent and progressive people, with quiet but excellent accommodations in hotel or boarding-house, it would be difficult to point out a more satisfactory location than Northfield.

Montpelier, the capital of Vermont, has in recent years attracted many summer tourists to its quiet precincts. In all that pertains to a city, good hotels, large business blocks, numerous churches, schools, and well-stocked stores, Montpelier is a city. In all its surroundings, throughout its length and breadth, it is a natural and artificial park, having wooded hills, green lawns, and pleasant groves. As a summer home Montpelier offers superior attractions to city residents and is a most excellent place for a family outing for several weeks. Within easy reach is Mirror Lake, a clear and lovely sheet of water, two and one-half miles long by one-half mile in width, surrounded by cedar groves where tent life may be enjoyed to the utmost, and fine farms in the highest state of cultivation.

Burlington, on the scale of beauty of scenery and location, is scarcely second to any New England town. Its unique beauty consists in a rare grouping of water, mountain, and pastoral scenery. Its Crescent Bay with headlands at either horn, its gentle slope to the college-crowned summit, its fringe of mountains with bold peaks, and nestling in the midst of these a well-kept city, complete a combination seldom equalled. Burlington offers many attractions and a welcome entertainment to the summer tourist, and is a healthful resort for the invalid.

The Berkshire Hills, Mass.,

are celebrated for scenery of great beauty and are highly esteemed as a summer-resort region. There are many towns in this region, each having its peculiar attractions and natural advantages, and it is difficult to say which would be most pleasing. Pittsfield is about midway between the north and south limits of the hills, with perhaps all possible Berkshire attractions, but other places of note are Sheffield, Great Barrington, Dalton, Lanesborough, Lee, New

Lebanon, Stockbridge, Lenox, and Williamstown—all of which have their own attractions and admirers.

The Catskill Mountains, N. Y.

In a region of such historical and well-established fame, it would be hard to single out any particular place or places for commendation. Many points in the region have well-established reputations as summer resorts.

The Adirondacks and North Woods, N. Y.

Occupying a large area of the northeast portion of the great State of New York, are the Adirondack Mountains and the North Woods, a section of country as yet but little known by the average tourist, and in places hardly explored by even the adventurous woodsman. It is doubtful if any other section of country in America affords such a mixture of mountains, valleys, and lakes as does this region, there being literally hundreds of each in a region comprising some two thousand square miles of territory. While much of the region is yet practically inaccessible, there are numerous points from which the interior is reached or which offer enough of the wild and untamed wilderness to satisfy the average traveller, and it is these accessible points only with which we shall deal in this article, leaving the minutiæ of the region to those who have made its study a specialty.

Remsen might properly be called the gateway to the Adirondacks, as it is the point of departure of the Mohawk & Malone Railroad (under lease to the New York Central), which goes directly through the mountains. From Remsen many parties start with guides and horses for the numerous lakes of the interior, notably for the Fulton chain, one of the fairest specimens of the attractions of the Adirondacks.

Old Forge, with its large and commodious Forge House, stands on an elevation above the Moose River, upon which boating can be enjoyed for a dozen miles in either direction without encountering any troublesome rapids. Steam yachts make daily trips through the numerous lakes connected by the river. This is a particularly favorable resort for ladies, as it combines many of the elements of wildness with facilities for easy enjoyment of them.

Lake Brantingham lies on the border of the Great Forest, about three hundred and fifty feet above Black River Valley and fourteen hundred feet above sea level. Its banks rise in gentle slopes to a moderate height, are richly wooded, and present a scene charmingly wild and picturesque. "Round" and "Dark" islands are popular camping-grounds. There is a good hotel of homelike character, where comfortable and reasonable entertainment can be had. Half a mile from the lake is a mineral spring, strongly impregnated with iron, magnesia, and sulphur, affording a special attraction to invalids.

Houseville, N. Y., is a pleasant hamlet high up on the forest-clad western slope of the Black River, eighteen hundred feet above the sea, and one of the highest points in New York State except the mountain peaks of the Adirondacks. Houseville has, as to purity of air and freedom from malarial influences, the characteristics of the Adirondack region. The main attractions are its pastoral beauty and homelike hotel, where perfect freedom and quiet can be enjoyed, along with the fresh cream, eggs, and berries which only such a region can furnish.

Lake Kushaqua lies among the hills, in the very heart of the wilderness. On a bluff commanding a view of the entire lake stands Kushaqua Lodge, a family hotel built for comfort rather than style. From the distant mountains comes an abundant supply of pure spring water, which, with the perfect sanitary conditions and balsamic odors of the evergreen forest in which it is located, renders it an ideal spot for health.

The Thousand Islands.

Scattered along the St. Lawrence River from Cape Vincent and Clayton to Alexandria Bay and beyond, filling a channel in some places twelve miles broad, are more than eighteen hundred islands, collectively known as the Thousand Islands. Varying in size from a small mass of rocks to picturesque islands miles in extent, nearly every island, large or small, is the pleasant summer home of its fortunate owner, while many of the larger ones have been developed into most charming and prosperous summer-tourist and invalid resorts. During the summer season the islands teem with life and gayety. Sporting in all its variety is unsurpassed, both gun and rod yielding to the sportsman unexcelled pleasure and satisfaction. For those afflicted with hay fever, or for the invalid needing change of scene, rest, or recreation, the pure and invigorating atmosphere renders this place of resort a delightful sanatorium. The hotels at Cape Vincent, Clayton, Round Island, Thousand Island Park, Westminster Park, Grinnell Island, Alexandria Bay, and Edgewood Park are modern and equal in accommodations to the resort hotels of other popular regions. As it is not within the province of this article especially to mention hotels, and as specific mention of the various islands of this group without a mention of the peculiar attractiveness of their hotels would be like "Hamlet with Hamlet left out," we will pass this region with only a general mention, calling attention to its wonderful beauty and variety as a summer resort, and refer the reader to the voluminous literature of the railroads and hotels, which is beautifully illustrated, for more detailed information.

The Lake Region of Central New York.

The chain of lakes extending through the central portion of New York is unsurpassed for beauty, and many charming resorts are located upon their banks, all of which are accessible by steamers which make regular trips from one end to the other.

Oneida Lake is the most easterly and most northerly, a handsome sheet of water, some twenty miles long by four or five in width, with numerous towns along its banks, and affording a variety of scenery and resort attractions.

Skaneateles Lake is the next in the series as one goes westward, and is about twenty miles long by one mile in width, with the village of Skaneateles at its northern extremity, the principal town on the lake.

Owasco Lake is a small sheet of water between Skaneateles and Cayuga Lake.

Cayuga Lake has at its head the beautiful university town of Ithaca, where not only superb summer-resort features but many attractions of a literary character are to be found. Cayuga is the largest of this chain of lakes, being about thirty-five miles in length and from one mile to three miles in width. Steamboats of quite palatial character ply upon its waters.

Seneca Lake, with Watkins Glen, one of the most noted of New York's resorts, at its head or south end, and Geneva, one of New York's most beautiful villages, at its foot, is second to Cayuga only in size and commercial importance, but for beauty its full equal. Both Geneva and Watkins have fine hotels and Geneva has medicinal springs of wide reputation and recognized value.

Kuka or Crooked Lake lies a few miles west of Seneca Lake, and is only about half its length. As one goes westward these lakes become smaller but more

pronounced in scenic beauties. Lake Kuka has two arms. At the north or foot end is Penn Yan, a pretty village of some thousands of population, while at the south or head of the lake is Hammondsport, noted as the centre of the great wine industry of western New York. At the confluence of the two arms of this lake is Bluff Point, a high promontory rising abruptly from the water to hundreds of feet above the lake. The abrupt shores of this lake are covered from end to end with vineyards.

Canandaigua Lake is one of the most beautiful of the chain, sixteen miles in length, and averaging about one mile in width. It has many projecting points, which with the corresponding bays give a variety both pleasing and unique. This lake is of great depth and of wonderful purity. Canandaigua, one of the prettiest villages of western New York, is at its foot, while Naples is near its head.

Between all of these lakes are high divides, rising in many places to fifteen hundred feet above sea level, the lakes themselves averaging between four and five hundred feet above sea level. All of these lakes have many summer campers and cottagers along their shores.

Chautauqua Lake.—In the extreme southwest part of the State lies Lake Chautauqua—world famous as the home of the original Chautauqua Literary Circle and annual meeting-place of the National Sunday-School Assembly. Chautauqua Lake is seven hundred feet above Lake Erie, or thirteen hundred feet above the sea. The shores of the lake afford many attractive resorts, and are very popular as camping-grounds for summer parties. There are numerous large and small hotels, and many private accommodations for tourists, and the exceptionally high altitude of the lake renders it particularly favorable as a summer resort. The water throughout this lake region of New York is impregnated more or less with lime—is, in fact, hard water if taken from ordinary wells or streams, but in many sections there are flowing wells of soft water from lower water-bearing strata.

Sullivan County as a Health Resort.

Those seeking a cool, healthful, attractive retreat during the summer months may be interested in learning that within three and a half hours' ride from New York, nestling high up among the Delaware Mountains where they join the Catskills, may be found the towns of Sullivan County, which are becoming better known each successive year as favorite resorts for those in search of health and pleasure. There are many spots in this county where pleasant vacations may be spent, but, as Liberty is the largest and best known of any of them, a description of its surroundings will be illustrative of the county as a whole.

Situated at an elevation of from eighteen to twenty-four hundred feet above the sea, and surrounded by a region of matchless scenery, sylvan dells, clear running streams, and undulating hills; blessed with an invigorating climate, cool days, and pleasant nights, during which the most wakeful of invalids can sleep as sweetly and soundly as children, it is not strange that the first few days of sojourn are always followed by increased appetite and restored health. Then among the environments of Liberty are found all the essentials to a summer's outing for pleasure. The fisherman may angle successfully in cool and shaded streams; the wheelman can roam over miles of country roads in an atmosphere so cool and bracing as to forbid fatigue. Those of more staid habits can spend many a delightful hour in driving to Liberty Falls, Monticello, White Sulphur Springs, and many other points of interest too numerous to mention. And finally the pedestrian can wander at will through woods and along shady trails, while many another idle hour may be spent swinging in hammocks under trees, in orchards unsurpassed for luxuriance and beauty.

Although known for a long time as a health resort, Liberty has come more prominently to the front during the past year, owing to the establishment in its suburbs of what promises to become the largest and most perfect sanatorium in the United States for the treatment of pulmonary tuberculosis. The late Prof. A. L. Loomis, M.D., after careful study of the various localities, chose Liberty as the one best adapted by its physical and climatic conditions, immediate surroundings, and accessibility to New York, for the establishment of the sanatorium now bearing his name.

From the sanatorium grounds the eye can reach southward forty miles to the Delaware; to the west is a succession of rolling mountains, reminding the traveller of the wild tropical mountains in the Cordilleras. To the eastward the Catskills and Mongaup Mountains lift their frowning heads. No swamps or lowlands are seen, and therefore no fogs, stagnant waters, or poisonous vapors are encountered; but on cool summer evenings the clouds, instead of fogs, may be seen scudding past with great velocity.

The Loomis Sanatorium was opened on June 1, 1896, and has been growing in size ever since, until its present capacity is eighty patients. It is built on the cottage plan.

The town of Liberty has one of the best water systems in the State. Its streets and houses are lighted by electricity. It contains numerous large hotels and boarding-houses, with accommodations for every class of people. The results that have been observed among patients sent to various points in Sullivan County, but more especially to Liberty, during the last decade, have shown remarkable evidence of the salubrity of the climate. Many years ago the old country physicians noted that persons arriving in apparently very serious if not hopeless condition, after a few months' sojourn returned to their homes greatly improved, and in many instances apparently cured. No especial note was made of these facts until the attention of Dr. Loomis was turned in this direction. From that time on the throng of health seekers has been annually augmented. Almost immediately after arrival patients begin to gain in weight and improve in general appearance, their appetites and, better still, their digestive powers show marked improvement. Those who in the city have been unable to walk more than a few blocks are, ere the lapse of many weeks, wandering at will over country roads and through the woods for nearly the whole day. Cough and expectoration diminish rapidly in the majority of instances.

Among the numerous towns of Sullivan County that may be mentioned more especially as places of health resort are Liberty Falls, elevation, 1,100 feet; Fallsburg, 1,224 feet; Woodburne, 1,400 feet; Neversink, 1,450 feet; Monticello, 1,500 feet; Hurleyville, 1,320 feet; Loch Sheldrake, three miles from Liberty; Youngsville, eight miles from Liberty; White Sulphur Springs, three miles from Liberty; Stevensville, three miles from Liberty, and White Lake. All these places are situated on the line of the Ontario and Western Railway, which runs during the summer months a number of accommodation and express trains both ways, with extra trains on Saturday running to accommodate business men who have their families located in this section for the summer.

Pennsylvania.

Delaware Water Gap, Pa.—Where the Delaware River breaks through the Kittatinny Mountain is one of nature's beauty spots, and man, not slow to appreciate what nature has done, has improved his oppor-

tunity by making a summer resort which is very popular with the inhabitants of the many cities within a few hours' ride. The gap or gorge is about two miles long, and the celebrated gorges of the Rocky Mountains are hardly more wild or attractive. A large and popular hotel accommodates the summer visitors.

Mauch Chunk, Pa., with its famous Mt. Pisgah and "switch-back" railroad, is a popular summer resort for the people of the Eastern cities. Of all the numerous American "Switzerlands," Mauch Chunk can perhaps come as near to "filling the bill" as any other spot in the country.

Michigan, Wisconsin, Etc.

Michigan lake resorts present charms peculiar and unexcelled. There are hunting-grounds abounding in game and fishing-grounds where can be found the famous grayling, trout, bass, and muskalonge. One of the resorts nearest to Chicago is

Benton Harbor, which offers strong inducements, particularly to those who at little expenditure of time or money would seek retirement from the crowded city. Lying at the junction of the St. Joe and Paw-Paw Rivers near their entrance into Lake Michigan, there are many attractions of land and water skirted by extensive fruit farms and productive fields. The Eastman Springs, twenty in number, possess valuable medicinal qualities.

St. Joseph is more directly on Lake Michigan and has an extensive sand beach, overlooked by a high bluff, along the edge of which extend a charming boulevard and shaded park.

Petoskey is a leading resort of this section, and has a reputation for favorable conditions for hay-fever patients. Petoskey is built upon tablelands which rise in successive terraces from the sandy beach of Little Traverse Bay. The location is on the south side of the bay, and, as the prevailing winds are from the north, it is always cool and laden with health-giving freshness.

Mackinaw Island possesses charms peculiarly its own. The surprise of the new visitor is not that it is a popular resort, but that it has not always been one, or that its out-at-sea character has not always been known and appreciated. It is essentially and wholly a summer resort, having no other interests. The average sunshine for the summer season at Mackinaw City is fifty-three per cent.; mean relative humidity, seventy four per cent.; seasonal temperature 61° F. Mackinaw is one of the most prominent hay-fever resorts in the country, and is bountifully supplied with hotels and tourist accommodations.

Marquette.—The south shore of Lake Superior has long been recognized by those familiar with its peculiarities as one of the best all-round summer-resort sections of our country. Much of it is wild and undeveloped, but rich in those natural elements of a health resort, viz., a healthful and delightfully cool summer climate, abundant and pure water, and an endless variety of out-door recreations such as boating, fishing, and hunting. Of all these attractive features Marquette is a most available centre. It is a substantial city of twelve thousand permanent population, and contains all the elements of a successful health resort, with fine hotels, beautiful parks, and a summer climate one degree cooler and three per cent. dryer than those of any other station on the chain of lakes. It is the centre of a large section lying along the south shore that is destined to develop rapidly into a favorite summer resort. It is particularly well adapted to hay fever, catarrhal, malarial, and general nervous diseases. Mosquitoes and insects are practically unknown in the city, owing to the almost constant lake breeze and entire absence of low or moist lands or standing water. The water supply is unsurpassed for purity.

Superior, Wis., lies at the head of Lake Superior and has many attractions for the tourist and invalid, excellent hotels, and unrivalled facilities for boating on the inland bays and river thoroughly protected from the high winds of the lake. From Superior fine lake, bay, or brook fishing is accessible in all directions. The rapid and metropolitan growth of Superior is one of the wonders of the last decade, and with this growth have come many of the advantages sought in a resort. With a more rigid regard for sanitation, Superior ought to be a favorable summer resort for all classes of invalids.

Madison, Wis., is noted far and wide for its beauty of location, being built upon rolling hills between a series of four lakes, which nearly surround the city and which afford a "lake breeze" from whatever direction it may come. Madison is the State capital and site of the State university, and thus insures a high grade of society. It has good hotels and boarding-houses, and though, like most State capitals, "a little slow," yet is a popular summer resort.

Duluth, Minn., with its beautiful boulevard skirting the crest of a hill for several miles, eight hundred feet above the Lake Superior, and affording one of the finest views of lake, bay, river, forest, and urban scenery that can be imagined; with its beautiful drives along the lake shore and back into the rolling hill country; with its large and small hotels, and with its fine summer climate, has many attractions for the summer tourist and invalid. Duluth has been for many years a favorite resort for hay fever, and but few are disappointed in the effects of a sojourn there during the summer and autumn. Minnesota Point, a strip of dry sand nine miles long by a few rods wide, stretching across the head of Lake Superior, separating the bay from the lake, is an ideal camping-ground and is utilized as such by thousands every summer.

Virginia Springs Region.

The most notable resort region of the medium-altitude class is that of the Virginia Hot Springs, which includes a great number of springs and a great variety of waters. The altitude of the valleys in which these springs are located varies from two thousand to twenty-five hundred feet, while the mountains surrounding them often rise to as great a height above. There are three distinct regions. First are the Hot Springs of Virginia, with waters at a temperature of 108° F. These springs have every facility for the effective use of the waters, and hotel accommodations which leave little to be desired in that direction. The bathhouse at these springs cost over $150,000 and all bathing is done under the strict supervision of a medical superintendent.

The Healing Springs are two and one-half miles south of the Hot Springs. The temperature of these springs is from 85 to 88° F., the supply of water being abundant, coming from four springs of essentially the same character. A modern hotel and bathhouse are here provided for the accommodation of guests.

The Warm Springs, situated in a valley, are in the midst of a grand old grove five miles north of the Hot Springs. The temperature of these springs is 96° F., and they have long been a favorite resort for health and pleasure seekers.

Millboro Springs are situated in a quiet, charming retreat in the mountains, two thousand feet above sea level and one hundred feet above the headwaters of the James River. From the eminence upon which the fine hotel stands, the view of valleys, mountains, and towering peaks is one of remarkable beauty.

Rockbridge Alum Springs also occupy an ele-

vated position over two thousand feet above the sea. The springs are nine miles from Goshen and are reached by a narrow-gauge railroad. The springs give forth alum, chalybeate, and freestone waters and are highly valued. There are accommodations for six hundred guests.

Sweet Chalybeate Springs are nine miles from Alleghany Station, which is the summit of the Alleghany Mountains, thirty-one hundred feet above sea level. These springs are strongly impregnated with iron, from which fact they have derived the name of Red Springs.

White Sulphur Springs, W. Va.—These springs have been a popular health resort for over one hundred years, the medicinal virtues of the waters having been recorded as far back as 1788. They have an established reputation in relieving dyspepsia, jaundice, malaria, hay fever, and liver diseases, and the sulphur baths for gout, rheumatism, and skin affections give almost immediate relief. While there is a large and fine hotel, the cottage system predominates, there being one hundred cottages as a part of the resort, all with complete sanitary arrangements.

Red Sulphur Springs are twelve miles from the railroad, but are reached by a fine turnpike. The buildings are spacious and filled with every convenience for the entertainment of guests. These springs have long been a favorite resort for the aristocracy of Virginia.

Salt Sulphur Springs are fourteen miles from the railroad. Here also are an iodine spring, a sweet sulphur spring, and a chalybeate spring, thus affording a great range of treatments. The buildings at these springs are of stone; they have the appearance of antiquity and solidity, and are set in the midst of a lawn of nine hundred acres.

Sweet Springs, W. Va., "Old Sweet," as they are called, are ten miles south of Alleghany Station. These are among the oldest of the Virginia springs resorts. The waters are highly tonic in effect, with mild cathartic action The scenery and accommodations at these springs are not surpassed, and the latest sanitary and hygienic improvements have been introduced.

Tennessee.

Lookout Mountain, Tenn.—At an altitude of twenty-five hundred feet is Lookout Inn, one of the best hotels in America and a favorite summer as well as winter resort. Lookout Inn is located on a level tableland overlooking Chattanooga and covered for miles with pine and oak forests.

Sewanee, Tenn.—On the upper plateau of the Cumberland Mountains, at an elevation of two thousand feet, is a university town with schools of science, literature, theology, and medicine. A good hotel and many boarding-houses entertain summer visitors from the lowlands and the far South during the hot season.

High-Altitude Resorts.

All resorts above four thousand feet in altitude will come within this classification, and necessarily are confined to a limited area of the Rocky Mountain region. The first effect of a high altitude is to cause a deeper expansion of the lungs, to compensate for the decreased amount of oxygen in a cubic foot of air, this difference at four thousand feet being about twenty per cent., or, in other words, one-fifth more air must be breathed to supply the same amount of oxygen as at sea level. This deeper breathing also requires a corresponding quickening of the heart's action, and herein lies the danger of a sudden transition when the lung capacity is to any extent lessened by disease, for in order properly to oxygenate the blood with a decreased lung capacity and a decreased supply of oxygen requires a largely increased action of the heart or a more rapid circulation of the blood to convey the required amount of oxygen to the tissues. This increased action cannot be safely imposed upon a heart crippled by organic defects or too much weakened by merely functional disease, though in the latter case a gradual approach to a high altitude is nearly always beneficial. With this general statement of the effects of high altitude the physician should be able to apply its therapeutic properties to each case as it comes up, bearing in mind always that a high altitude also necessarily carries with it an increased diurnal change, or more marked difference between sun and shade temperatures, or between day and night, than is experienced at a low altitude at the same latitude.

Denver, Col., is perhaps the distributing point for the high-altitude summer resorts, not only of Colorado but also of the middle Rocky Mountain region. Denver is too well known to need more than a mention in this connection. The altitude of Denver is fifty-one hundred and ninety-six feet. The water from its artesian wells is almost chemically pure. The sanitary conditions are good and hotels unexcelled.

Castle Rock is a small hamlet thirty-three miles south of Denver; elevation, sixty-two hundred and twenty feet. It is an attractive spot.

Palmer Lake, at an elevation of seventy-two hundred and thirty-eight feet, is about midway between Denver and Pueblo, and probably the highest point accessible to tourists beside the mountain proper. Glen Park, the Colorado Chautauqua, is within half a mile of Palmer Lake.

Colorado Springs is perhaps the typical high-altitude health resort of America. With an elevation of six thousand feet, it represents the full standard of a high altitude, while within sight of the city almost the highest altitude accessible to man is also available, with all gradations between. The characteristics of the climate are a very large percentage of sunshine, hot days in the sun but always cool in the shade, cool nights, little rain, considerable wind, and some dust, but a climate allowing out-door life nearly all the time, especially during the summer and autumn.

Manitou Springs, Col., is strictly a summer resort, its principal hotels being open only during the summer months, though its sheltered position and fine winter climate are favorable for winter as well. The special features of Manitou are the wonderful soda springs and other mineral waters, which have a wide reputation. From Manitou are accessible many of the attractions of this wonderful region. The altitude of Manitou is sixty-three hundred and eighteen feet.

Cheyenne, Wyo., is six thousand and fifty feet above the sea and the metropolis of Wyoming, possessing all the modern improvements in city building, which make it available as a summer resort with many attractive features.

Sherman, Wyo., is a small town, eighty-two hundred and forty-seven feet above the sea, amid wild and rugged scenery, Pike's Peak, one hundred and sixty-five miles distant to the south, being plainly visible on a clear day.

Laramie is called the "Gem City of the Rockies," and lies seventy-one hundred and forty nine feet above the sea. From Laramie a stage line runs during the summer months to North Park, Col.

Yellowstone National Park occupies the northwestern corner of Wyoming, extending short distances into Idaho and Montana. When this park was set aside to be forever the grand tourist resort of the people and their common property, but few had any idea of the endless variety and grandeur of this tract of country, fifty-five by sixty-five miles in area. The park embraces three

thousand square miles, has an average elevation of about eight thousand feet above sea level, and is encircled by magnificent mountain ranges. To attempt even detailed mention, let alone description, of the wonderful and varied features of this park, would require all the space allotted to this article; therefore it is only to call attention to it as one of the great summer resorts that it is referred to. All of the hotel and other facilities are under direct government supervision, so that the public is assured of the best service possible.

Soda Springs, in Bingham County, Idaho, are situated within a stone's throw of the main line of the Union Pacific Railroad, fifty-seven hundred and eighty feet above sea level, with snow-capped mountains on every side; yet the climate is said to be as "wonderful for a summer resort" as are the springs for their virtues, reputed to do away with the appetite for spirituous liquor. Good hotel accommodations are to be had, and the country affords unlimited means of recreation.

Helena, Mont., thirty-nine hundred and thirty feet above sea level, is beautifully situated, and is well provided with fine hotels. There are many attractions for the tourist, consisting of excursions to the contiguous mountains, pleasant drives, and bathing in the waters of a hot spring of high repute. Prickly Pear Canon, "the Gate of the Mountains," where the Missouri River bursts through, is said to surpass anything on the Hudson, and for one hundred miles there is a succession of scenery rarely equalled.

Salt Lake City, Utah, has most of the requisite features of a popular summer resort. It is situated forty-three hundred and eighty-four feet above sea level, and has an immense salt sea at its door, which, with the cool air and bright sunshine, makes a rare combination of healthful conditions. It combines a large percentage of sunshine with a low humidity. Salt Lake City has many other attractions which are of interest to the tourist and beneficial to the invalid.

Yosemite Valley, Cal., like the Yellowstone National Park, is a national public park, dedicated to the use of the people as a resort. But here their similarity ceases, and no comparison can be drawn between them. Having seen the one, to appreciate the diversity of wondrous nature the tourist should see the other. With all that has been written about them, they are still undescribed—because they are indescribable. The Yosemite is the tourist's paradise and the invalid's cheer; and fortunate, indeed, are the invalids who find it convenient to resort thither and enjoy its benefits. Hotel accommodations are abundant and reasonable as to cost.

Mt. Lowe, Cal.—Within three hours' ride from the surf bathing at Santa Monica, by electric cars and the famous Mt. Lowe inclined railroad, the tourist can be taken to the comfortable and unique "tavern" at the top of Mt. Lowe, three thousand feet above the sea and the beautiful San Gabriel Valley. Echo Mountain House is thirty-five hundred feet above sea level, and "Ye Alpine Tavern" five thousand feet, with the top of Mt. Lowe one thousand feet farther up among the clouds. In the great pine woods surrounding this resort are all the facilities for camping and tent life, with the city of Los Angeles within one and one-half hours' ride.

Lake Tahoe, Cal., is fourteen miles west of Carson City, Nev., the lake lying half-and-half in the two States. This beautiful lake is thirty-five miles long, fifteen miles wide, fifteen hundred feet deep, and sixty-seven hundred feet above sea level. Though surrounded by mountains whose summits are white with snow nearly the entire year, it never freezes. A fine hotel and facilities for camping render this resort one of the finest for summer to be found in California.

Society Reports.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FOURTH TRIENNIAL SESSION.

Held in Washington, D. C., May 4, 5, and 6, 1897.

WILLIAM H. WELCH, M.D., OF BALTIMORE, PRESIDENT.

(Continued from page 826.)

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Second Day—Wednesday, May 5th.

A Brief Consideration of Some Points in the Management of Consumption.—DR. R. H. BABCOCK in a paper with this title agreed with Finlayson and others that the consumptive's temperature is not febrile until it reaches 101.3° F., and only then requires treatment. He first advises rest in the open air and regulation of the diet. If this does not reduce the temperature, he advises careful sponging or the use of small doses, one and a half to three grains, of antifebrin, or some other non-depressing antipyretic, an hour before meals, as suggested by Detweiler, for the purpose of promoting the secretion of free hydrochloric acid during digestion, it being absent during fever. Sweating he combats with picrotoxin and camphoric acid. Diarrhœa is due less often than is generally supposed to intestinal ulceration; he considers it due to intestinal fermentation, and treats it with intestinal antiseptics rather than with opium and astringents. He inquired if laryngeal tuberculosis does not contradict high altitudes, and wished to learn from Colorado members why patients are often retained at that high altitude after having developed laryngeal symptoms. It is his belief that patients having recovered in high altitudes should not return to reside at their former homes in the East, although he has known individuals to do so without apparent harm. He wished to learn if the members did not consider such return unsafe and likely to bring on a fresh outbreak of the disease.

The Clinical Value of the Culture Products of the Bacillus of Tuberculosis.—DR. KARL VON RUCK, of Asheville, N. C., read a paper in which he said that the tubercle bacillus produces substances in the culture which are antagonistic to its life and growth, and that the germs cease to grow and die because of the presence of such peculiar substances. The bodies of the germs contain fats which can be extracted with ether or alcohol, and when the fat is removed they lose their properties of retaining the aniline stains. After removing the fats the author has extracted them further and practically reduced them to a small residue, consisting of cellulose. The extractive substances produce immunity in guinea-pigs, and act curatively also. The degree of such action appears to stand in relation to the amount administered. The purified products of the culture, especially such as Klebs has produced, have given the best clinical results, and several cases are reported illustrative of their action and limitations. In suitable cases, especially the earlier stages, the percussion dulness disappears in newly involved area, and the respiration becomes again vesicular, with corresponding general improvement. Their use is not attended by any danger or discomfort to the patient. It was not contended that these remedies should be used to the exclusion of all other valuable means. On the contrary, the author stated that in the treatment of phthisis we

are necessarily confronted with complex pathological changes, the results of tuberculous disease, all of which it could not be hoped directly to influence by remedies which were directed against the tubercle bacillus itself. Other factors, such as climate, had to be considered in the question of treatment. The author has also produced a serum from goats, after the method of Maragliano. In a comparative experiment both his and Maragliano's serums acted alike in effect and degree, protecting the guinea-pigs from the usually fatal dose of toxins. Some of these goats are now being further immunized with the extract of the tubercle bacillus, but neither serum nor extract has been used in the systematic treatment of human tuberculosis as yet, and they are still under experimental investigation.

Digestion versus Drugs.—Dr. Samuel A. Fisk, of Denver, Col., in a paper with this title, gave prominence to the use of "food and fresh air" in the treatment of the two most serious troubles which affect mankind, insanity and pulmonary tuberculosis, and in contrast called attention to the mass of drugs vaunted in medical publications and out of them for the cure of all diseases. He questioned whether we had advanced at all on the simplicity of "food and fresh air." He admitted that the profession was somewhat to blame for this, and cited the case of a patient who was getting by actual count eighteen different remedies in the course of twenty-four hours; also of another patient who was receiving hypodermic injections and other treatment addressed to the bacilli. Both patients had brown and furred tongue, loss of appetite, constipation, scanty and high-colored urine; both were improved by the administration of a little calomel and attention to the details of ingestion, assimilation, egestion, food, and fresh air.

Dr. Fisk remarked that the bacillus had assumed such monstrous proportions in our eyes that it must be hunted and killed at any cost. He said it had been remarked that more patients had been killed with antipyrin than had died from the grippe, and that he sometimes wondered whether the same thing could not be said of creosote and tuberculosis. His own experience has not been favorable to the use of creosote, and it is his custom to substitute calomel and potash. The speaker said that he had seen patients with consolidation, night-sweats, constant cough, and profuse expectoration, accompanied by loss of strength and flesh, and it might be with hemorrhages, do admirably because they could eat, digest, and sleep, whereas he had seen others similarly affected go down rapidly because they could not eat, or digest what they had eaten, or sleep. He cited two cases representing this difference: one subject could neither eat nor sleep and ran down rapidly; the other had an excellent appetite and made such an improvement that in a month's time he gained five pounds, the pulse had fallen from 122 to 106, and the temperature from 103° to 100.4° F., with cough and expectoration decidedly diminished, his chest drier, and his strength greatly improved. He had been given no creosote or other drug to destroy the bacillus, but his digestion had been fostered. The speaker also called attention to the care which must be taken not to tax too severely the digestive powers. He spoke of such affections as chronic bronchitis, asthma, fibroid conditions, and emphysema, in which the patient was apt to become bilious and in which the digestion had to be carefully watched, and advised a good dose of calomel. In cases of hemorrhage accompanied by constipation and scanty and high-colored urine, he had used catharsis and diuresis with good effect. The point which Dr. Fisk made was that the digestion is the *pièce de résistance* in the treatment of pulmonary disease, to be fostered and protected at all hazards, and not to be sacrificed for any desire to destroy that arch enemy, the bacillus.

Aerotherapeutics and Hydrotherapeutics in the Prevention and Treatment of Pulmonary Tuberculosis.—Dr. S. A. Knopf read a paper with this title, in which he spoke of aerotherapeutics and hydrotherapeutics in the treatment and prevention of pulmonary tuberculosis. Preventive medicine was the medicine of the present, and, while he hoped that preventive inoculation and orrhotherapy would be the ultimate treatment for all acute diseases, he expressed doubts as to the discovery of a serum or toxin that would cure pulmonary tuberculosis when it had already worked its destructive process. Continued research to combat the association of microbes, manifested by acute exacerbation, was recommended, his own work in that direction with antistreptococcic serum having been encouraging. In describing the anatomical, physiological, and pathological peculiarities of the individual predisposed to pulmonary tuberculosis, the remedies to overcome the insufficient air supply to the respiratory organs, and the abnormally increased sensibility of the general and especially the cutaneous system to the slightest changes of temperature, were pointed out. It was shown that the preventive treatment of consumption should begin with the child in utero and be kept up throughout life. A description of a thorough system of aerotherapeutics and hydrotherapeutics, comprising instructions for breathing exercises, rest cure, graduated walks, application of cold water as a tonic, antipyretic, analgesic, etc., as indicated in the various stages of the disease, completed the paper.

The Treatment of Tuberculosis by the Antitubercle Serum.—Dr. Guy Hinsdale in a paper with this title described the use of the antitubercle serum, in the preparation of which a donkey was first injected with mallein to exclude the presence of glanders, and then received an injection of one cubic centimetre of tuberculin, which dose was doubled every five or six days until two hundred cubic centimetres were received at a dose. Little reaction followed: the temperature rose only one degree or one and a half degrees, with some slight local œdema. After the maximum dose the animal was allowed to rest three weeks for the elimination of tuberculin. It was then bled and the blood allowed to stand in a refrigerator five or six days, when the serum was collected and one-half per cent. of tricresol added to act as a preservative; it was then kept sealed in a cool place. While Dr. Hinsdale considered it too early to make any complete report of the clinical tests of the agent, he described one case in which he had employed the serum in the hope that others would try it. The patient was a married woman, aged twenty-seven years, who had a cough in February, 1896, and began to lose flesh and strength. His notes taken in March of that year were: Left lung normal; right lung, increased vocal fremitus, but not marked; bronchial breathing posteriorly; slight impairment of the percussion note posteriorly; some râles at the apex. In April she weighed one hundred and twenty pounds and was losing flesh, coughed, and had night sweats; consolidation of upper lobe; bronchial breathing on both sides, especially the right; increased vocal resonance. In May there was amphoric breathing on the right side; she coughed badly and had fever at night. She was in bed one week and had a hemorrhage. She was then pregnant. She was confined January 1, 1897. The physical signs all pointed to well-established phthisis. The case was chosen as being a test of the efficacy of any treatment. The sputum was examined, with the discovery of a large quantity of tubercle bacilli. An injection of five minims of the serum was made on January 16th, and again at intervals of two or three days until forty minims were injected March 2d. On March 25th her weight was one hundred and twenty-seven pounds. There was some soreness below the left apex in the

back. There was no elevation of temperature, and no unpleasant effects of any kind were noted. The injections were made in the left arm near the insertion of the deltoid, after carefully cleansing the part. There had been general improvement in all respects, and bacteriological examinations on March 9th and 15th showed absence of tubercle bacilli. On May 2, 1897, the percussion note was clear all over the chest, front, and back, and the only abnormal sign was a slightly increased vocal resonance over right apex. Dr. Hinsdale stated that the patient was steadily gaining weight and strength, had little expectoration, and that the progress of the case would be reported next year.

Observations upon Pulmonary Tuberculosis in Colorado.—Dr. S. G. Bonney read a paper with this title, giving an analysis of two hundred recorded cases occurring in private practice, during a period of two years. He selected his cases upon a basis of supposed adaptability to the climate, and classified them with reference to the probable prognosis at the time of arrival. In stating the results the classification was made according to the physical signs and general condition. The extent and character of the tuberculous involvement and its method of onset were considered, and also the relation of climate to hemorrhage, functional nervous disturbance, and bronchial irritation. The paper concluded with a discussion of complications, with general observations as to management.

Some Personal Observation upon the Effects of Changes of Climate upon Men and Animals.—Dr. Richard Cole Newton, in a paper with this title, remarked that "ability to meet the environment" had been defined as "the condition of leadership," and said without doubt it was also the condition of health. He doubted whether the full comprehensiveness of these terms was fully appreciated, and considered that climate, from a therapeutic standpoint at least, should be defined to mean a man's environment. He considered the great need at the present moment in the study of climatology to be the study of individual cases, and more ascertained and established facts in relation to the action of climatic changes upon people or animals. From a surgical aspect he considered the virtues of the aseptic climate of the Rocky Mountains and their foothills too well known to require any detailed testimony, wounds always doing well. He had seen a knee-joint opened and a floating cartilage fished out without aseptic precautions or antiseptic treatment, and the man was entirely well in two or three days. He referred to the beneficial action of the climate of New Mexico on consumption and on wounds alike. He cited the instance of a young Indian returning from the Carlisle school, dying of consumption, and thought it would appear that phthisis was not an infrequent result of the higher education among the red men as well as among the palefaces, and that we too often lost sight of the fact that phthisis was especially the disease which cut off those who had given up a roving or outdoor life for a stationary or confined existence, and stated that the moving about, even to less salubrious climates, appeared to prevent the onset of this malady. He said that it had been pointed out that the animals in a travelling menagerie were much healthier than those in a zoological garden, and that reference had been made to the remarkable healthiness of gypsy children. He also referred to the fact that man had been so long a wanderer on the face of the earth, shifting his quarters to hunt for food, escape from or pursue his enemies, and was so stamped with this nomadic tendency, that it showed itself at times in this craving for change of air, and said that now, like the caged animals in the museum, the Indians were beginning to die of tuberculosis. The paper gave the following conclusions:

1. That the change of climate from the Rocky Mountains to the seaboard is more severe and dangerous than the reverse, especially to young children and horses.

2. That a medium or even a high altitude is beneficial rather than otherwise to nervous diseases and the diseases of women, as well as to phthisis, and is not unfavorable to rheumatism.

3. That in the climate of northern Texas and New Mexico nephritis in all forms is exceedingly rare, while aneurism is somewhat common in the latter territory.

4. That wounds do remarkably well in all parts of the Southwest.

5. That the ideally wholesome and satisfactory life is a nomadic one.

6. That change of climate does not bring change of disposition, or, for that matter, of predisposition. Precious and even invaluable as change of climate often is in a number of diseased conditions, it is not always what is most needed.

He suggested contentment with smaller doses of climate, and that they be supplemented with larger doses of hygiene, both moral and physical.

Dangers of Tuberculous Infection and Their Partial Arrest by Climatic Influences.—Dr. C. F. Gardiner, in a paper with this title, said that in reviewing the evidence of partial arrest of tuberculous infection by climatic influence, all data of a general character had to be taken with great caution. The impression, due to the complaint being so rarely seen there, that in the arid or elevated regions of the world consumption was not communicated from the sick to the well was not at all proved from such unreliable and imperfect statistics as had generally been brought forward. He said that the immunity apparently due to a climate might be really due to manner of life, such as isolation and a life day and night in the open air; or to selected lives, such as the early settlers of any country live, who, to cope with its hardships, had of necessity to be the strongest; and that therefore it was only after a country had been settled for a considerable time that reliable data concerning climatic arrest of infection could with accuracy be computed. He said that although it was a well-established law that consumption among all races and in all climates diminished in progressive ratio as we ascended from the sea level, there was no absolute safety or non-phthisical line to be drawn at a certain elevation, and that a few cases did occur at any elevation. He mentioned three cases he had seen of death from acute tuberculosis in Ute Indians who had never been out of Colorado or Utah.

Institution Treatment of Pulmonary Tuberculosis.—Dr. C. P. Ambler, of Asheville, N. C., read a paper with this title, the conclusion of which was that closed institutions for phthisical patients offer the greatest certainty for their cure, inasmuch as better results appear to be a necessary consequence of the superior advantages which well-conducted institutions afford, and that *a priori* consideration of these advantages would lead us to the conclusion which statistics and experience have both demonstrated and confirmed.

At the business meeting of the association which followed the scientific meeting of the second day it was

"*Resolved*, That the association learns with much regret that the weather bureau has been obliged to discontinue the publication of and work exemplified in its recent periodical, *Climate and Health*.

"*Resolved*, That this association would urge upon the secretary of agriculture and the chief of the weather bureau the desirability of resuming the said publication; and that the members of this association

urge upon the members of Congress from their States to furnish an appropriation for this purpose."

Dr. J. B. Walker, of Philadelphia; Dr. S. E. Solly, of Colorado; and Dr. W. W. Johnston, of Washington, D. C., were appointed a committee to attend to the matter.

Dr. Herrman Weber, of London, and Dr. Charles Theodore Williams, also of London, were elected honorary members.

Third Day—Thursday, May 6th.

Oil of Turpentine as a Remedial Agent.—Dr. J. B. Walker, of Philadelphia, read a paper on this subject. He dwelt especially on its effects in catarrhal affections and as a hæmostatic when the lesion is in the mucous membrane. In gastric ulcer, whether for its influence on the ulcerative process or as a hæmostatic, he said it ranks *par excellence* both for efficiency and acceptability to an irritable stomach. Given in small doses, from two to ten drops in water sweetened with the olæosaccharum anisi, each dose prepared as taken, its acrimony is obscured and the most sensitive stomach will retain it. In catarrhs, subacute or chronic, whether in stomach, bowels, bronchial tubes, or urinary tract, as a stimulant-alterative, reaching every mucous membrane of the body, either in its ingestion or elimination, its virtues are invaluable, modifying secretion and influencing cell nutrition directly. In the winter coughs of the aged and infirm, its general stimulant action is an advantage additional to its local effect.

Some of the Vagaries of Croupous Pneumonia as Seen in Central New York.—Dr. Henry L. Elsner, of Syracuse, N. Y., presented a paper based upon the consideration of one hundred and fifty cases of croupous pneumonia, of which careful records had been kept. He considered only the atypical forms of the disease. After giving statistics as to the age and localization of the lesion in the lung, he considered apex pneumonia, which in the majority of cases was not associated with profound cerebral symptoms. In fourteen per cent. of the cases reported the initial chill was absent. This was usually absent in the asthenic pneumonias. He had seen the presence of large areas of a consolidated lung tissue without marked subjective symptoms, and referred to the difficulty with which central pneumonia was diagnosed during early life when associated with gastric or meningeal symptoms. Abdominal pain as an initiative symptom was considered. The writer concluded that the asthenic cases were more frequent than formerly, and believed that the increased mortality of pneumonia was due to this fact. Asthenic cases without chill gave an unfavorable prognosis. He reported three cases of afebrile pneumonia, believed that there was an antagonism between pneumococci toxins and blood surcharged with urea or effete matter. To determine this question he was at the present time making animal experimentation. Cases without fever were found with lowered vitality and nerve force. Hyperpyrexia was considered, as was also "post-pyrexial delirium." Ambulatory, malignant, traumatic, and aspiration pneumonia each received consideration. He did not believe in the existence of malarial pneumonia. Toxæmia was the most important element to be taken into consideration in prognosis and treatment. Anomalies of crisis and lysis were dwelt upon, as was also the occurrence of leucocytosis. He believed that the presence of leucocytosis in acute febrile disease favored the diagnosis of pneumonia; its absence favored the diagnosis of typhoid or a severe form of lung inflammation. He did not believe that the presence of leucocytosis was a certain prognostic sign. Fully developed physical signs were rarely present before the end of the second day of the disease.

The Treatment of Gout by Natural Mineral Waters.—Dr. C. C. Ransom, of Richfield Springs, N. Y., in a paper with this title, said that Hippocrates considered the disease due to the retention of humors in the system, and advised purging and the application of cooling lotions or cold water. If we substitute the term uric acid for humors, we have the most modern theory and the treatment of to-day. He pointed out that the aim in the treatment of this disease should be to stimulate functional activity, and thereby increase metabolism and the excretion of morbific matters, and to correct vices of living, and showed how a sojourn at a properly selected watering-place met all these requirements. He said there were many things to be considered in the selection of a watering-place for gouty patients, since as a rule such patients were nervous and irritable, and needed a pleasant environment where they could be occupied and diverted and lead an out-of-door life, while their treatment is made a pleasure rather than a drudgery. To be borne in mind also was the fact that results of treatment may be obtained from the hydrotherapic standpoint alone, irrespective of the mineral ingredients contained in the water used. The analysis of the water was therefore not alone sufficient in the selection of such a place, for, unless the facilities for administering the waters were adequate and the details of the bathing procedure were carefully carried out, the treatment, instead of doing good, might be productive of serious ills. While believing thoroughly in the internal administration of mineral waters, the most valuable mineral waters Dr. Ransom believed to be those used externally in the form of baths.

In considering the treatment of gout by natural mineral waters, he related his personal experience gained from the observation of a great many cases which had come under his care during the past ten years at Richfield Springs, and gave briefly a *résumé* of the methods which he employed in the application of these waters. The form of bath given, and the one which seems to answer best, is the immersion or tub bath, the "dose" of the bath being regulated by its temperature and duration, which will be found to vary with different subjects from 96° to 108° F. for the former, and from five to fifteen minutes for the latter The object sought in the application of the bath he said is to give such a bath as will produce to the fullest extent the physiological effect without exceeding it, for then depression will be sure to follow and harm may result. He mentioned that in determining the proper dosage much care should be exercised, for different patients vary very much in their reaction to the bath, and that it would also be observed that the same individual would vary at different times. He described the usual bath as being begun at a temperature of 98° F. with a duration of eight minutes, followed by complete rest of an hour in bed. The bath is taken three days in succession, preferably in the forenoon and two and one-half hours after a light breakfast. The effects as to exhilaration or depression are carefully noted after the third bath, and from these symptoms and physical examination is determined whether or not it is wise to increase or diminish the dosage, or to continue it as begun. When the baths are found to be depressing they should be modified by lowering the temperature and shortening the duration. A bath at 96° F. for five minutes, or even less, is usually found to accomplish everything desired. Almost all patients taking a course of baths suffer from a general systemic disturbance the first week, which is the condition described as "bath fever," and to the most skeptical Dr. Ransom thought this showed that the medicinal bath is not simply a washing process, but is

capable of producing as marked systemic effect as the ingestion of a drug. Regular and systematic exercise was also urged as of great importance. In those cases in which active exercise would entail too much fatigue, passive exercise in the form of massage or Swedish movements is given. Diet also was spoken of as another important element in the treatment.

The Salicylate Treatment of Hæmoptysis.—Dr. Thomas J. Mays, of Philadelphia, said it was well known that such drugs as gallic acid, tannin, ergot, geranium, hamamelis, digitalis, turpentine, etc., although supposed sheet anchors, are consummate failures in the treatment of many cases of hæmoptysis. This the author thought is due to the fact that they do not fill the gap which exists between what they can do and what we expect them to do. He holds that in many cases the arresting of blood from the lungs does not rest on the therapeutic agents' power to constrict the pulmonary capillaries, but on their influence in removing that toxic condition which weakens the wall of the blood-vessel and makes it permeable to its contents. Such a toxin he believes the rheumatic poison to be, which he thinks is more frequently engaged in bringing about hæmoptysis than is usually suspected; at any rate, practical experience demonstrates that many a case of blood spitting which is uninfluenced by any other internal remedy yields to the salicylates of sodium and cinchonidine very readily. Several typical cases illustrating the utility of these drugs are recorded.

Meteorological Conditions of Sunstroke.—Dr. W. R. Phillips, in a paper with this title, gave a consideration of meteorological conditions predisposing to and exciting the occurrence of sunstroke. The relative importance of high temperature, relative humidity, and wind, and the relation of sunstroke to different climatologic characteristics were discussed; also the dependence of sunstroke upon high temperature or direct insolation, not influenced more by high than by low relative humidity. The author stated that the degree of temperature precipitating sunstroke was a function of the particular climate, and not fixed or definite for all locations.

Calomel in Diphtheria.—Dr. Leonardo D. Judd, of Philadelphia, in this paper spoke of his personal experience in the specific treatment of this disease. He selected a few of the illustrative cases to demonstrate the treatment which he considered the nearest to a specific. He stated that in his experience in the treatment of this disease it had been robbed of its terrors, which conviction was based upon the curative results obtained. While admitting that the treatment of diphtheria by mercury was not new, he said there had been no well-defined application of any one form of this agent which would inspire sufficient confidence to carry it to a successful end. He mentioned Trousseau's dread of its use because of the constitutional effects in "modifying the blood, augmenting its fluidity, and so changing its state that the secretion becomes less plastic," and said that in his opinion it was the constitutional action which was to be sought after as well as the topical. He thought that if the germ theory had been as well understood in Trousseau's day as it is now he would probably have modified his opinion relative to the action of the drug. He also spoke of the experience of the late Dr. Riter, of Pittsburg, and concurred in his opinion that in handling the severest type of diphtheria, the danger was not in giving too much calomel, but rather in too little, and not having the courage to push the drug until the bowel action showed the characteristic green, copious, frothy discharge, resembling "frog spittle," such as may be seen in an old water trough.

Dr. Judd cited two cases in which the treatment had been most satisfactory—one that of a child, the other that of a woman of fifty-five years, whose finger had been scratched by the hand of a neighbor's child dying of malignant diphtheria. Believing from the severe symptoms that he had a case of inoculated diphtheria, he put her on iron and chlorate of potassium with gargle. On the next day the advance of the disease had become most rapid and severe, when, with a trained nurse rigidly to carry out instructions, in consultation with Dr. Curtin, he determined upon the calomel treatment. Beginning with a scruple at the first dose, it was continued in ten-grain doses every hour for thirty-five hours; but not until three hundred and sixty-five grains had been given was the characteristic action secured, when the calomel was stopped. During the exhibition of the drug the patient ejected from the nose and mouth, at intervals, large pieces of membrane, although no gargle or spray was used. About every three hours during the treatment a mild solution of potash was given, and calomel was dusted over the initial lesion of the finger. Her recovery was splendid, and she suffered but for a short time from partial paralysis of the muscles of deglutition and impairment of the sense of touch in her hands and feet, which symptoms disappeared rapidly under the use of faradization. There was no evidence of ptyalism or other ill-effect.

Dr. Judd also referred to three other cases, the only ones which he had seen result fatally—in two foolishly fond mothers interfered with the directions specified; in the third there was what seemed to be cerebral involvement.

In conclusion, Dr. Judd believed there was no danger of ptyalism; he had never seen a case of diphtheria salivated by calomel or hypercatharsis created. He was not unmindful of the potency of the drug, and recommended its heroic use only with proper discernment, and with good, intelligent, reliable nursing. Sleep, he said, too often meant death in these cases, and the wakefulness necessary for the frequent administration of the medicine would do only good to the patient and reward the nurse, from twenty-four to forty-eight hours generally determining the issue.

A Clinical Study of Tachycardia and Its Relation to Graves' Disease and Uræmia.—Dr. Roland G. Curtin, of Philadelphia, in a paper with this title, cited two cases of tachycardia, and mentioned in connection therewith cases of undeveloped Graves' disease, culled from a large number more prominently illustrative in that they had the symptoms of palpitation and excited heart long before the other prominent symptoms presented themselves, and were diagnosticated erroneously as simple essential tachycardia. He considered the careful study of slowly developed Graves' disease very important, and believed that much valuable time could be saved by an early diagnosis. He gave an interesting table, showing the salient points in the differential diagnosis of the tachycardia of undeveloped Graves' disease and simple irritable heart.

(*To be Continued.*)

The Camden County (N. J.) Medical Society.—At the fifty-first annual meeting of the District Medical Society of Camden County, N. J., held Tuesday, May 11th, the following officers were elected to serve the ensuing year: *President*, D. M. Stout, of Berlin; *Vice-President*, Daniel Strock, of Camden; *Secretary*, B. S. Lewis, of Camden; *Treasurer*, J. G. Doron, of Camden; *Reporter*, O. W. Braymer, of Camden; *Historian*, H. H. Sherk, of Stockton; *Censors*, (five years) H. Genet Taylor, (unexpired term) W. H. Ireland; *Trustees*, H. Genet Taylor, Alex. Mecray, E. L. B. Godfrey; *Committee of Arrangements*, F. W. Marcy, W. P. Wingender, J. F. Leavitt; *Nominating Committee*, Alex. Mecray, J. M. Ridge, Maximilian West.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

LISTER'S MAIDEN SPEECH IN THE HOUSE OF LORDS—ORATION BEFORE THE MEDICAL SOCIETY—RELATION OF MENTAL AND BODILY DEVELOPMENT OF CHILDREN — LYMPHADENOMATOSIS — DERMATITIS MALIGNA — RUPTURE OF HEART—THE PLAGUE AND THE BOMBAY GOVERNMENT.

LONDON, May 21, 1897.

LORD LISTER delivered his maiden speech in the House of Peers in the debate on contagious diseases in the army. He was received with as much cheering as that eminently decorous assembly ever indulges in. He declared that as a surgeon he knew that residence in a hospital exercised a very moral influence on many patients—so much so that an accident very often proves a blessing in disguise. He saw no objection to the contagious diseases acts, and was pleased beyond measure to hear Lord Roberts testify that measures could be taken which would enormously diminish the evil without anything that could be fairly construed as an encouragement of vice. He hoped the government would be encouraged by the house to persevere in the good and Christian course on which it had entered.

The annual oration before the Medical Society was delivered by Mr. E. Owen on Monday. He dwelt at length on two "patron saints" of the society, Fothergill and Lettsom, giving some interesting historical notes on these eminent physicians of a bygone period. He repudiated the "croak" sometimes heard that Englishmen are degenerating, and said the Crimea, Afghanistan, and Chitral must be forgotten before such a suggestion could have any weight, for they are as fit for great deeds to-day as were their ancestors. Referring to the medical-aid associations, he denounced the alliance of science and trade, and proclaimed from the chair of Lettsom the liberator the existence of abuse, and called on the Medical Council to "come over and help us."

Dr. Warner has brought before the Royal Medical and Chirurgical Society some of the conclusions at which he has arrived from the statistics he has been collecting on the mental and physical conditions of childhood. You are no doubt aware that he has for several years occupied himself with the inspection of school children with reference to their bodily development and nutrition. In some quarters he is thought to have proved important facts from the mass of statistics which he has tabulated. In other quarters the talk of inspection of a hundred thousand children causes only a smile of incredulity, or the suggestion that the first impressions produced by the inspection of classes can at the best only lead to superficial and hasty conclusions. The special point in his last paper is the relation of bodily development to brain conditions in their pathological aspect. Abnormal development, nervous signs, habitual movements, low nutrition, and mental dulness or backwardness were said to be related, just as on a former occasion postures of the hand were taken to indicate the condition of the brain. Now we are told that defects or deformities are equally indicative, as are disproportions in ratio of growth. Among the examples, outstanding ears are mentioned as one of the stigmata of degeneracy. So habitual purposeless movements are classified into four kinds, among which we find grinning, fidgetiness, and augmenting or diminishing series of movements, suggesting abnormal nervous fidgetiness. But whether the relations Dr. Warner suggests between these and incoordinated brain action and that again with mal-development exist is quite another question. The difference between tweedledum and tweedledee would, I suggest, serve Dr. Warner for a further mass of statistics.

Dr. Norman Moore, whose enormous experience in the post-mortem room gives weight to his words, expressed the general desire of pathologists to find some law of correlation between defects of different parts of the body; but he had abandoned the hope, for it was only exceptionally that abnormalities of one organ were associated with those of others. Movements of an unusual character, odd gestures, or antics may certainly be accompanied by mental qualities of a very high order—an example of which may be noted in Dr. Johnson. So again large ears are not necessary signs of mental defect, for they may be observed in individuals of great mental capacity, and the repeated series of movements on which such stress has been laid should be regarded merely as habits.

It was suggested in the discussion that the stigmata were of very unequal value—that a single sign might not be important, while the conjunction of several might justify a conclusion. This, of ourse, is obvious enough, but a nervous fidgety child, even if it has large ears and some equally important defect in bodily appearance, is by no means necessarily a dullard; but, on the contrary, some of the brightest intellects have undoubtedly been associated with anatomical defect and the habitual movements indicative of nervous restlessness.

Lymphadenomatosis is a nice little word, showing what progress we are making in nomenclature. It was applied at the Pathological Society by Dr. F. T. Weber to a general affection of the bone which has been variously described as "multiple myeloma," "medullary pseudo-leukæmia," "myelogenic leukæmia," "pernicious anæmia with associated affection of bone marrow," and "primary sarcomatous osteitis." Some cases have been recorded in which the disease had not been suspected until the occurrence of fracture of the femur shortly before death, and some in which there was nothing to suggest the disease till death had taken place.

The question of nomenclature was further illustrated by cases exhibited as dermatitis maligna, or Paget's disease of the skin, it being proposed to extend the name of Paget's disease to cases in other localities than those to which it has hitherto been applied. If this suggestion be adopted, it will certainly tend to some confusion. The term maligna was also objected to, as being ambiguous and often only meaning virulent instead of denoting new growth. The cases really seemed allied to rodent ulcer.

Dr. Kingston Fox showed a specimen of non-perforating rupture of the heart from a woman of sixty-nine, who lived forty-eight hours after the occurrence, which caused slow leakage of blood, ending in fatal syncope.

Mr. Justice Jardine, in a recent lecture at the Imperial Institute on "Present Thought and Sentiment in India," referred to the plague at Bombay, and his remarks justify many of the misgivings which have been expressed in the press. There is no doubt that the government in Bombay was duly warned at the earliest period of the outbreak as to its gravity and the danger of its spreading rapidly. The precautions which ought at once to be taken were distinctly pointed out by the responsible medical officers, and yet nothing was done until General Gatacre received full authority and at once carried out the plans of the medical officers which had months before been submitted to the government. The general, having accepted the responsibility, enforced his orders, notwithstanding native prejudices, and succeeded in bringing over some of the most influential native gentlemen to the view that strong sanitary measures were necessary to stay the plague. Why such measures were not taken at first is for the Bombay government to explain.

COLORED WOMEN PHYSICIANS.

To the Editor of the Medical Record.

Sir: Relating to the priority of medical honors for colored women, I desire to state that I note the term used by you, "medical license," while Dr. Brown, of Euclid, N. Y. (who made the correction), used the term "medical degree." With reference to the former I would state that Dr. Sarah G. Jones, of Richmond, Va., a graduate of the medical department of Howard University, passed the Virginia State board of medical examiners in 1893; Dr. Hallie Tanner Johnson (a daughter of Bishop Tanner of the A. M. E. Church), a graduate of the Woman's Medical College of Philadelphia, passed the Alabama State board of medical examiners about seven years ago; and, to use a popular slang term, "there are others."

As to colored women receiving the degree of M.D., there are quite a goodly number who hold diplomas from medical colleges both North and South; hence Dr. Wakefield, who has recently made her *début*, is in no wise the first and only.

Dr. Brown may be correct as to Dr. Logum, but there has been no Bishop Logum in the A. M. E. Church.

G. Jarvis Bowens, M.D.

Norfolk, Va.

THE SPITTING-NUISANCE AND A REMEDY.

To the Editor of the Medical Record

Sir: It seems that another one of the rights of the free American citizen is going to be trampled under foot and wrested from him—his right to expectorate and spit wherever he pleases. The medical press and the profession at large are unanimous in their verdict that unrestricted spitting in public places and conveyances is a menace to public health and must cease. And every intelligent layman will concede that from both a sanitary and æsthetic point of view there is hardly a greater nuisance we have to contend with than the one in question. So far, so good. But is it not the acme of absurdity to forbid a man to expectorate on the floor, and not to provide some other receptacle? Suppose a man rides in a car from Harlem Bridge to City Hall, or half that distance—what is he to do with his expectoration or excess of saliva? We physicians know what an immense percentage of the community suffers from some form of pharyngitis, tracheitis, or bronchitis; we know that we are richer in dyspeptics than is any other nation on earth. I ask: What is a man afflicted with any of those ailments to do with his secretion? Swallow it? And is it any wonder that the order of the board of health, conspicuously posted on the car windows, is contemptuously disregarded by everybody, the conductors included? The nuisance would vanish in an instant by the introduction of cuspidors. If I had the power I would compel the companies to provide each car with at least four cuspidors—one in each corner—the cuspidors to consist of two receptacles: an outer one, fastened to the floor, and an inner one, removable, provided with an automatic cover and filled with an antiseptic fluid or powder; the inner receptacle to be removed once in twenty-four hours, emptied in a proper place, and refilled. We all know that our companies get their valuable franchises for a song, their dividends are enormous, they enjoy more freedom of action while giving us the worst service than those of any other country, and they could very well afford the expense of a satisfactory "cuspidor system." Then the public would have no sympathy with the persistent floor spitter and cud thrower, and I am sure that no judge could then be found fool enough to let such an offender go, while delivering himself of an harangue on the "sacred, inviolable rights of the individual."

I do not know whether the board of health has the authority to compel the car companies to adopt such a system as I have outlined above or not. If it has, it should use it to its fullest extent; if it has not, why then its order—not to spit on the floors—is not worth the paper it is printed on.

William J. Robinson, M.D.

119 East One Hundred and Twenty-Eighth Street,
May 30, 1897.

HUMANIZING COW'S MILK.

To the Editor of the Medical Record.

Sir: I notice an article in the *Medical Brief*, entitled "Humanizing Cow's Milk," which says that "the happy results following the use of cow's milk which has been modified so as to conform closely to mother's milk have induced Dufour to seek out a practical method for the humanizing of cow's milk in any family." The article then goes on to tell how it is done—by filling a graduate with cow's milk, allowing it to stand for about four hours, and then withdrawing from the bottom, by uncorking, about one-third of the contents, etc. My object in writing this brief article is to call attention to the fact that this method is not new here. About ten years ago I wrote an article on "Infant Feeding," which appeared in the Medical Record at that time, in which the same method is described Whether this method had been adopted before that time or not I am unable to say. After making a series of experiments about fourteen years ago, I began using cow's milk for infants, prepared as the above-noticed article recommends. Without making any claims to priority, I wish simply to say that, if this is the first time the method has been heard of in Europe, the leaders in medicine over there are way behind the country practitioners in the land of Uncle Sam.

E. W. Bogardus, M.D.

Poplar Ridge, N. Y

AN ABUSE OF MEDICAL CHARITY.

To the Editor of the Medical Record.

Sir: Can there be any greater abuse of "medical charity," or better encouragement of "medical pauperism," than the free vaccination of the children of the well-to-do in our public schools by the board of health? Shoes and clothing are not given to the school children; they are expected to have them—not admitted unless properly clothed. Now, why should wholesale vaccination slip entirely out of the hands of the profession? Charles S. Fischer, Jr., M.D.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 5, 1897:

	Cases.	Deaths.
Tuberculosis	168	99
Typhoid fever	10	3
Scarlet fever	218	22
Cerebro-spinal meningitis	0	5
Measles	269	6
Diphtheria	262	31
Laryngeal diphtheria (croup)	11	8
Small-pox	11	4
Chicken-pox	16	0

Hope Deferred.—The President of the American Medical Association indulges in the hope that some day the journal of the association will rival the *British Medical Journal*.

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Original Articles.

A FURTHER CONTRIBUTION TO OUR KNOWLEDGE OF ISCHOCHYMIA.[1]

BY MAX EINHORN, M.D.,

NEW YORK.

IN November, 1894, I delivered before the German Medical Society of this city an address upon the recognition and treatment of stenosis of the pylorus.[2] In this paper I communicated my own experience regarding this condition, and suggested the name of ischochymia, in place of gastrectasia, or gastric insufficiency of the second degree (Boas), as descriptive of the latter. This term was meant to convey the idea that the stagnation of food in the stomach is the essential symptom of this affection, and that the abnormal size of the organ is of secondary importance. For, in the first place, cases of enormous enlargement of the stomach are met with in which there are none of the symptoms of gastrectasia; secondly, the enlargement or dilatation of the stomach is rendered entirely harmless by the removal of the stagnation of the chyme; and thirdly, cases are encountered in which there is present the picture of clinical dilatation of the stomach, although the organ is not enlarged to any considerable extent. In the above-cited paper I pointed out that in the majority of cases ischochymia is caused by a stricture of the pylorus, and that, according to the nature of the stenosis (benign or malignant), a radical cure or temporary improvement may be brought about by operation.

Since then a few new articles by well-known authors have appeared upon this subject. Boas[3] is opposed to the expression "gastric dilatation" or "ectasia ventriculi," and sets up the following postulate: "An abnormally large stomach is capable of performing its motive functions in a perfectly normal manner, and a normally sized or only slightly enlarged organ may exhibit the most pronounced signs of so-called ectasia." This author emphasizes the fact that some cases of severe ectasia, or, as he terms it, gastric insufficiency of the second degree, are susceptible of permanent cure by means of palliative measures. This important fact I am able to confirm completely as the result of my own experience.

Pepper and Stengel,[4] in their article on dilatation of the stomach, describe all possible methods which serve to determine the size and capacity of the stomach, while sufficient weight is not placed upon the most important symptom, the stagnation of food. This paper also contains an abundance of case reports, and is meritorious in this respect.

The newest contribution on this subject is by J. Schreiber.[5] This author also concedes the inapplicability of the old term, gastrectasia, and proposes instead the name "gastric stasis associated with permanent digestion." The name introduced by me, "ischochymia," which expresses the same idea and is much shorter, has apparently escaped Schreiber's notice.

In view of the importance of ischochymia, both to the clinician and to the surgeon, it appeared to me advantageous to communicate here my more recent cases which have been observed by me since the publication of the above-mentioned paper, in order to make them serve as a text for a somewhat more complete elucidation of the diagnosis and therapeutics of these conditions.

The cases of ischochymia which have been under my treatment during the last two or three years can advantageously be divided into the following groups:

I. Cases of ischochymia submitted to operation.
(*a*) Benign stenosis of the pylorus.
(*b*) Malignant stenosis of the pylorus.

II. Cases of ischochymia treated by palliative measures.
(*a*) Benign stenosis of the pylorus.
(*b*) Duodenal stenosis.
(*c*) Probably pure atony of the stomach.
(*d*) Malignant stenosis of the pylorus.

I.

Cases of Ischochymia Submitted to Operation.—The cases of ischochymia from benign pyloric stenosis which were submitted to operation comprise six, and as they all exhibited some peculiarities I have taken the liberty to describe them successively:

CASE I.—George W——, aged forty, began to suffer twenty years ago from pains in the left side, which usually appeared two hours after meals. This condition was generally rapidly improved by medicaments, and the patient then obtained relief for six or seven months. Five years ago the painful attacks became more violent; they extended over periods of three to four weeks, and were now accompanied with vomiting. The patient vomited three times each day, and this also occurred at night, the vomiting being always followed by relief. In the vomited matter and in the liquid obtained after lavage of the stomach the patient has occasionally noticed foods ingested several days before. Thus on one occasion the patient had partaken of huckleberries on a Sunday, and when he washed out the stomach six days later he found these berries in the wash water. He has also observed the same thing after eating green corn. The intervals of quiescence now became shorter, lasting only a week, although two years ago the patient had one period of rest of two months' duration. Lately he has been unable to follow his vocation. During the attacks he loses considerable in weight, but soon recovers. The patient weighed five years ago one hundred and eighty pounds, and now weighs one hundred and forty-three. Appetite always good; stools usually regular. Constant thirst and desire for salt.

January 25, 1895. Status præsens: Patient seems considerably emaciated. Palpation of the abdomen reveals sensitiveness to pressure. Splashing can be readily evoked, and by means of this symptom it is possible to trace the stomach to a point a hand's

[1] An address delivered before the Society of Physicians of the German Dispensary of New York, April 22, 1897.
[2] Max Einhorn: MEDICAL RECORD, January 19, 1895.
[3] J. Boas: Therap. Monatshefte, January, 1896.
[4] Pepper and Stengel: The American Journal of the Medical Sciences, January, 1897, p. 34.
[5] J. Schreiber: Archiv f. Verdauungskrankheiten, Bd. ii., Heft 4, p. 423.

breadth below the navel. Although the stomach of the patient had been thoroughly washed out one hour previously, it was found to contain over 600 c.c. of fluid having a biliary-green color, with the following properties: HCl +; acidity = 150. Patient is directed to take at seven o'clock in the evening a plateful of rice soup, some meat, and white bread, but not to eat anything else.

On the following day (January 26, 1895), at 10 A.M., the patient was examined in the fasting condition with the tube. There was found 700 c.c. of fluid mixed with food, the grains of rice and particles of bread being most distinctly recognized. The chemical examination showed: HCl +; acidity = 90. The examination of the stomach in the fasting state was now undertaken on several days, and a condition similar to the above was always found, namely, presence of chyme, besides a large quantity of gastric juice.

The diagnosis of stenosis of the pylorus of benign character was now made, and the patient operated upon, February 1, 1895, by Dr. F. Lange. The pylorus was found considerably thickened, narrowed, and the site of adhesions; in the stomach, close to the pylorus, an ulcer was present. A pyloroplastic operation according to Heinecke-Mikulicz was performed, but the ulcer was left intact, because it did not appear advisable further to prolong the operation.

The patient convalesced slowly. Owing to the irritation produced by the ulcer, the chymus prochoresis of the stomach was impaired and the peristaltic restlessness of the organ was noticeable for a long time. After administration of large doses of bismuth and the maintenance of the milk diet, this condition improved, and the patient was then able to undertake a journey for his health to South America. I have heard nothing further from the patient, and assume that he is healthy.

CASE II.—Mrs. Aurelia L——, about fifty years old, has suffered for fifteen years from recurrent attacks of violent gastric pain and vomiting. Each attack usually extended over several weeks and greatly exhausted the patient, although after its subsidence she recovered quite rapidly. For two years, however, the patient has scarcely ever been without pains; the vomiting appears frequently. The vomited matter, according to the statements of the patient, is quite sour, contains foods of the previous day, and occasionally amounts to from one to one and one-half litres. Marked constipation has existed for several years. The patient has lost about fifty pounds in weight, and has been confined to bed for several months. The pains in the abdomen have been so violent for one-half year that opium had to be administered every day in large quantities.

February 19, 1895. Status præsens: Patient is confined to bed and appears cachectic in a marked degree. She complains of violent tension in the abdomen and a burning feeling in the pit of the stomach. The thoracic organs are normal; the pulse is quite weak and frequent. The entire lower left side of the abdomen forms a slight spherical protrusion, which extends from the level of the umbilicus to the symphysis. On longer inspection one observes peristaltic contractions, which pass in high waves from the left toward the right side, and are especially pronounced after palpation. A splashing sound can be produced, and thus the entire lower limit of the stomach can be traced to the symphysis. The protrusion is caused by the greatly distended stomach, inasmuch as no resistance is encountered here on palpation, while splashing can be evoked. To the right of the median line, three fingers' breadth above the navel, an oval tumor, about three centimetres in length, running in a horizontal direction, can be made out; this is only slightly movable, and has a smooth surface. The urine is passed in only small quantities, and contains neither sugar nor albumin.

The patient is directed to eat nothing after 7 P.M., and on the following morning (February 20, 1895), at 11 A.M., is examined with the stomach tube. More than one litre of a greenish fluid, containing remnants of food, is withdrawn; in this fine coagula of casein, fat, and minute fragments of bread can be at once recognized. The chemical examination revealed the presence of free hydrochloric acid and very high acidity; microscopically yeast cells and sarcinæ in abundance.

This examination in the fasting condition was repeated on several occasions, and the same results were always obtained, *i.e.*, the presence of chyme in the stomach. A diagnosis of benign pyloric stenosis was therefore made, and the patient operated upon by Dr. F. Lange, on March 1, 1895. The pylorus was found markedly thickened and narrowed, and attached to the neighboring organs by numerous adhesions. A gastro-enterostomy with the Murphy button was made; the patient, however, died seven days after the operation. At the autopsy a microscopic examination of the pylorus showed the presence of a benign hypertrophy.

CASE III.—December 31, 1895. Miss Elise B——, aged thirty-five years, was afflicted with a tapeworm fourteen years ago, after the removal of which she began to suffer from dyspeptic disturbances. The pains usually appeared one-half hour after eating during a period of several weeks, and then ceased for some time. The patient had always been anæmic. Eight years ago the pains became much more violent and she vomited everything that was given her. After this condition had lasted for four weeks, a profuse hemorrhage from the stomach occurred. The patient awoke at night and vomited a large dishful of black blood, in which were thick coagula. She was confined to bed for about fourteen days, and after getting up suffered from constant pains. Later she went to Carlsbad, where her condition was considerably improved; she gained in flesh, began to have a better appearance, and the pains subsided almost completely, occurring only now and then. Up to about two years ago this condition persisted; then the pains again became more violent and vomiting ensued, so that the patient was scarcely able to partake of anything but milk. The stools at that time had a pitch-black appearance for a period of eight days, although she had taken no medicine of any kind. This melæna occurred later about once in six months. Three or four weeks ago a violent attack again supervened, with intense pains, loss of appetite, thirst, and vomiting. The patient was then referred to me through the kindness of Dr. Steffen.

Status præsens: The patient is of spare build, with a well-developed osseous framework, and appears emaciated. The thoracic organs are normal. Palpation of the abdomen reveals sensitiveness in the epigastric region, and an area of resistance in a somewhat horizontal direction, which is situated three fingers' breadth below the xyphoid process, and can be traced from the median line toward the left side over a length of about three centimetres. Splashing can be readily produced, and by means of this phenomenon the stomach can be traced downward from the above-mentioned area of resistance to a point about three fingers' breadth above the symphysis. The place of resistance, which is situated in the lesser curvature of the stomach, is regarded as a tissue thickening resulting from the cicatrices of ulcers. The urine contains neither sugar nor albumin.

January 3, 1896. Examination one hour after Ewald's test breakfast: HCl +; acidity = 120; free HCl = 100. Microscopical examination: large and small bacteria are present in abundance.

January 4th. Examination of the patient with the

tube followed by irrigation in the fasting state, after she had partaken of meat, rice, and bread on the previous evening, showed that the stomach was completely empty. For the present a considerable stenosis of the pylorus was excluded, and the existing disease referred to a gastric ulcer. The patient was therefore treated by Dr. Steffen with large doses of bismuth and milk diet. She felt better, and was soon able to take a semifluid diet. She increased in weight (about fifteen pounds), but was never free from pains.

In June, 1896, the patient again consulted me. She complained that the pains had become more violent, and that she vomited more frequently. She also stated that she had noted in the vomited matter remnants of the food of the previous day.

June 5, 1896. Examination of the stomach in the fasting condition, after the patient had partaken on the preceding evening of boiled rice and milk, meat and zwieback, revealed a considerable quantity of chyme, about 300 c.c., containing rice grains as well as bread particles. The chemical analysis of the gastric contents withdrawn by the tube showed: HCl +; acidity = 80. Microscopical examination: yeast cells few, no sarcinæ.

June 7th. Examination of the stomach in the fasting state, after the patient had taken on the previous evening milk and some white bread: stomach empty.

June 9th. Lavage in the fasting condition showed again a residue of food, as on the 5th.

This variable condition of the stomach in the fasting state (sometimes empty and sometimes indicating stagnation of food) led us to conclude that we had to deal, not with a marked stenosis of the pylorus, but either with an open ulcer close to the pylorus or an adhesion at the beginning of the duodenum. The first would give rise in a reflex manner to a spasmodic occlusion of the pylorus; the second would at times exert greater traction upon the duodenum, and thus incidentally produce ischochymia.

The patient was operated upon by Dr. Willy Meyer, on October 22, 1896. There were found several thickenings about the lesser curvature, and at the commencement of the duodenum a connective-tissue cord, which constricted the latter. Besides this, there were present a few adhesions to the liver. Gastro-enterostomy was performed, with recovery. The patient later complained of pains after ingestion of the coarser kinds of food, and still vomited now and then. Her stomach was examined one hour after a test breakfast, and there was found: HCl +; acidity = 90; free HCl = 70. The patient was given one-half teaspoonful of bicarbonate of sodium three times daily two hours after meals, and the pains were now much diminished. Since the operation she has increased in weight about fourteen pounds, and altogether she is in much better health than previously, although she is compelled always to avoid coarse foods, as otherwise gastric pains are produced.

Case IV.—November 29, 1896. Aron L——, thirty-two years old, manufacturer, has suffered more or less from pyrosis since his eighteenth year. Appetite was always poor, and the patient was regarded as a small eater; he was troubled with frequent eructations, and was always constipated. During the last two years he has complained constantly of a burning feeling in the epigastrium two hours after meals; the ingestion of food, as well as the administration of bicarbonate of sodium, alleviated this symptom for a short time. Four months ago the patient began to experience colicky pains in the upper abdominal region: these usually appeared five or six hours after eating, or later at night, and especially when he had neglected to take anything for the burning. The appetite was not much changed, sometimes somewhat slighter than previously. Vomiting only seldom occurred after gastric lavage had been undertaken. The patient stated that on one occasion after washing out the stomach a small quantity of blood was noticed.

Status præsens: Patient is fairly well nourished; color somewhat pale, tongue slightly coated. Thoracic organs intact. Palpation of the abdomen reveals no areas sensitive to pressure. Splashing sound present, and the stomach can be traced to a line one or two fingers' breadth beneath the umbilicus. Peristaltic contractions are not visible. The urine contains neither sugar nor albumin, and is secreted in sufficient quantity.

November 29, 1896. Examination of the stomach in the fasting state reveals a considerable amount of chyme (200 c.c.), consisting chiefly of bread and starchy substances. HCl +; acidity = 48.

November 30th. Examination of the stomach one hour after Ewald's test breakfast: Quantity equals

Fig. 1.—Showing the entire cross-section of the excised ulcer as it appears under the lens. The concave line forms the interior, the convex the outside of the stomach. The middle portion is deprived of the glandular layer; to the left a few glands are left. × 4.

300 c.c.; HCl +; acidity = 76; slight residue of food from previous day can be recognized.

December 1st. Examination in a fasting condition furnishes a greenish fluid, containing few fine particles of food and of strong HCl reaction.

December 3d. Contents obtained in a fasting condition consist of fluid mixed with bile and brownish masses containing only a few food particles. After lavage blackish masses finally appear. The slight stagnation of foods at once awakened the suspicion of a pyloric stenosis of moderate degree, and the brownish masses (altered blood) pointed to the existence of an ulcer in the vicinity of the pylorus. This suspicion was further confirmed by the circumstance that, on December 18th, 400 c.c. of fluid, containing numerous brownish masses, was obtained from the fasting stomach; at the same time an area of sensitiveness to pressure was present in the epigastrium, especially toward the right side. The patient was now placed in bed, and a strict cure initiated for the ulcer. From December 18th to 23d he was nourished per rectum, after which small quantities of milk were administered per os.

January 2, 1897. Lavage in the fasting state showed the presence of a slight amount of food residue (100 c.c. of chyme mixed with bile); the same condition was noted on January 8th.

The diagnosis previously made of a commencing benign pyloric stenosis, complicated with ulcer in the vicinity of the pylorus, was now assumed with the greater show of certainty, in view of the futility of the treatment, and the patient was urgently advised to undergo an operation, the more so since all therapeutic measures had proved unavailable.

The operation was performed by Dr. F. Lange, on January 13, 1897. There was found an ulcer on the anterior side of the stomach, closely adjacent to the

pylorus; the latter was markedly thickened (rigid) and its lumen narrowed. The ulcer was excised, and the pyloroplastic operation of Heinecke-Mikulicz carried out. The accompanying three drawings give the microscopical appearance of the ulcer and its immediate surroundings. The mucous membrane of the stomach was markedly swollen and hypertrophied.

Fig. 2.—The left corner of Fig. 1, as seen under the microscope with low power. Glands are visible to the left of the drawing, the rest consisting principally of a proliferation of cells and connective-tissue formation.

The patient rapidly recovered from the operation, and has since completely recuperated; he is free from all disturbances, and has gained twenty-five pounds in weight.

Case V.—January 2, 1894. Esther S——, forty-three years old, has suffered for twelve years now and then from gastric pains. About a year ago the pains became more intense and vomiting occurred, obstinate constipation being always present. The appetite was variable; sometimes there was present a ravenous hunger; usually, however, more or less anorexia. During the last year the patient has lost over thirty-six pounds in weight.

Status præsens: Thoracic organs intact; tongue thickly coated. Palpation of the abdomen reveals no sensitiveness to pressure. A splashing sound can be traced from the left border of the ribs down to a point a hand's breadth below the navel. In the left hypochondriac region, close beneath the liver, an area of resistance is found, which is about 2.5 cm. long by 1.5 cm. wide, adherent to the liver, and apparently connected with the stomach. The urine contains no sugar or albumin.

January 7, 1894. Examination of the stomach by the tube in the fasting condition: Over 500 c.c. of decomposed chyme is found in the stomach; this has an extremely disagreeable odor. HCl +; acidity = 40.

Patient was treated for some time by washing out the stomach, and, as this procedure produced no conspicuous change in her condition (the ischochymia persisted as heretofore), she was advised to have an operation performed, but refused positively.

She then disappeared from my observation, but returned about the middle of December, 1896, with the statement that she had suffered intensely during the past three years. There was present constantly a feeling of tension of the abdomen and of burning in the epigastrium and in the œsophagus. Vomiting of large, ill-smelling masses every two or three days had occurred during the entire period; marked constipation existed, and since January, 1894, the patient had lost thirty pounds in weight.

December 20, 1896. Status præsens: Inspection of the abdomen in the recumbent posture shows a considerable protuberance of the lower abdominal region; this extends from the left toward the right side, commencing a few fingers' breadth above the navel and reaching as far as the symphysis. Palpation reveals in this case no tumor or splashing sounds in the entire protruding region. After palpation peristaltic waves of the stomach from left to right were observed immediately (peristaltic restlessness). This phenomenon sometimes occurred spontaneously without preceding palpation.

December 22d. Examination of the stomach in the fasting state revealed the presence of large masses of chyme; the chemical examination showed HCl +; acidity = 50; lactic acid not present.

The diagnosis of a benign stenosis of the pylorus was made, and it was assumed that the pyloric tumor observed three years before must still be present, but had been drawn so far backward by adhesions as to be no longer accessible to palpation.

The patient was now treated by me in the Post-Graduate Hospital, and operated upon, January 5, 1897, by Dr. Willy Meyer. The pylorus was found converted into a dense tumor firmly adherent to the lower border of the liver. Gastro-enterostomy was performed, and the patient recovered.

At the commencement of this month (April) she reported that since the operation she had increased forty pounds in weight; she is now able to eat everything,

Fig. 3.—Showing one spot of a proliferation of cells lying in the centre of the specimen resembling very much a spindle-cell sarcoma. Highly magnified.

and has been completely restored to health. An examination of the stomach showed that the organ extended only to a point one finger's breadth beneath the navel (splashing sound).

Case VI.—March 22, 1897. Miss Emma L——, aged fifty-three years, had passed through a severe

attack of "stomach and liver trouble" fourteen years ago; at that time she suffered from violent pains in the right side and vomiting without hæmatemesis. A diet consisting of "hot water and meat," continued for several weeks, effected a cure. After this, rapid increase in weight from one hundred and ten to one hundred and fifty-three pounds took place.

About two years ago her trouble returned. She began to experience a feeling of fulness after meals, and the bowels became constipated. The bodily weight also commenced to decrease slowly, and for a little over two months she has vomited large masses at times; the vomiting usually occurred only once in two or three days, and the vomited matter contained frequently foods of the previous days.

Status præsens: The patient is considerably emaciated and anæmic; the skin feels dry, and the tongue has a white coating. Thoracic organs intact. Inspection of the abdomen reveals a considerable prominence of the lower half of the abdominal wall, more marked on the left than on the right side. On prolonged inspection peristaltic movements passing in the form of hillocks from left to right are observed. Palpation reveals no areas especially sensitive to pressure. The splashing sound is present, and this can be traced downward almost to the symphysis. On the right side an oval area of resistance can be made out by deep palpation in the umbilical line; this is only slightly movable, and runs in a fairly vertical direction. It appears possible that this is the thickened and perhaps adherent pylorus. The urine contains neither sugar nor albumin.

March 23, 1897. By introduction of the tube into the stomach in the fasting condition, over 500 c.c. of chyme is withdrawn, having the following characteristics: HCl = 0; lactic acid +, marked; acidity = 176; free acid = 40.

On microscopical examination very numerous thread bacilli are found, also isolated yeast cells. In the fermentation saccharometer the filtrate shows no distinct development of gases, even on addition of sugar.

Patient is placed on a fluid diet, and receives resorcin and bismuth.

March 28th. In the fasting condition over 500 c.c. of gastric contents is withdrawn with the tube, in which food particles are noticeable. HCl = 0; lactic acid +; acidity = 52.

An attempt was made completely to cleanse the stomach, but this was not successful, as the fenestræ of the sound were obstructed with thick food particles.

A marked stenosis of the pylorus of benign character was diagnosed, chiefly upon the ground of the anamnestic data, although the presence of lactic acid and thread bacilli pointed to a malignant neoplasm. The patient was sent by me to the Post-Graduate Hospital, and nourished for five days exclusively per rectum. After that she began to take small quantities of milk per os, but when examined in the fasting condition the stomach was found filled with a considerable residue of milk. The pylorus appeared to allow but little food to pass through, and therefore an operation was advised as an *ultimum refugium*.

On April 6, 1897, the patient was operated upon by Dr. Willy Meyer. The stomach was found enormously enlarged, and the pylorus adherent to the lower surface of the liver to such an extent that its separation and the performance of a pyloroplastic operation could not be considered; hence a gastro-enterostomy was established. The patient recovered from the operation, but died on the eleventh day from increase of the weakness and cardiac failure, after the occurrence for several days previously of constant vomiting (bile and intestinal contents).

An autopsy showed firm adhesion of the pylorus to the lower surface of the liver and the abdominal wall, in consequence of an old perforating ulcer; the lumen of the pylorus was impassable to the little finger. No cancer could be found.

Of the six cases of malignant stenosis of the pylorus subjected to operation, I report only two, in which no tumor could be felt and in which lactic acid was absent in the gastric contents.

Case I.—October 16, 1894. Emil K——, fifty-three years old, had suffered for about six months from frequent intense gastric pains and occasional vomiting. He had lost about forty pounds in weight.

Examination of the abdominal organs revealed no areas especially sensitive to pressure. A splashing sound could be produced in the gastric region, and traced downward to a line one finger's breadth beneath the navel.

Examination of the stomach in the fasting condition showed the presence of large food masses (rice, bread particles, spinach, etc.). Chemical examination: HCl +; lactic acid not present; acidity = 140. Microscopical examination: yeast cells, sarcinæ, and bacilli. For several successive days examination of the stomach was undertaken in the fasting state, and the same result was always obtained, namely, considerable ischochymia.

A diagnosis of pyloric stenosis, very probably due to a carcinoma, was made, and the patient referred to Dr. F. Lange for operation. At the laparotomy a considerable carcinoma occupying the entire pylorus and a portion of the lesser curvature was found. A gastro-enterostomy was established; the patient recovered and lived for six or seven months in a quite comfortable condition—that is, he no longer vomited and was able to partake of a varied diet.

Case II.—October 24, 1896, Sam. K——, thirty-two years old, had suffered since four months with gastric pains and obstinate vomiting, besides a sensation of intense burning in the pit of the stomach and in the œsophagus, with tension as well as oppression in the chest. The appetite was good, the bowels were markedly constipated. Since the beginning of his disease the patient had lost over forty pounds in weight, and had become weak and languid, so that he was no longer able to follow his occupation.

Inspection of the abdomen showed a marked peristaltic restlessness of the stomach (high waves passed slowly from left to right). By following the splashing sound it was found that the stomach extended downward to a point two fingers' breadth above the symphysis. Palpation revealed the absence of any perceptible tumor.

Examination of the stomach with the tube, after the patient had partaken only of tea on that morning, showed the presence of a large quantity of chyme (casein coagula, particles of bread); the chyme had a marked green color from admixture of bile, and formed a foam on the surface of the fluid. Chemical examination: HCl+; lactic acid not present; acidity = 100. On placing the filtrate in the fermentation saccharometer at ordinary temperature of a room, one-half of the cylinder was found filled with gas. The second examination of the stomach in the fasting condition gave the following result: presence of large masses of chyme having the above described characteristics.

A diagnosis of pyloric stenosis, very probably due to an occluding carcinoma, was made, and the performance of an operation, that is, gastro-enterostomy, urgently recommended. The operation was performed several days later by Dr. Willy Meyer in the German Hospital. A tumor of the pylorus was found, connected with the lower surface of the liver; besides this, several infiltrated mesenteric glands and two suspicious deposits in the small intestine were noted. The tumor had every appearance of cancer, but, owing

to the adhesions and the swelling of the mesenteric glands, was not resected, gastro-enterostomy being performed. The patient recovered without further disturbances and since then (five months after the operation) has increased thirty pounds in weight, is able to eat everything, and attends to his business.

II.

Cases of Ischochymia Treated by Means of Palliative Measures.—(*a*) *Ischochymia produced by benign pyloric stenosis.*

Seven cases belonging to this class have come under observation; in all of these ischochymia was strongly pronounced, while peristaltic restlessness of the stomach was at first found, but later disappeared on improvement of the condition.

For the sake of illustration I will describe in brief two of these cases.

Case I.—May 20, 1896. Robert A——, forty-six years old, had since his youth suffered occasionally from stomach trouble. Thus in 1871 he had an attack of violent pains in the gastric region, which confined him to bed for several days. Since then, up to 1880, the patient had been completely healthy. He then began to experience pains in the epigastrium, which usually appeared every day at about the same time (5 P.M.) and increased in intensity. About a month later vomiting ensued; the patient now began to suffer from violent headaches, with which he was afflicted until 1883. After that, up to 1894, he enjoyed good health, and weighed one hundred and forty-five pounds. In July, 1894, the intense pains in the gastric region recurred, appearing periodically every day at the same time during about fourteen days. The patient was then very well until December, 1894, when an attack again occurred. From December, 1894, until April, 1895, he suffered constantly and his weight was reduced to one hundred and four pounds. Gastric lavage was employed, the patient being able to practise this procedure himself. During this period he was frequently troubled with profuse vomiting. At about this time the patient entered the Presbyterian Hospital, in which he remained for two months. He was nourished for fourteen days on milk, and improved in health. When he left the hospital he weighed one hundred and twenty pounds, but still suffered from tension in the abdomen and pyrosis. Marked constipation was always present. The patient continued to suffer with his stomach, and was in the habit of washing it out whenever he had pains (every night). He weighed one hundred and twenty-three pounds in his clothes when he came under my observation, being referred to me through the kindness of Dr. J. A. Booth.

Status præsens: Thoracic organs normal; patient emaciated; skin quite dry. Inspection of the abdomen reveals a protuberance of the lower half, which is more pronounced on the left side; here and there hillocks of the size of the fist, moving from the left to right, are noted. Palpation reveals no sensitiveness to pressure; splashing can be readily produced, and by means of this symptom the stomach can be traced to a point two fingers' breadth above the symphysis; a tumor cannot be discovered.

May 20, 1896. Examination of the stomach one hour after the test breakfast: HCl +; acidity = 100; free HCl = 70; besides particles of roll, other fragments of food are found (fat, spinach, barley grains).

May 22. Patient had eaten of rice soup, meat, and white bread on the previous evening, but had since abstained from food. On examining the stomach with the tube 300 c.c. of chyme was withdrawn, in which grains of rice and particles of bread were visible. HCl +; acidity = 80.

On May 29th, as well as on June 6th and 14th, examination of the stomach in the fasting state revealed the presence of food, although the quantity had steadily become less.

June 24th. Only a small amount of contents was found in the fasting stomach, and since then it has always been empty in the morning when in this condition.

The patient first took alkalies and later resorcin with bismuth for a long time. His diet consisted at first chiefly of fluids; later he was able to partake of a varied diet, but between meals had to take milk and crackers. The patient at that time felt well, had no more pains or vomiting, and on October 4, 1896, weighed one hundred and forty-four pounds, that is, had increased twenty-one pounds in the last five months.

Case II.—December 10, 1896. Johann C. L——, aged forty-three years, had suffered from "inflammation of the bowels" nineteen years ago. About ten years ago the patient began to be troubled with periodical attacks of headaches and vomiting. These attacks occurred once a month, while during the intervals the patient usually felt completely well, had a good appetite, but was frequently constipated. About three years ago he began to experience pains in the pit of the stomach, which radiated toward the right side, and usually persisted for some time, although during this entire period he maintained a strict diet. Two years ago he vomited for the first time a large quantity of blood (coffee colored), and since then has suffered constantly with vomiting. About one and a half years ago an extremely violent attack of gastralgia occurred, necessitating several injections of morphine. A short time afterward another attack of hæmatemesis took place, which was repeated for the third time in the summer of 1896. Since the beginning of his trouble the patient has lost thirty pounds in weight. During the last two years he observed that prominences of the size of the fist formed on his abdomen, moving from the left toward the right side.

Status præsens: The patient appears emaciated and exhausted, and is markedly anæmic. Palpation of the abdomen shows a sensitiveness to pressure in the scrobiculus cordis; a splashing sound is present, which can be followed down to a point one hand's breadth beneath the navel. After palpation there are noticed high waves, which pass slowly from left to right, and extend over the entire gastric region.

Examination of the stomach two hours after ingestion of a glass of milk (patient had partaken of nothing else that morning) demonstrates the presence of about three-fourths of a litre of chyme, which contains some casein, fat, particles of bread, spinach, etc. Chemical examination: HCl +; lactic acid not present; acidity = 90; free HCl = 70.

December 12, 1896. Examination of the stomach in the fasting condition, the patient having taken some meat and a plateful of rice soup on the previous evening, reveals the presence of about 300 c.c. of chyme containing food particles (rice, fat, etc.). Chemical examination: HCl +; acidity = 80.

December 15th. Examination in the fasting condition: about 250 c.c. of fluid mixed with foods is found in the stomach, exhibiting the above described chemical properties.

Ischochymia, due to a commencing pyloric stenosis resulting from the cicatrix of an ulcer, is diagnosticated, and the patient placed upon a fluid diet consisting chiefly of milk; resorcin with bismuth is also administered, and a quiet manner of life advised.

December 29th. In a fasting condition the stomach contains only 20 c.c. of pure fluid (without admixture of foods). HCl +; acidity = 70.

The patient feels much better and no longer complains of pains and vomiting. The diet is now somewhat changed, four eggs being added daily and some meat once daily.

January 13, 1897. Examination of the stomach one hour after a test breakfast: HCl +; acidity = 100; free HCl = 68. The patient is now able to take besides the previous diet thick soups, white bread, and butter.

February 16th. The stomach in a fasting condition contains 20 c.c. of pure gastric juice; HCl +; no food. The patient feels well and vigorous, and during the two months has gained fifteen pounds in weight.

(*b*) *Ischochymia, probably due to a benign duodenal stenosis.*

A case of this kind was observed which is of interest for the reason that a chronic continuous hypersecretion resulting from a duodenal ulcer was first present, and that the ischochymia developed at a later period. An operation was refused, and the case terminated fatally in consequence of a profuse hemorrhage. The history in brief is as follows:

Adolph L——, fifty-one years old, merchant, had suffered for six years with digestive disturbances. During this time he had had four attacks of intestinal hemorrhage, that is, large quantities of pitch-black blood were evacuated by way of the intestine. After such an attack the patient is very anæmic, so that he is compelled to lie down, as otherwise he is troubled with vertigo. He also suffers frequently from pyrosis and obstinate constipation.

April 12, 1895. When the patient consulted me he appeared well nourished, and examination of the chest and abdominal organs gave negative results.

Examination of the stomach one hour after the test-breakfast: HCl +; acidity = 90; no food remnants of the previous day.

April 15th. The stomach in a fasting condition contains 140 c.c. of a clear, watery fluid, in which no food particles can be observed. Chemical examination: HCl +; acidity = 80; no erythrodextrin.

Patient was treated with the galvanic current by the intraventricular method, and felt better.

April 21st. In the fasting condition 50 c.c. of gastric juice is found, and on April 23d only 30 c.c.

The patient now discontinued treatment for nearly ten months because he felt completely well, but returned to me February 27, 1896, and complained of a feeling of burning in the gastric region, which was quite intense, especially toward two o'clock in the morning, so that he found it difficult to fall asleep again.

The patient being in a fasting condition, his stomach was examined with a tube and 200 c.c. of fluid containing large quantities of food withdrawn. HCl +; acidity = 120. Yeast cells and sarcinæ were present in large numbers, as well as numerous crystals of fatty acids.

The patient was treated for some time with gastric irrigation and a spray of nitrate of silver. His condition, however, was not materially changed, and an examination made on March 6, 1896, showed that the fasting stomach contained 400 c.c. of chyme.

A diagnosis of ischochymia, due to a cicatrix of an ulcer of the duodenum, was made, and the patient urgently advised to seek surgical interference. This, however, was positively rejected, and death occurred two months later after an attack of hemorrhage.

(*c*) *Ischochymia, probably due to a purely atonic condition of the stomach.*

Cases of persisting ischochymia which are produced by an actual relaxation of the muscular layer of the stomach are, according to my experience, extremely rare; indeed, I am sometimes in doubt whether this condition exists at all.

A case of chronic ischochymia, which appears to belong to this group, is described in my book[1] (Case H, p. 343).

[1] Max Einhorn: "Diseases of the Stomach," New York, 1896.

(*d*) *Ischochymia originating from malignant stenosis of the pylorus.*

Cases of malignant stenosis of the pylorus treated by palliative measures are extremely frequent; from four to eight cases of this kind at least come under observation in my private practice every year. These comprise far advanced cases in which an operation is contraindicated, or in which it is refused by the patient or his relatives.

A case of this kind which ran a very rapid course is worthy of mention.

December 6, 1896. John R. F——, sixty-five years old, lawyer, commenced four months ago to experience a feeling of tension and slight discomfort after eating. To these was soon added occasional vomiting and obstinate constipation occurred. The disease steadily progressed, and the patient began rapidly to lose weight and strength. For about five or six weeks he has not been able to retain anything, as the vomiting immediately appears after meals. He also suffers constantly from a feeling of extremely distressing burning in the gastric region and along the course of the œsophagus, together with frequent eructations.

Physical examination of the chest organs revealed nothing abnormal, while on examining the abdomen nothing unusual was noted. No tumor was present, no special sensitiveness to pressure in the epigastrium; a splashing sound was found, by means of which the stomach could be traced down to a point about one finger's breadth beneath the navel.

December 2d. Examination of the stomach with the tube, in the fasting condition: nearly one litre of a reddish foaming fluid, having a strongly acid smell, was withdrawn, in which food particles of the previous days were recognizable. Chemical examination: HCl +; acidity = 64; free HCl = 20; lactic acid = 0; acetic acid +. In the fermentation saccharometer the filtrate in two hours gave off three-quarters of the cylinder of gas.

Patient was nourished with small quantities of fluid diet, and confined to bed. The vomiting, however, persisted, notwithstanding the administration of opiates. A diagnosis of malignant stenosis of the pylorus was made, and in consultation with Dr. L. Rodenstein an operation was advised, but refused by the family. About one day later incessant singultus occurred; the patient became more and more comatose, and died five days later.

On reviewing the above-described cases, Group I. testifies to the fact that the diagnosis of ischochymia and of the conditions which give rise to it (pyloric stenosis, ulcers in the immediate vicinity of or in the pylorus) can be made, with a fair approximation to certainty. In all the six cases operated upon, the diagnosis was completely confirmed by the conditions revealed at the operation.

Of the six cases operated upon for benign stenosis of the pylorus, four were cured, and two (Aurelia L. and Emma L.) terminated fatally in consequence of shock and cardiac failure shortly after the operation. The latter, however, sought surgical intervention at too late a period, and there can be no doubt that this was the sole cause of the fatal termination.[1] Of the remaining four, three have been completely cured, that is, the patients are able to eat everything without any disturbances, and are completely well. One of the patients has been improved, but not completely cured; that is, she continues to suffer now and then from pains which result from cicatrices at the lesser curvature, yet she is able to partake of a more varied diet without the occurrence of a stagnation of gastric contents.

[1] In order to estimate the mortality, it is necessary to add the four cases previously reported by me; we have then ten operated cases of benign pyloric stenosis, with two deaths, that is, a mortality of twenty per cent.

The above-cited cases of malignant stenosis of the pylorus show that even in the absence of tumor and also of lactic acid in the stomach the diagnosis of malignant stricture of the pylorus can be made, and further that gastro-enterostomy exerts a favorable effect temporarily in this condition. The majority of these patients who have survived this operation gain in weight and are able to pass a much more comfortable existence than could formerly have been afforded them.

Although in the two cases reported the diagnosis was made fairly early, resection of the tumor could not be performed because of the existence of numerous adhesions.

The cases described in Group II., subdivisions (*a*) and (*c*) show that ischochymia, dependent upon a benign stenosis of the pylorus or upon a relaxation of the muscular layer of the stomach, can quite frequently be improved by palliative measures. This change for the better means that in relaxation of the gastric muscularis the latter, under appropriate treatment, recuperates and becomes more vigorous, while in stenosis of the pylorus a kind of compensation of the stomach occurs; that is, the organ acts with greater energy, so as to be able to perform its functions notwithstanding the obstruction existing at the pylorus. It can therefore be readily seen that an improvement as a result of palliative treatment can be expected only in cases in which the pyloric stenosis is not very marked; moreover, it is also clear that, in the event of improvement from palliative measures, we must always be prepared for a return of the ischochymia.

If the symptoms of ischochymia do not yield to palliative treatment, surgical intervention is urgently called for, because otherwise a fatal outcome can readily take place. This is best illustrated by the case of duodenal stenosis described under subhead (*b*), in which death occurred after a hemorrhage. Cases in which death took place from starvation have been observed by me in two instances.

Case F. (subhead *d*) shows how rapid may be the course of a probable malignant stenosis of the pylorus under certain circumstances, although no tumor could be felt and hæmatemesis had never been present.

On the ground of the cases reported by me in this paper, as well as of the cases of ischochymia previously described, I will now discuss the points relating to its diagnosis as well as therapeutics.

Diagnosis.—The diagnosis of ischochymia is based upon the presence of food residue in the stomach in the morning and in the fasting condition, the patient having taken a substantial meal on the previous evening.

If this symptom is found to persist for a long time, we have to deal, at any rate, with a serious affection, and it will now be necessary to determine whether this consists in a relaxation of the gastric muscular coat or a narrowing of the pylorus; in the latter case it is further requisite to decide whether a benign or malignant process be present.

The differential diagnostic points which here demand consideration are well known to you, and I consider it the less necessary to discuss them since they are described in detail in my book.[1]

On the other hand, it appears to me of importance to analyze the diagnostic significance of some of the symptoms which, when present, are very valuable, but whose absence does not militate against the existence of pyloric stenosis. These symptoms are:

1. The dilated or abnormally large stomach.
2. The thickened and readily palpable pylorus.
3. The peristaltic restlessness of the stomach.
4. The fermentation products.

1. The abnormal size of the stomach is pathognomonic only if the organ occupies nearly the entire lower section of the abdomen, and contains over three or four litres of fluid. Such stomachs are frequently met with in old cases of stenosis of the pylorus, and their presence at once awakens the suspicion of a narrowing of the pylorus; before this diagnosis can be made, however, the presence of ischochymia must be determined. In this country considerable weight has been placed upon this symptom, as we find in the above-cited article of Pepper-Stengel; yet the absence of this diagnostic sign should not lead us astray, for it is our aim to make the diagnosis of pyloric stenosis as early as possible, while the pronounced, at once perceptible dilatation of the stomach develops only in the course of time. Hence it is not advantageous to apply the old name of "gastrectasia" to designate the entire condition, but to employ instead the term "ischochymia," because this is the most important and at the same time the earliest symptom.

2. If it is possible by means of palpation to map out the pylorus as a smooth, oval tumor, and if ischochymia be present and the disease has lasted over one and a half or two years, we can with certainty make a diagnosis of benign pyloric stenosis. Among the above described cases of this affection, this symptom was found in only two (Aurelia L., Mrs. S.).

3. Peristaltic restlessness of the stomach was found in two of the operated cases of benign stenosis of the pylorus, and in nearly all of the non-operated cases of this disease. Inasmuch as the peristaltic restlessness of the stomach but very rarely occurs as a pure neurosis, this symptom is of great significance for the recognition of stricture of the pylorus, the more so as an examination for this purpose (simple inspection of the abdomen in the recumbent position) is not attended with any difficulty.

The presence of this symptom in connection with the existence of ischochymia speaks in favor of narrowing of the pylorus, and against simple relaxation of the gastric muscular coat; the absence of this symptom is of no consequence.

4. Fermentation products (formation of lactic acid or gases in the stomach) are observed almost constantly in all cases of ischochymia. Commonly, one or the other kind of fermentation is present, that is, either formation of lactic acid or formation of gases. The lactic acid is found in the stomach in cases in which the secretion of hydrochloric acid is considerably diminished, while the development of gas is encountered in cases in which there is an abundant secretion of gastric juice. These points, which have been especially emphasized by H. Strauss,[1] I can completely confirm on the ground of my own experience.

These fermentation products may be absent, however, notwithstanding the presence of pyloric stenosis, if the stomach has been treated in a rational manner, that is, has been washed out several times.

The constant or frequent occurrence of small quantities of bile in the stomach does not in my experience militate against the existence of a narrowing of the pylorus; on the other hand, it appears to me to point to a firm rigidity of this orifice, in consequence of which the latter is never completely closed. A thickened and rigid pylorus of this kind was found in the above-described patient, Aron L., and in Mrs. S., and in both cases a certain amount of bile was constantly in the stomach.

Among the more recent auxiliary measures which are available in arriving at a diagnosis, the gastroscope has been recently employed by Rosenheim and Kelling. In my opinion there is no doubt that this instrument has a great future, although at present it has not been generally utilized.

Treatment.—In the treatment of ischochymia it is necessary first of all to ascertain the cause of the stagnation of food in the stomach.

[1] L. c., p. 355.

[1] H. Strauss Zeitschr. f. klin. Medicin, 1895.

If this be due to a far-advanced benign stenosis of the pylorus, or to a commencing occlusion of this opening malignant in its nature, surgical interference (pyloroplastic operation, pylorectomy, or gastro-enterostomy) is indicated. If we have to deal, however, with commencing benign stenosis of the pylorus, or a genuine relaxation of the muscular coat of the stomach, palliative treatment should first be given a trial, and in the event of its failure an operation is demanded.

The palliative treatment in the milder cases consists in the employment of a fluid or semifluid diet (milk, soups, with finely ground farina, meat broths with egg, egg and milk), lavage of the stomach in fasting condition, followed by spraying with a one-per-mille solution of nitrate of silver, and in the administration of medicaments which prevent fermentation. Among these may be used benzonaphthol, salol, bismuth, and resorcin. I frequently give:

℞ Resorcin	4.0
Bismuth. subnit	20.0
Aq. dest	200.0

S. One tablespoonful in a wineglassful of water three times daily, half an hour before meals.

In severe cases (frequent vomiting, frequent pains, intense burning sensations) it is advisable to keep the patients in bed for about three weeks, and to nourish them for five days exclusively per rectum, and then slowly and gradually adopt a milk diet, as in ulcer of the stomach—in this condition, however, much more cautiously and slowly.

Thus, for example, on the sixth day I give only two tablespoonfuls of milk every hour, on the seventh day three tablespoonfuls, on the eighth day four tablespoonfuls, etc., until I have reached 100 c.c. every hour; then I give 200 c.c. every two hours, and increase to 300 c.c. On every other morning I determine by washing out the stomach in the fasting condition whether it is empty.

In this manner it is frequently possible to adapt the stomach, first to a light, and later to a heavier diet. The patients then increase gradually in weight and appear completely well. Yet they cannot be regarded as entirely healthy, because we must be constantly prepared for a recurrence of the old affection.

Moreover, in cases in which it is not possible to remove the ischochymia by palliative measures, the patient may sometimes maintain a comfortable existence under use of regular washings out of the stomach and the maintenance of a light and rather fluid diet. Such patients, however, are menaced by many dangers and can enjoy but few of the luxuries of life, and for this reason the clinician should insist that an operation is to be regarded as the only correct procedure.

In summarizing this article, the following conclusions can be formulated:

1. In the vast majority of prolonged disturbances in the transportation of chyme from the stomach into the intestine, a narrowing of the pylorus exists.

2. The earliest and at the same time most important sign of pyloric stenosis is ischochymia; the dilatation of the stomach which is met with, and which is often so considerable, does not develop until later, and besides may in exceptional cases occur in the presence of an adequate prochoresis.

3. Ischochymia produced by a malignant neoplasm at the pylorus always demands an operation (gastro-enterostomy, eventually pylorectomy).

4. In cases of ischochymia dependent upon a commencing benignant pyloric stenosis (or ulcer in the vicinity of this orifice), or a relaxation of the muscular coat of the stomach, an effort should first be made to afford relief by palliative measures: if this is not successful, then a pyloroplastic operation or gastro-enterostomy should be performed.

5. Ischochymia due to a benign markedly developed narrowing of the pylorus (in these cases the pylorus can usually be felt as a small tumor) demands early resort to an operation (pyloroplastic procedures, if the stricture is not too small and if the adhesions are not too numerous, otherwise gastro-enterostomy).

20 East Sixty-Third Street.

AN IMPROVED INTUBATOR FOR THE RELIEF OF LARYNGEAL STENOSIS.

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The instruments herein described are merely improvements of the noble work for which the profession is indebted to the genius of Dr. Joseph O'Dwyer. While teaching intubation I noted certain difficulties which the majority of my students encountered, and thus I have been led after a vast experience on the living and also on the cadaver to devise certain instruments which seem to overcome the apparent hardships. To be in a large city surrounded by experts is a blessing, but to be able to help one's self in a remote region with a simpler instrument is an offsetting advantage.

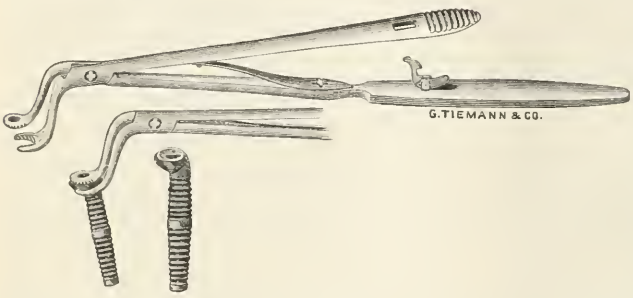
My improved tubes are constructed of vulcanized Para rubber, which is the purest and best kind of rubber. Almost all pessaries have been made for years of hard rubber; so have drainage tubes, tracheotomy tubes, and gums for artificial teeth. Adulterated rubber, which is less expensive, is brittle and should not be used.

The tube is made in various sizes, so that a No. 1 tube answers for a child of one year of age or under; No. 2 for a child two years or under; No. 3 for a child three to four years or under; No. 4 for a child five to seven years or under; No. 5 for a child over seven years and under ten years. The lumen of the tube is smooth, while the outside is corrugated.

Corrugated Tubes.—Corrugation I have found acts as a self-retaining device, and prevents the tube from being coughed out. Naturally a tube with a smooth outside surface, as the O'Dwyer tube, is much more easily expelled during a paroxysm of coughing than a tube whose surface is corrugated, especially so so when the moist mucus or other secretions act as lubricants. As to the principle involved regarding the length of the tube, I have adhered strictly to the O'Dwyer teachings. Thus, my tube fits from the false vocal cords to about one-half or three-fourths of an inch above the bifurcation of the trachea. The proportions I have verified by experiments on the cadaver. I have also made the tube bulge in the centre to give it first more weight, but chiefly to cause it by autopressure to be more self-retaining. The tube here described is not affected by acids or by secretions from the body. It will stand boiling in water and can be sterilized if necessary. I believe, inasmuch as the price of the material (rubber) is not an obstacle, that it is far preferable to use a fresh tube for each and every child. It is hardly compatible with our modern understanding of asepsis and antisepsis to introduce a tube that has been in a diphtheritic throat into a non-diphtheritic throat with a laryngeal stenosis when new tubes cost so little. I would therefore urge that each and every patient receive a new tube when required, and that the same be destroyed by burning after it is extracted. Rubber, as is well known, is pleasant, is

not cold, and will not allow secretions to adhere to its surface, as is the case with metal. I need only refer to the calcareous deposit seen on the O'Dwyer tubes after extubation, from the lime salts present in the pseudo-membranes.

Smooth Tubes—that is, tubes which were polished and were without corrugation—have proved serviceable in some cases. Thus a child of Mr. K——, three years old, was intubated by me without assistance after it had been given an injection of antitoxin, and the stenosis was immediately relieved. This was on April 29th. The case was reported to the health department, and a culture examined by it showed Klebs-Loeffler bacilli. I left a note asking that the child should not be disturbed for an examination by the inspector of the New York health department, as I have found that too frequent examination causes irritation, which excites cough and frequently causes the tube to be expelled. The case progressed favorably and the patient made a rapid recovery. I extubated after four days and the child was discharged cured. A later culture on May 20th showed bacilli to be still present. This later culture was made at the request of Dr. Benedict, owing to the question of disinfection of the apartments. With this patient I used a light-weight



smooth-surface rubber tube, and at the time of writing the voice is slowly acquiring its normal tone.

The introduction of the tube is the most important part of intubation, for when laryngeal stenosis exists the sooner it is relieved the better for the patient. In order that we may avoid apnœa (a not infrequent occurrence with incompetent operators), I have completely done away with the obturator. The tube is attached to an introducer by means of U-shaped prongs, which hold the tube but do not obliterate the opening, *i.e.*, lumen of the tube. Thus the tube permits a current of air to pass the moment it enters the larynx. This is not the case with O'Dwyer's tube until we remove the obturator, and no doubt many times it has happened with others, as it has with me, that while lifting the obturator out of the tube the tube was so tightly attached that obturator and tube came away. Unless the obturator is new, there is always more or less rotation of the tube, so that the posterior projecting portion of the flange may be inserted under the epiglottis, thus greatly interfering with swallowing. In inserting the rubber tube into the larynx, I follow the method recommended by O'Dwyer, *i.e.*, insert the left index finger as a guide, raise the epiglottis, and slip the tube into the larynx.

The tubes devised by me have an eyelet for the passage of a stout silken thread, or I have sometimes used the surgeon's ordinary thin catgut. After intubation allow the child a little time to cough and expel either mucus or pseudo-membranes, and, when all stenosis is relieved, the silk thread or catgut can be removed by pressing downward on the tube with the left index finger and drawing firmly on the thread.

O'Dwyer, in speaking of intubation, says: "Pushing down membrane before the tube is the most serious of the unavoidable accidents attending this operation." This has happened to me. I believe the fact that the lumen of my tube remains open will permit the expulsion (by the usual severe paroxysms of cough following an ordinary introduction of the tube) of any membrane which might be stripped off in the introduction of the tube. If, however, membrane should really obliterate the whole inside of the tube, then it might be necessary to remove it and reintroduce it. Competent operators report instances in which on extubation the lumen of the tube was so completely obstructed that they wondered how the child breathed, and still with the tube *in situ*, filled with this obstruction, no apparent stenosis existed.

On May 5th I was hurriedly summoned in consultation by Dr. Ruzika to a child with laryngeal stenosis, and requested to intubate. On arriving I met Dr. Lowenbein, the attending physician, who was using the usual forms of stimulation hypodermically. The patient was less than two years old. At the doctor's request I intubated the larynx, and had to use considerable force, owing to subglottic infiltration of the mucous membrane. The child had, according to Dr. Lowenbein, convalesced from a mild attack of measles and developed a broncho-pneumonia. He noticed symptoms of catarrhal croup and then sent for me. The child progressed favorably for eight days, after which the tube was removed. Stenosis was very apparent after a few respirations, and this increased in severity until a complete asphyxia was noticed. To quote Dr. Lowenbein: "Dr. Fischer had to act quickly. He used the extubator for putting the tube into the larynx. The child recovered and in four days there was a complete euphoresis, till in our absence the child coughed the tube out and died before aid arrived. Dr. Fischer used the hard-rubber tube, corrugated outer surface. I have no doubt the tube sits more firmly in the larynx than do the metal tubes, and I was surprised the tube was not coughed up before the child having had unusually strong attacks of cough."

The case, although terminating fatally, showed how rapid operating will frequently prolong, if not save life, for twice I found this child in a decidedly moribund condition, and rapid intubation was the only expedient. Once I could not wait an instant, for the child was in a condition of apnœa, and I hurriedly inserted the tube with an extubator in order to save time. Besides I used hypodermics of whiskey and artificial respiration. I was rewarded by having the child breathe first slowly, then regularly, until it was in a normal condition.

Another case in which I intubated, having been called in consultation by Dr. Ludwig Kohn, was similar to the foregoing, although not so malignant. The child is still wearing my hard-rubber tube, and Dr. Kohn has since written to me that he approves of my tube, as it gives more time for the completion of the intubation, in his opinion. Both of these cases I have already reported at the scientific meeting of the German Poliklinik, May 21, 1897.

The introducer is made of steel nickel-plated, and can be taken apart to be boiled and thus converted into an aseptic instrument. Having attached the proper-sized rubber tube, guarded by a piece of catgut or stout silken thread, the tube is grasped by the introducer and locked by a simple screw. The finger is introduced to act as a guide and to lift the epiglottis, and the tube is pushed into the larynx while the

thumb of the right hand, the latter holding the introducer, disengages the tube and allows it to remain in the larynx.

The extubation I regard for the present as the easiest part of the operation, for the child, having recovered from the stenosis and being ready for extubation, is usually stronger, and besides the factor of stenosis is wanting. I shall refer to extubation in some future paper.

In conclusion I desire to thank Dr. B. Gallaudet, of the Bellevue Hospital anatomical committee, for his kindness in granting me cadaveric material from the morgue for my investigations.

The instruments have been made for me by Messrs. Tiemann & Co., of this city. I must express my sincerest gratitude to Mr. Stohlmann and Mr. Pfarre for the faithful manner in which all my ideas were perfected, and I received from them many valuable suggestions.

Four models were made for me. I believe the one here illustrated to be the best. The four varieties of tubes were: a heavy rubber tube loaded with lead to give it proper weight, which I discarded; a light tube with a highly polished smooth outer surface, which was not satisfactory; No. 3 was an unpolished tube of rough rubber, which did not give me complete satisfaction; No. 4 is the one shown in the illustration and is my corrugated hard-rubber tube. If I have succeeded in giving the profession a slight improvement, then I shall feel amply repaid for my trouble.

189 SECOND AVENUE.

THE SKIN AS A DIAGNOSTIC FACTOR IN DISEASE.

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It is not the intention of this paper to devote any space to the consideration of the eruptions which appear on the skin in the course of the eruptive fevers, nor to discuss the changes which take place in its appearance in cases of grave diseases of the blood and of the liver. The design of this paper is rather to deal with the conditions in which the state of the skin is liable to mislead the physician as to the cause of the illness of the patient. Sometimes, too, we are too much inclined to treat the skin affection as the only lesion of importance, and fail to connect it with the underlying condition of the system which is largely responsible for its development. These underlying provoking or predisposing agents are exceedingly numerous, and are perhaps best summed up or described in a very original manner by Dr. Stephen Mackenzie as follows:

The seven stages of man could be well illustrated by diseases of the skin, though we lack a Shakespeare to do justice to the theme. In the "mewling and puking" infant we meet with sclerema and œdema neonatorum, the "red gum" or strophulus of the older writers, intertrigo, eczema, urticaria papillosa (lichen urticatus), urticaria pigmentosa, xeroderma pigmentosum, and impetigo: the "schoolboy," with his chilblains and ringworm, alopecia areata, pityriasis rosea, ecthyma, and "football disease;" and then the "lover," with his acne and sycosis, and, as a result of irregular sexual excursions, his syphilides; "and then the justice, in fair round belly," with acne rosacea, diabetic boils, and pruritus ani; the sixth stage shifts into the "lean and slippered pantaloon," with rodent ulcer and "gouty" eczema; "last scene of all, sans teeth, sans eyes, sans taste, sans everything"—except an incessant and intolerable itching of the skin which we call senile prurigo.

Aside from these dermal manifestations of systemic states, I believe that too little importance is given to the very common lesions of the skin following the use of drugs. A number of American writers have already endeavored to impress upon us these occurrences, notably White, of Boston, and Morrow, of New York, and to a lesser extent Stelwagon, of Philadelphia. Still more recently a paper by Francis Packard has drawn attention incidentally to the same subject, and in the issue of the *Archives Cliniques de Bordeaux* for January, 1897, Guirard has again dwelt upon these cutaneous drug eruptions. From his paper a very considerable amount of the present article is gathered and I desire to give him full credit for a large part of its contents.

In one of his cases a woman, aged twenty-two, who had suffered a symphyseotomy, had the wound dressed with iodoform on January 27th, and no symptom of note developed until February 3d. On this day the temperature suddenly rose sharply between three and four degrees, there was pain in the chest and bladder, and the urine had to be withdrawn by the catheter, but it was in itself normal. Quinine was given for the fever and antiseptic vaginal irrigations were resorted to. By February 10th it was noticed that the patient was marked by red lines reaching downward from the alæ of the nose. In other places they were crescent shaped. They were painless and did not itch, and rapidly changed their appearance to a reddish-violet hue. The eruption disappeared as speedily as it appeared, at the end of three and a half hours, and the skin afterward came away in furfuraceous scales. Guirard believes this to have been due to the iodoform.

Usually the eruption after operations has been more characteristic of scarlet fever. Thus Stirling[1] believes that there may be a scarlatinal rash after operations without the absorption of drugs or an infection by the poison of scarlet fever. He asserts that these skin symptoms are particularly apt to occur after operations upon the genito-urinary tract, and in this he is supported by Civiale, Spencer Wells, Verneuil, and Terrillon. A similar rash has been seen after labor by Kidd.[2] This affection is not associated with fever. Other eruptions after confinement often appear, however, accompanied by chills, fever, and sweating, and these are certainly septic even if the non-febrile eruptions are not.

The moment we leave these cases in which the eruption seems to arise without apparent cause and approach the question as to the eruptions which may be produced by drugs, we pass into an almost limitless field. Only a few of the moderately common accidental rashes can be considered in the short space that can be devoted to this paper.

As a rule, we are apt to regard iodoform as a very innocent substance, rarely producing untoward effects unless its application is exceedingly free, and then causing only general systemic symptoms of poisoning rather than skin manifestations. The observations of a considerable number of clinicians, and a large part of them Americans, have resulted in the report of numerous cases of erythematous rash from the absorption of this drug. Among these may be named Cutler, Bradley, Meunier,[3] and R. W. Taylor.[4] Usually this iodoformic rash appears when the drug is freely applied over a large surface, coming out generally within

[1] "Remarks on Skin Eruptions after Operations and Recent Injuries." St. George's Hospital Reports, 1870.

[2] Dublin Journal of Medical Sciences for 1880.

[3] "Éruptions Iodoformiques." Thèse de Paris, 1887.

[4] "The Toxic Effects of Iodoform on the Skin and the General System." New York Medical Journal, 1887.

a few hours after the iodoform is applied (Meunier) and rarely after the twelfth day (Taylor). In two cases reported by Cathelineau[1] the rash appeared after the drug had been applied to a varicose ulcer and a soft sore, and in Wallich's case[2] when applied to a horse bite. In Trousseau's case[3] the drug was absorbed from an ulcer of the eyelid. Nearly all cases of iodoform erythema reach their acme in from one to a few days, persist for about a week after the use of the drug, and then disappear in a furfuraceous desquamation.

It is a well-known fact to many more physicians than those who know of iodoform rashes that quinine is very apt in certain persons to produce skin eruptions of all kinds and varieties. In France, articles by Grellety,[4] Dumas,[5] and theses by Bouvard de Grissac[6] and Levassor[7] have recorded many cases, and a very large number of Americans have done likewise. Guirard states that in most cases, simultaneously with the ordinary symptoms of cinchonism, we have developed a roseola, a simple erythema, or a marked scarlatinal erythema. In other cases an acute eczema or urticaria comes on. I have seen this so-called quinine rash more than once. Usually the eruption is widely diffused, but if limited it may be found only about the breastbone or groin. If the eruption appears on the face, it is usually a tumefaction or œdema. Its development is rapid and it soon reaches its greatest intensity, rarely persisting more than seven or eight days after the drug is stopped. Desquamation nearly always occurs. A differential point of value is that the eruption appears a second time if another dose is given.

Opium on the other hand is not usually suspected of causing eruptions on the skin. As a rule, the eruptions produced by it are limited to the face, but sometimes they are generalized. More commonly they are true erythemata and sometimes scarlatinal in type. In some cases there may be great redness of the skin, abundant sweating, acceleration of the pulse, heat of the skin. According to Brugisser,[8] these symptoms often ensue after small doses, such as ten drops of laudanum. In the great majority of these cases the eruption ends in desquamation, and it may be furfuraceous or in large plaques, according to Lanz,[9] and resemble in every particular the desquamation of scarlet fever. In one case seen by Guinard the desquamation lasted over a period of eight days. These opium eruptions are not only produced by the single dose but in some cases each subsequent dose so results. Thus Berenguier[10] reports the case of a patient who had an eruption three times in one week from the use of doses of opium, and Brugisser records the case of a patient who developed an eruption on one leg from the use of four grains of Dover's powder, another eruption the next day from another dose of one grain of Dover's powder, and a third eruption after five drops of laudanum. Deschamps[11] and Apolant[12] do likewise.

Finally we may discuss the skin lesions produced by turpentine. These follow both its internal and external use. As long ago as 1824 Barbière in his work on "Materia Medica," and in 1841 Galtier in a similar volume, described the onset of erythematous rashes, vesicles, and papules of very fleeting character after the ingestion of turpentine. Trousseau and Pidoux in their book on "Therapeutics" have done likewise, but all these occurred after very large amounts of the drug had been used or after its external employment. In 1879, however, Cordes[1] published an early case of true turpentine rash following its internal use. In this instance a patient of thirty-four years after the ingestion of turpentine developed an erythema over the skin of the trunk. Another case observed by the same author was that of a woman who developed a marked urticaria under similar circumstances. In both these cases the eruption was very fleeting in duration.

The conclusions reached by Guirard are as follows:

1st. That medicinal eruptions are commonly limited to the face, afterward extending to the trunk symmetrically, and usually developing suddenly, as does erysipelas.

2d. Unless they arise from very large doses they generally develop without being associated with general systemic symptoms. He thinks that the absence of these symptoms aids us in separating these cases from the infectious diseases.

3d. The eruptions due to drugs often change from one type to another, particularly those due to the balsams.

4th. The eruptions are usually sudden in onset and develop rapidly.

I have drawn attention to the facts so admirably recorded in Guirard's paper, because I believe that error in diagnosis often arises from ignorance of them and because my own experience is that drug exanthems are by no means so rare as we suppose.

THE TREATMENT OF RETRODISPLACEMENTS OF THE UTERUS.

By W. F. B. WAKEFIELD, M.D.,

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PERHAPS there is no condition in the female pelvis which has occasioned more discussion than that of backward displacements of the uterus. In view of this fact I feel a certain amount of hesitation in taking the subject up. Nevertheless, as I desire to lay particular emphasis on one form of treatment which has received too little notice in this country, and one which appears to me to be particularly practical, in spite of Kelly's statement in the *American Journal of the Medical Sciences*, December, 1896, that the operation has been practically abandoned, this article may not be superfluous.

Concerning the etiology, pathology, and symptomatology of the affection I shall say nothing, but shall limit myself to a short study of its treatment.

We are told by nearly all writers that before taking into consideration any operative procedure for the cure of this affection, we should, if possible, place the organ in its normal position by bimanual manipulation and retain it there for several months by means of pessaries or tampons, until the round ligaments and other supports have had a chance to regain their natural tonicity. We are then told that should this fail we are justified in considering some operative treatment for the patient's relief, providing the symptoms are sufficiently troublesome to warrant us in subjecting her to an operation.

I cannot agree with such advice. It is true that by

[1] "Éruptions Iodoformiques." Bulletin de la Soc. Franç. de Dermat. et de Syphil., 1887.

[2] "Accidents imputable au traitement à la iodoform." L'Union Médicale, 1887.

[3] "Un cas d'érythème iodoformique." L'Union Médicale, 1887.

[4] "De la Roséole quinique." La France Médicale, 1878.

[5] "Éruptions quiniques." Journal de Thérapeutique, 1878.

[6] "Des accidents cutanés consécutifs à l'usage interne des préparations quiniques." Thèse de Paris, 1883.

[7] "Des Éruptions quiniques." Thèse de Paris, 1885.

[8] "Beiträge zur Frage der Arznei-Exanthemen." Correspondenzblatt für Schweizer Aerzte, 1878.

[9] "Dermatitis Due to Opium." Meditsinskoie Obozrenie, 1892.

[10] "Éruptions provoquées par l'ingestion de médicaments." Thèse de Paris, 1874.

[11] "Contribution à l'étude des éruptions médicamenteuses." Thèse de Paris, 1870.

[12] "Curious Facts about Opiate Eruptions." Berliner klinische Wochenschrift, 1877.

[1] "Éruptions Médicamenteuses." Gazette des Hôpitaux, 1879.

means of bimanual manipulation, aided if necessary by the use of the sound or some form of uterine repositor, we can in simple cases in which no strong adhesions exist place the uterus in a fairly normal position. We can also by means of a well-fitting pessary or judiciously applied tampons, provided the pelvic floor is intact, oftentimes hold the uterus in position. It is also true that by the long-continued use of such supports, combined perhaps with pelvic massage, we can do much to improve the tone of the ligamentous supports of the uterus. The patient for the time being feels better, many of the troublesome symptoms have been relieved, and, as she is not willing to submit to tamponing or wearing a pessary *ad infinitum*, we cease the tamponing or remove the pessary, and hope that our months of patient toil have not been in vain. We request the patient to return to us in a few months, in order that we may ascertain whether the uterus has remained in its normal position or not, and we are disappointed to find that usually it has not and that the patient begins to feel some of her old symptoms returning. Then in desperation we advise the patient to have the condition cured by operation. She probably goes away from our office disgusted with us for having subjected her to months of futile treatment. Personally I think it would have been much more satisfactory if we had advised operation at the outset. We often find in our cases of retrodisplacements some injury to the pelvic floor which weakens its supporting power, and before we can hope to keep our tampons or pessary in place it must be repaired, and when the patient must be subjected to operation for this the operation for the direct relief of the malposition may just as well be undertaken at the same time. The use of pessaries, tampons, pelvic massage, etc., appears to me to be simply makeshifts, giving, it is true, much temporary relief, but rarely if ever affecting a permanent cure, unless the patient is willing to wear some such support constantly. This being the case, it does not seem fair to me to subject our patient to troublesome treatment which promises so little, when we have at our disposal an operative measure which, if carefully performed, has no more risks than the ordinary plastic operations.

Let us consider then the prominent operative procedures for the cure of retrodisplacements. We have:

1. Alexander's operation, by means of which the round ligaments of the uterus are shortened extraperitoneally.

2. Wylie's and Dudley's operations, in which the round ligaments are shortened intraperitoneally (Wylie scrapes the inner side of the round ligaments so as to make the surfaces raw, folds them external to the uterus, and passes three silk ligatures around each fold. Dudley, on the other hand, folds the ligaments in front of the uterus, and attaches each fold by two silk ligatures to the surface of the uterus).

3. Hysterorrhaphy, or ventral fixation, in which the fundus of the uterus is fastened to the anterior abdominal wall.

4. Vaginal fixation, in which the fundus of the uterus is fastened to the anterior vaginal wall.

In speaking of the Alexander operation, I desire first and foremost to mention the names of Paul F. Mundé and Edebohls, in whose hands the operation has met with such success and to whose painstaking and valuable work the operation has received a great impetus in this country. Nevertheless, with all due respect to these gentlemen and with all due appreciation for their valuable contributions to the literature on this operation, I believe we have a better operative procedure, and one which is more satisfactory in its technique and results. I would like briefly to enumerate some of the objections to the Alexander operation. In the first place the ligaments are not always easy to find, and they are oftentimes very thin and capable of giving but little support when found and shortened; besides which it is easy in such cases to break the ligaments, even under moderate traction. Mundé reports this accident as having several times occurred in his own hands, on one occasion the ligaments breaking close to the uterine attachment. Again, suppuration is a more or less common result after this operation, especially if much tearing or manipulation of the cellular tissues has been required to find and draw out the ligaments; and convalescence is oftentimes protracted on account of this suppuration. Further, in unskilled hands wounding of the femoral artery is possible, and Mundé has recited an instance in which he stopped his assistant as he was in the act of tying off the femoral artery in mistake for the round ligament. Any adhesion of either the uterus or appendages forms a positive contraindication to Alexander's operation, which fact greatly limits its field of usefulness. Then again, in this, as in all operations for the relief of retrodisplacements, any abnormal laxity of the vaginal walls, any defect in the pelvic floor, or any extensive laceration of the cervix which results in a chronically enlarged uterus must at the same time be rectified to secure perfect and permanent results, and these plastic operations can better be combined with other operative procedures than with Alexander's operation. Then, the operation when performed is successful in only a percentage of cases, and has not a lower mortality than ventral or vaginal fixation, which operations give more lasting and better results and are more far-reaching in their applicability. Finally, it may be added that in Alexander's operation there are two chances for subsequent hernia against one in ventral fixation and against none in vaginal fixation. I am aware that Mundé states in his article in the MEDICAL RECORD of July 14, 1894, that he at that time had never had a ventral hernia follow Alexander's operation in his hands; and in a conversation I had the pleasure of having recently with Dr. Cullen, assistant gynæcologist at the Johns Hopkins Hospital, I understood him to say that Kelly had never had a ventral hernia follow hysterorrhaphy, and Kelly has perhaps performed this operation as many or more times than any other single operator. Still the chance of a hernia exists, even though, when the divided tissues are well approximated, it be a small one.

Wylie's and Dudley's operations, while ingenious and while they have the advantage over Alexander's operation in that, it being necessary to open the abdominal cavity to perform them, any existing adhesions may be broken up, have still but little to recommend them. If the abdominal cavity is opened at all, ventral fixation possesses incalculable superiority over these operations.

In ventral fixation we have an operation which undoubtedly effects a permanent cure in cases of retrodisplacement, and, in the hands of Howard Kelly and other of our prominent American operators, has given excellent results. It is doubtful, however, if, so far as results are concerned, it has much advantage over vaginal fixation, and, if we can approximate the same results by vaginal fixation, it presents itself to me as a much more desirable operation. I am surprised that it has not received the notice it deserves at the hands of American surgeons. In none of the recent works on gynæcology which I have seen has it even received mention. Yet it is an operation which in the hands of Prof. August Martin and Dührssen, of Berlin, and other German operators, has given most satisfactory and brilliant results. I am pleased to acknowledge the notice taken of this operation by Clinton Cushing, of San Francisco, in a paper read before

the American Association of Obstetricians and Gynæcologists at Toronto, Canada, September 19, 1894.

While in Berlin last year I had the pleasure and privilege of seeing Martin perform this operation a great many times. The operation pleased me very much, as it seems to fill a long felt want, and the results, so far as I was able to follow them, were very satisfactory, and Professor Martin, after having given the operation a rigid trial for the last three years, expresses himself as well pleased with it, and he relies almost wholly upon it for the relief of retrodisplacements in his patients. While I was with him I saw him do only one ventral fixation, and in that case the abdominal cavity was not opened for that purpose, but, being inside the abdominal cavity and finding the fundus large and backwardly displaced, he fastened it to the anterior abdominal wall when closing his incision. On the other hand, I saw him perform the operation of anterior vaginal fixation probably fifty or sixty times.

In the *Journal of the American Medical Association* for September 2, 1894, Kelly speaks of the inadvisability of performing ventral fixation unless any relaxation of the vaginal outlet which may exist is remedied at or about the same time. This applies of course with equal force to any operation which may be undertaken for the relief of retrodisplacement; and every operator must be struck with the ease with which repair of the relaxed vaginal outlet can be performed in conjunction with the operation of anterior vaginal fixation of the uterus.

When vagino-fixation was first performed, the sutures fastening the uterus to the vaginal wall embraced the fundus too high up, promoting possibility of complications at future pregnancies. As it is now performed by Martin, however, I think it will interfere little if at all with pregnancy, should this condition supervene.

For the benefit of those who are not familiar with it, perhaps it would not be out of place for me to describe accurately Martin's present method of procedure.

The patient being placed in the lithotomy position, and the vagina being opened up by retractors, the centre of the anterior lip of the cervix is grasped by a tenaculum forceps and pulled downward and outward to the vulval opening; another tenaculum forceps grasps the anterior vaginal wall about an inch from the meatus. An instrument devised by Orthmann, Martin's chief assistant, is next used to steady the cervix. (This instrument is a combined sound and volsellum, the two teeth of the volsellum, when the instrument is closed, embracing the sound between them about two or two and a half inches from its tip.) The sound part is inserted into the cervical canal and the teeth of the volsellum part grasp the anterior lip of the cervix about an eighth of an inch to the left of the tenaculum forceps, which already is in the cervical lip; this tenaculum forceps is then moved about an eighth of an inch to the right, so that the centre of the space between the two instruments will be the middle of the anterior cervical lip. Traction now being made on all these instruments (upward traction on the upper tenaculum forceps which grasps the vaginal wall and downward traction on the forceps which have hold of the cervix), the anterior vaginal wall is put on the stretch and a light incision is made through the thin vaginal wall, commencing about half an inch below the upper tenaculum forceps and extending down between the two forceps which are in the cervix, to within about one-fourth of an inch of the end of the cervix. The edge of the vaginal wall being caught with a pair of dissecting forceps, about an inch of the vaginal wall on each side of the incision through its whole length is dissected away from the underlying cellular tissue. Then with a pair of blunt-pointed scissors the cellular tissue lying on the cervix at the lower end of the incision is nicked through. The finger is then inserted into this nick and the cellular tissue is pushed backward from the cervix. After the finger has pushed its way backward along the cervix for about an inch or an inch and a half, a lateral vaginal retractor is inserted between this cellular tissue which has been dissected up from the cervix and the cervix itself, and one of the assistants by gentle traction on this retractor keeps this cellular tissue out of the way, and the finger, continuing its dissection between the retractor and the cervix, keeping all the time in close apposition to the cervix, will soon reach the peritoneum. If the assistant has kept gently pushing the retractor along as the finger has continued its dissection, one can usually see this fold of peritoneum very distinctly, and with a pair of blunt scissors it is nicked through close to the cervix. Orthmann's instrument, which has up to this time steadied the cervix, is now with the tenaculum forceps removed. The retractor is pushed through the cut in the peritoneum into the pelvic cavity, and, upward traction being made on it, the bladder and ureters are held out of the operator's way. The fingers of the left hand are passed into the pelvic cavity behind the uterus and the fundus is lifted upward and forward, any existing adhesions being broken up. The fundus is then grasped by a tenaculum forceps about midway between the internal os and the crest of the fundus. The placing of this tenaculum forceps not only permits the operator to draw the uterus up to his vaginal incision but also marks the place for his upper suture. The retractor which has held the bladder up out of the way is then taken out, and the uterus is drawn forward to the vaginal incision and sutured thereto by three interrupted sutures placed as follows: The first suture is passed from left to right through the vaginal wall on the left side opposite or a little above the point where the uterus is grasped by the tenaculum forceps; the peritoneum is grasped and pulled down by a dissecting forceps, and the suture passes from above downward through this peritoneal flap on the left side, then passes through the substance of the fundus, then up through the flap of peritoneum again on the right side, and out through the right vaginal wall at a point directly opposite to where it went in on the left side. The tenaculum forceps is then removed from the fundus and this suture is tied. A second interrupted suture is put in a little above the internal os, passing through the left vaginal wall, then through the substance of the uterus, and out through the right vaginal wall opposite its point of entrance. This suture is then tied. A third interrupted suture is similarly placed between the external and internal ora and tied, and then whatever gaps remain in the vaginal wall after these three interrupted sutures are placed and tied are closed by a fine continuous suture running from below upward. The ends of the sutures are then cut and a little sterilized gauze is placed in the vagina as a dressing, and the operation is completed. Martin always uses catgut for his suture material in this operation.

The possible danger in this operation is injury to the bladder. Careful attention, however, to the details of the technique, as given above, will prevent this accident. The three points to be kept in mind in order to avoid injuring the bladder are: 1. The incision in the vaginal wall must extend simply through the mucous wall and must not include the cellular tissue lying between the vaginal wall and the bladder. 2. In dissecting away the cellular tissues from the cervix, the finger must always be kept in close apposition to the cervix. 3. After the pelvic cavity has been opened into, the bladder must be lifted upward out of the operator's way by means of a lateral vaginal

retractor. When any doubt exists at any time during the course of the operation as to whether the bladder is in danger of being injured, a male catheter or sound may be carefully inserted into the bladder and its position ascertained. When the operation is completed, whatever urine is in the bladder should be drawn off to see that it comes away clear, and thus assure one's self that the bladder has escaped all injury.

I would like to emphasize the fact that this means of access into the pelvic cavity through the anterior vaginal wall in the manner described above, is a very practical one and useful for other purposes than merely as a means by which retrodisplacement may be treated. Martin goes into the pelvic cavity in this way oftentimes for merely diagnostic purposes. The cervix being pushed back into the posterior cul-de-sac of the vagina, the fundus can be grasped by tenaculum forceps and pulled out through the incision into the vagina and examined. The ovaries and tubes, too, can be grasped with ovarian forceps and pulled forward so as to be examined *in situ*, and should they be found purulent can easily be ligated off and removed. Small ovarian cysts can also be emptied and the cyst sac closed up by sutures or removed. Submucous or intramural fibroids of the uterus, of moderate size, can also be easily removed by splitting the fundus down to the fibrous mass and shelling out the tumor with the fingers, and then carefully closing up by sutures the incision that has been made in the uterus. I have seen Martin remove good-sized fibroids in this way. I have also seen that distinguished operator go into the pelvic cavity in the same manner and perform plastic operations on the Fallopian tubes for occlusion of the same which gave rise to sterility, and in one case that I know of, and probably in others that I don't know of, pregnancy followed the operation. I merely mention these examples as illustrative of the many operations that can be performed in the pelvis by gaining access thereto through the anterior vaginal wall, thereby saving the patient the greater shock which is attendant upon a laparotomy.

554 Fourteenth Street.

A BRIEF STUDY OF CHLOROFORM ANÆSTHESIA IN RELATION TO SEASONS AND CARBON DIOXIDE.

By THOMAS R. EVANS, M.D.,

Charleston, W. Va.

Several years ago I wrote a communication to the Medical Record in which I suggested that the season of the year might have an unconsidered influence in the causation of death from chloroform anæsthesia. Since that time I think that this view has been confirmed. The Medical Record publishes a number of such cases from England in a late issue.

The latter portion of winter and the spring months seem to furnish the most cases of death. Then the air is heavy with moisture, while the cold chloroform is less easily vaporized and exhaled; hence the greater liability to tissue saturation unless great care is used. The chloroform may be condensed in the lungs like dew. At all times allowance must be made for the specific gravity of chloroform, and during spring for the largest amount of carbon dioxide exhaled, or there is danger of double anæsthesia. Warming the chloroform at such times should more generally be resorted to.

The hypodermic of morphine is a doubtful expedient, but the dietetic management and the time of day for operating are important. An empty stomach, not altogether for mechanical reasons, and the early morning hours, are the conditions of election. A drink of whiskey and water half an hour before the operation is a salutary measure—whiskey at once and for some time lessening the exhalation of carbon dioxide, while water increases the production of oxygen.

The muscularity of the subject increases the production of carbon dioxide. Hence the comparative ease and safety with which persons in the opposite condition are chloroformed.

Women in labor, excreting some of their hitherto superabundance of carbon in the lochia, are proverbially safe against chloroform casualties, due allowance being made for other favoring conditions. Carbon dioxide is incompatible with the early stage of chloroforming.

The administration of milk toddy before giving chloroform is contraindicated, as milk generates carbon dioxide.

Physiological refinements should not be tabooed in the consideration of so important a subject.

Clinical Department.

THE GAUZE DRAIN IN AURAL INFLAMMATION.

By GEORGE B. McAULIFFE, M.D.,

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Influenced by the strong advocacy of gauze drainage by Gradenigo, Burnett, and other aurists, I have used this adjuvant in the antiseptic treatment of the exudative forms of middle-ear catarrh and in the acute types after paracentesis. The numbers treated in the New York Eye and Ear Infirmary, where, as in all clinics, a strict adherence to surgical asepsis is difficult to gain, and privately, where this accomplishment is more practicable, have fully shown the great advantages gained by the proper use of the gauze and the disadvantages which follow its use in unsuitable cases.

The advantages of the gauze are that it serves to keep sterile the external canal, and thereby cuts off one of the entrances of the staphylococcus—the germ admitted to be the cause of the chronicity of otorrhœa: that it drains and asepticizes the exudation from the tympanum.

The disadvantages of the gauze are that it is generally irritating to the canal, and thereby interferes with the comfort of the patient and with the efficiency of the drainage by setting up a dermatitis which stenoses the canal; that the drainage of exudation varies in the different cases, so that no fixed time can be allowed for the retention of each dressing. This latter fact accounts for the failure of the gauze to do good in certain cases in which the drain is retained too long, and not only loses its power of absorption, but, in addition, acts as an impediment to drainage.

Iodoform gauze is generally used. I have no experience with the chinolin-naphthalated gauze of Haug, which is supposed to obviate the disadvantages of iodoform gauze. The second disadvantage is sometimes removed by allowing the patient, after full instructions in the necessity of cleanliness in the dressings, to renew the gauze when he thinks it is moist. This permission, however, introduces the uncertainty of asepsis in the treatment, yet in the present state of otology, while ambulatory treatment embraces almost all pathological conditions of the ear, it is the best plan to pursue.

In acute middle-ear catarrh demanding paracentesis, the canal and drum should be thoroughly cleansed of cerumen (which in normal ears has often been found to be the resting-place of the staphylococcus), and carefully bathed with an antiseptic fluid; the knife should be dipped in alcohol and the incision made in

the drum, a narrow strip of gauze carried up the canal almost its length, and a loose dressing applied in the concha, covered by a piece of American skin plaster, which is transparent, thereby allowing inspection of the gauze without removal. If there is not much secretion the dressing should be renewed perhaps once or twice a day, without any other interference. In a few days the site of the paracentesis will be indicated by a simple blood clot. The drum will be without evidence of inflammation.

The nasopharynx demands treatment also, since it is the fountain of the infection. Nitrate of silver is still the best remedy for the tubal orifice.

When acute cases do not take this benign course, the reason is generally found in a failure to follow out all the steps laid down.

Cases of acute middle-ear catarrh which have gone on to the stage of exudation, will respond or not to this plan of treatment, according to the character and amount of the secretion.

There are several varieties of this type. Some have a thick, tenacious discharge; others have a thin, profuse exudation; some are very septic; others benign. In the treatment of these varieties the use of the drain will be determined by its adaptability for drainage. When the discharge is thick and tenacious, the gauze does not help but prevents drainage. Here it is better to use antiseptic douches frequently, and a light dressing of gauze in the concha. When the secretion is profuse, it is well not to use the drain (unless you have the case under constant supervision), because the secretion is formed too rapidly to be carried off by a one-fourth-inch strip without renewals more frequent than the average patient would make. The dressing in the concha should be used. The patient can change this as frequently as necessary.

Two cases with profuse discharges developed mastoiditis rapidly while under the drain treatment—one in two days. Here it was evident that the gauze was not renewed often enough, and, becoming clogged, helped to retard drainage.

In septic exudations antiseptic douches with the concha dressing give the best results.

Old cases of chronic purulent otitis media, in the absence of serious local obstacles to healing, will dry up very rapidly under douches and the introduction of gauze.

TREATMENT OF MELANCHOLIA WITH OPIUM.

By LILLIAN J. NUCKOLLS, M.D.,

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Much has been said concerning the use of opium in the treatment of melancholia. Some condemn the drug, while others are loud in its praise. Dr. Clouston, the eminent Edinburgh physician, says: "Opium in the treatment of melancholia I utterly disbelieve in;" while Dr. Spitzka, who is regarded as a neurologist of great authority, says: "Opium is the most generally useful of all drugs in insanity. It has a direct influence on the mind, antithetical to the painful emotional state of melancholia, and to the persecutory delusions of monomania." I have had, during my service at the Illinois Central Hospital for the Insane, a large number of melancholics for treatment, as the majority of our patients are subjects of melancholia or of mania. With the experience that I have had in the treatment of these diseases, I feel confident that opium is the drug, par excellence, in the treatment of motor or excited melancholia. I have had the best results with deodorized tincture of opium, giving it in doses of from fifteen to twenty minims, gradually increasing until the maximum dose of forty or sixty minims is given three or four times a day. Occasionally there are cases in which it is necessary to repeat the drug oftener, say fifteen minims every two hours.

As a rule these patients are debilitated, and I usually put them upon tincture of nux vomica. Wholesome food, fresh air, and exercise are necessary. While it is a fact that opium is constipating, I have had no serious effects from the use of it in my cases. Insane women, like the most of the sex, are habitually constipated. I append notes of three cases of excited melancholia, in which I gave the deodorized tincture of opium with good results.

Case I.—Mrs. L. C——, aged twenty-eight, was admitted to this hospital March 6, 1896. Duration of attack at the time of admission, six months. A few days previous to coming here, she attempted suicide by saturating her dress with kerosene and igniting it, the result being a large burn on her chest and neck. The patient on entering was very melancholy, being constantly tortured with the idea that she was to die in some horrible way, either by being burned, hanged, or smothered. She cried and walked the floor, wringing her hands, declaring that she was unworthy to live, yet feared to die. Physically she was not in good health. She was put upon the deodorized tincture of opium in doses of twenty minims each, four times a day, gradually increasing the dose until forty minims were taken at a dose. In a few days she became more quiet, slept better, and her appetite improved. Opium was decreased slowly, until by the middle of April it had been entirely withdrawn. The patient was cheerful. June 27, 1896, she was discharged from the hospital recovered. She gained twelve pounds in weight while here. No other drugs were given, except a sleeping-remedy for the first ten days.

Case II.—Mrs. J. T——, aged thirty-three, admitted March 3, 1896. Insane one month. She was very much disturbed, imagined her children were being destroyed, cried and worried continually, would stand and weep for hours if allowed to do so. She was put on deodorized tincture of opium in twenty-minim doses, gradually increased. She became more quiet; after a month the opium was discontinued. The patient was discharged June 1, 1896, apparently recovered.

Case III.—Mrs. B——, aged thirty-eight, admitted July 20, 1896. At the time of admission the patient weighed seventy-six pounds. She was very weak and emaciated, and had been insane nine months before she was committed to this institution. She attempted to drown herself two days before entering. She insisted that she had no stomach; that all the viscera, in fact, were absent; thought herself to be the devil, and believed she would defile all with whom she came in contact. It was necessary to feed her by means of the stomach tube. I began with the opium and increased to doses of sixty minims t.i.d. The medicine was discontinued at the end of ten weeks. The patient was sent home December 14, 1896, recovered, having gained fifty-four pounds.

While I do not say that opium is a panacea for all cases of melancholia, I do believe that in the agitated form it is the best remedy we have.

In Certain Gynecological Troubles Günsburg has found ichthyol, administered according to the following formula, of the greatest service in chronic affections of the genitalia, with reflex disturbances of the digestive system: Ichthyol, four grams; licorice extract and powder, q.s. Mix and divide into forty pills; take two pills three times a day. He has them keratinized. Dyspepsia, constipation, abdominal pains, and menorrhagia are rapidly improved or cured.—*La Semaine Médicale.*

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THE SERUM DIAGNOSIS OF TYPHOID FEVER.

THE diagnosis of typical cases of typhoid fever is attended with no real difficulty, but the clinician not rarely encounters cases in which many of the usual symptoms are wanting, and even the temperature curve may be misleading. Besides, it is not an uncommon experience to find that cases of suspected typhoid fever run anomalous courses, so that the real nature of the disease in the individual attack may remain surrounded with doubt. Of the importance and the desirability of some reliable diagnostic test there will be no difference of opinion; the utility of such a resource is too obvious to require elaboration. Whether or not this desideratum has been found in the serum test—the clumping and loss of motility of typhoid bacilli in culture media on the addition of the blood or the blood serum of persons passing through or convalescing from an attack of typhoid fever—is yet to be determined. The evidence thus far accumulated is encouraging, but it cannot yet be said with positiveness that the reaction can be obtained in every case of typhoid fever and fails to appear under any other conditions. The result is somewhat influenced by the period with relation to the attack at which the blood serum is obtained, the degree of dilution of the culture medium, the age and activity of the bacilli, and other details of technique. The opinions expressed at the recent congress of American physicians and surgeons and at the semicentennial meeting of the American Medical Association are in accord with those already placed on record, both in this country and abroad, *i.e.*, that the test, although it cannot be viewed as infallible, is an important aid to diagnosis, especially in doubtful cases, a positive reaction obviously being of more significance than a negative one.

In a communication upon this subject in the *Centralblatt für innere Medicin*, No. 20, 1897, Hofmann points out that the results obtained by various investigators in the practice of serum diagnosis have been so uniformly positive as to arouse suspicion that those of the opposite kind may be due not to the procedure itself, but to some defect in its application. Upon the instigation of Professor Eichhorst, of the medical clinic of the University of Zurich, Hofmann examined the blood with regard to its reaction with cultures of typhoid bacilli in thirty-one cases of typhoid fever, four of febrile intestinal catarrh, three of miliary tuberculosis, one of influenza, twenty-five of partly febrile and partly afebrile disease of varied kind, and two of tuberculous meningitis, and found the serum reaction present in all of the cases of typhoid fever and in none of the others. The blood was obtained in a variety of ways—by puncture with a hollow needle of a vein of a constricted member, by aspiration with a syringe, by incision of a vein with a sharp-pointed scalpel. The last method proved the simplest and permitted best of maintaining conditions of sterility. As, however, microscopic examination proved to be the most trustworthy, a few drops of blood were obtained by puncture of the cleaned finger tip with a special needle and centrifugated. One part of the serum was added to ten parts of bouillon culture of typhoid bacilli, and control observations were made with unmixed cultures. At once or within a few minutes the bacilli began to display loss of motility, although often a quarter of an hour elapsed before any change was noticed. Exceptionally all movement was lost within three hours, but usually this result was not reached before five or six hours. The diminution in motility began at the periphery and advanced toward the centre. The speediness with which the reaction resulted appeared to be related to the vitality of the organism, rather than to the concentration of the culture. So-called immediate diagnoses are to be viewed with doubt, and the results of macroscopic observation are equally not to be relied upon. After apparent agglutination following the use of concentrated cultures, microscopic examination showed active motility of the micro-organisms. In five cases of typhoid fever, in addition to the reaction obtained with the blood serum, a similar result was secured with the serum from a blister induced artificially. A corresponding though somewhat less pronounced reaction was obtained with the fluid of a pleural effusion, in which culture failed to disclose the presence of typhoid bacilli. A study of the blood of forty-two cases in which typhoid fever had occurred previously, at periods varying from one month to thirty-three years, showed the reaction to be present in only six. In the most remote of the attacks, which occurred twelve years before the application of the test, the illness had been a severe one. In the remainder no reaction at all was obtained. These observations would seem to show the transient character of the conditions on which the reaction depends.

A further practical application of the serum reaction has recently been suggested by Johnston,[1] who proposes to test by this means the presence of typhoid bacilli in suspected water. He found that after inoculating water with cultures of typhoid bacilli, then inoculating peptone bouillon, and injecting this, sterilized, into the peritoneal cavity of a rabbit, a typical serum reaction with a typhoid culture could be obtained with the blood serum of this animal. From what has already been developed we may reasonably hope that the scope and the field of usefulness of serum diagnosis will continue to expand, and that we have in the

[1] New York Medical Journal, June 5, 1897, p. 764.

as yet undetermined principles upon which the reaction depends a potent resource not only in diagnosis, but also in prophylaxis and perhaps also in treatment.

THE PRINCE OF WALES' HOSPITAL FUND AND THE ANTIVIVISECTIONISTS.

Notwithstanding the issue of the hospital stamps, the advertising, and the devices of all kinds resorted to in order to attract the attention and extract the money from the pockets of philanthropists, the Prince of Wales' hospital fund languishes. The sum collected as yet does not reach $500,000. It was estimated at first that probably $5,000,000 would be gathered this year, and it was predicted by the enthusiastic that enough would be brought into the coffers of the hospitals to produce an annual income of more than $500,000, and thus keep them forever free from debt. That such a result will not be attained is now certain.

There is present in London an uneasy feeling that something is radically wrong with the management of these charitable institutions, and until the necessary reforms are instituted and this feeling is allayed, the British public will continue to keep its pockets closed. The antivivisectionists have lately been bringing grave charges against several of the hospitals in London, which fortunately they have not in any way been able to substantiate. The Hon. Hartley Coleridge, acting as the mouthpiece of the Antivivisection Society, published letters stating as a positive fact that in many of the London hospitals vivisection was carried on to a large extent. Mr. Burdett took up the cudgels on behalf of the hospitals, and an acrimonious correspondence ensued, in which Mr. Burdett was clearly the victor. The Hon. Coleridge could prove none of his contentions, and only exhibited his skill as a letter writer by his ability to evade the points at issue. It was distinctly proved that the harrowing pictures of vivisection as portrayed by the antivivisectionists existed only in their imaginations. Still this episode has tended further to militate against the success of the hospital fund. So much was this felt to be the case that the Prince of Wales, who presided a short time ago at the opening of the new buildings at Guy's Hospital, tendered an explanation. This speech is referred to in a prominent English weekly as follows:

"The speech of the Prince of Wales will relieve the minds of many subscribers to the 'Jubilee Hospital Fund.' Quite apart from the extremely difficult question as to the limits within which vivisection is permissible at all, the suggestion that money subscribed for the relief of human suffering might go to the support of laboratories where vivisection is practised came as an unpleasant shock. The suggestion has been put about broadcast by the Antivivisection Society, and has been made more sinister by the publication of misleading statistics as to experiments performed without anæsthetics. The Prince of Wales has been at the trouble to inquire into the truth of these statements, and has made it plain that the experiments conducted without anæsthetics consist of nothing but inoculations, which are instantaneous and practically painless pin pricks. He might have added that the medical schools are separate from the hospitals and under the control of different governing bodies, and moreover that the increasing specialism of modern work is separating laboratory teaching from work in the wards. At all the great London hospitals the teachers of physiology are specialists who have nothing to do with the treatment of patients."

LEGITIMATE WORK FOR THE HEALTH DEPARTMENT.

In view of the many things which the health department might well do, but leaves undone for want of funds or other reasons, it is more than a pity that it continues a mandate which an intelligent and conscientious profession feels it a duty not to heed. If the board is really interested in the public health rather than in making history for its members, for one thing it may well turn its attention to the ventilation and cleanliness of places of public assemblage. Probably no night in the year passes without in this city a dozen to a hundred halls, theatres, or other places of public meeting being filled with throngs of people who pant and swelter in a stifling air, and pray that it may dawn upon the managers or attendants to open a ventilator or a window. But their prayer is in vain, for what do managers know of the necessity for air or care for the health of the public? Besides, in cold weather does not a close room with many people save fuel? In warm weather, in the absence of compulsory ventilation of public buildings, what is everybody's concern is always left undone. Who is there who has not found himself placed in some cul-de-sac of a theatre where air had neither entrance nor exit, and where the exhalations of the multitude lingered about his olfactories with the persistence of time, and the flickering heart seemed to welcome the pale mask of eternity? It was thus years ago, and it is no better to-day.

But while this is going on and constitutions are being undermined, crowds being compelled because of criminal carelessness to inhale over and over an atmosphere surcharged with carbonic-acid gas and the effluvia of their own bodies, the board of health hopes to check tuberculosis by issuing edicts prohibiting expectoration and writing down as suspects one-tenth or more of the population. For equal result on the public health and comfort, the board could probably put in force no regulation with so little outlay of money and labor as one compelling the best use of present ventilating facilities in halls and theatres, and prohibiting the erection in the future of any building for public assemblage without ample facilities for ventilation, even of every gallery and box, and that, too, without creating dangerous air currents. One or more inspectors should make visits often enough to insure observance of the regulations. These should be printed and posted throughout the buildings, with information where to enter complaint. The condition of the atmosphere should be indicated as far as possible by instruments of precision, such as the thermometer.

When the board of health has carried out this much

needed and perfectly feasible reform, there are others that will suggest themselves, but until then the opinion is likely to prevail that it is wasting its resources if not exceeding its authority in trying to enforce compulsory reporting of cases of tuberculosis.

A NEW DISPENSARY ABUSE.

A REPORT comes to us as we are about to go to press (as the *County Weekly* puts it), to the effect that a physician has been dismissed from one of the most fashionable dispensaries in a neighboring city (of course it could not occur in New York) for abstracting a fifty-dollar banknote from the purse of a patient.

The pocketbook was left upon the dispensary desk, it is said, while the lady entered an adjoining room to prepare for examination. The plea made to the governing board by the physician was that he had been overworked, having treated over four hundred patients at the dispensary during the three days preceding the temptation which caused his fall, and that during this time he had been unable to procure but one full meal. Hunger and the means at hand to appease it may have proven too strong a combination for his overwrought nerves, but this naturally did not weigh with the board. The *clientèle* of the institution must be made to feel that while a patron is undergoing treatment his valuables are safe. The argument was used by one of the governors that, if the patients' money is to be taken from them, they might as well go to a physician's office and be done with it.

The crime of robbing a dispensary patient cannot be too severely punished, since such acts would soon deter many persons of wealth from patronizing these institutions. It is therefore most fitting that the culprit in the present instance will be forced to take his chances for the future in private practice.

There is something to be said upon the other side. It seems unwise for applicants to carry with them and display at the dispensary large sums of money, diamonds, and the like. It would surely seem to be in the nature of contributory negligence if in the future applicants for free treatment put temptation in the way of doctors, who after all are only human and often hungry.

The Late Dr. Sumner A. Mason.—The following resolutions were adopted by the West End Medical Society at its regular meeting, June 5, 1897:

"The members of the West End Medical Society have learned with regret of the death of their colleague and fellow-member, Dr. Sumner A. Mason.

"Those who were well acquainted with Dr. Mason knew him to be most conscientious and unremitting in his efforts as a physician. As a citizen he contended for the best interests of all, and was most honorable in all his relations.

"*Be it Resolved*, That this expression of our esteem and of our loss sustained be entered upon the minutes, forwarded to the family, and published in the medical journals of this city.

[Signed] "F. J. BOWLES, M.D.,
"E. J. WARE, M.D., *Committee.*"

News of the Week.

The International Medical Congress. — The following are the names of those who have been invited to deliver orations at the general sessions of the Moscow Congress. The titles of all the orations have not yet been announced. Lauder Brunton, of London, on the "Relationship between Physiology, Pharmacology, Pathology, and Clinical Medicine;" Nicholas Senn, of Chicago, on the "Diagnosis and Surgical Treatment of Acute Forms of Peritonitis;" Krafft-Ebing, of Vienna, on the "Etiology of Progressive Paralysis;" Danilevski, of Khartov, on "The Action of Electric Rays on the Animal Organism at a Distance;" Lombroso, of Turin, on "New Horizons in Psychiatry;" Leyden, of Berlin, on the "Present Modes of Treating Consumptives and their State Control;" Herzen, of Lausanne, on the "Significance of Physiological Psychology for Medical Education;" Robert, of Barcelona, and Lukianov, of St. Petersburg, have not yet announced the titles of their addresses. Virchow, of Berlin, and Roux, of Paris, have been invited to deliver orations, but no word had been received from them by the Moscow committee at the time the above announcement was made.

Information of service to those intending to attend the congress is very difficult to obtain. Dr. A. Jacobi, chairman of the American National Committee, which was established at the request and under the authority of the general committee of the Twelfth International Medical Congress, writes to inform the numerous gentlemen who are constantly applying for information concerning certificates, trip, fares, hotels, etc., etc., that he has none to give, not having heard from the general committee these two months.

Yellow Fever from the Isthmus.—Cases of yellow fever are being brought from Panama to both the Atlantic and the Pacific ports of the country. Nearly every ship arriving from Colon now has one or more deaths among the passengers, and the *City of Para* arrived in San Francisco on June 13th with one case of yellow fever aboard, two deaths having occurred during the voyage up from the isthmus. It is stated that the disease is epidemic at Panama on the Pacific side, but that no cases have yet occurred at Colon on the Atlantic side, all the passengers to this port who have had the disease having contracted it at Panama. No apprehension is felt of the entrance of yellow fever into New York.

The Accommodations at the Moscow Congress promise to be somewhat limited. The reception committee has been able to find but seven hundred beds upon which they can count in the hotels, and sixteen hundred in furnished apartments scattered throughout the city. In addition about fifty Moscow physicians have announced their readiness to entertain each one or more guests during the congress week. A circular containing information as to rooms and charges will be handed each member upon his arrival in Moscow.

The Eyesight of the Queen.—A cable despatch to *The Sun* asserts that Queen Victoria has recently

become almost totally blind and will be unable to see any of the vast throng that will gather to do her honor next Tuesday. It is not known what the cause of the Queen's affliction is, but it is probably not of very recent origin, since her eyes were so bad some time ago that she sent to Germany for an oculist to examine them.

College Consolidation Falls Through.—It is stated that Bellevue College and the University Medical School are not to unite on the plan announced some months ago, but that the former will erect a new building at once to replace the one burned down.

Calcutta was seriously damaged by a severe earthquake on June 12th. Many houses were levelled and there is scarcely one which was not more or less damaged. It is believed that the sewers have been broken, and the gravest fears are entertained of the sanitary condition of the city, which was none of the best even before this calamity occurred.

Obituary Notes.—Dr. Frederick J. McNulty died at his home in Boston, on June 14th, at the age of sixty-two years. He was a native of Richmond, Va., and was graduated from the Georgetown College of Medicine in 1860. He then entered the medical service of the United States navy, but resigned almost immediately and entered the Confederate army. Afterward he was surgeon on the *Shenandoah*, which continued to fly the Confederate flag several months after all the land forces had surrendered. After the war he enlisted in the Chilian navy. In 1869 he accepted a commission in the Cuban patriot army, but was prevented by the United States authorities from leaving the country. He made several attempts to reach Cuba, but he did not succeed. Afterward he settled in Worcester, Mass., and in 1879 he moved to Boston, where, in 1885, he became the superintendent of the City Lunatic Asylum at Austin Farm. He was a member of the Massachusetts Medical Society.—Dr. Samuel S. Troth died at Philadelphia on June 11th, at the age of seventy-two years. He was graduated from Jefferson Medical College in 1849.—Dr. George K. Edwards, of Newcastle, Del., died at Princeton, N. J., on June 14th. He was suffering from consumption, but had returned to Princeton for the commencement exercises at the university.—Dr. J. M. Robert Amthor, one of the earliest homœopathic physicians to practise in Baltimore, died in that city on May 19th.

The International Leprosy Congress.—Among the subjects announced for discussion at the leprosy conference, which is to open in Berlin on October 11th, are the following: "Pathological Anatomy," to be opened by Virchow; "Bacteriology," by Neisser; "Infectiousness," by Koch; "Etiology," by Besnier; "Diet in Relation to Leprosy," by Hutchinson. From the numerous favorable responses already received by the committee, it is believed that the attendance at the conference will be very large and representative of all countries and shades of opinion.

Harlem Medical Association.—The following officers were elected at the ninth regular meeting of this association, held on June 2, 1897: *President*, Dr. Philip Arthur Malleson; *Vice-President*, Dr. Henry Walton Mooney; *Secretary*, Dr. Joseph Edward Lumbard; *Treasurer*, Dr. Charles A. Clinton; *Trustees*, Dr. H. J. Wolf, Dr. S. E. Gibbs, Dr. David Franklin.

The Osteopathy Bill passed by the Illinois legislature, the object of which was to legalize this peculiar form of irregular practice, has been vetoed by Governor Tanner of that State.

The Bellevue Graduates' Association of Trained Nurses has organized a course of lectures and practical demonstrations for the benefit of its members. The first of the series was given recently by Dr. G. M. Swift on typhoid-fever nursing. Following the lecture a demonstration of the bath treatment was given by Miss M. E. Hirschliffe, who also gave an illustration of the dry-pack treatment, with ablution for tonic effect in nervous diseases.

The Board of Medical Examiners for the State of Maryland has completed the examination of the ninety-seven candidates who presented themselves. Out of this number fifty failed. The law requires a general average of 75 per cent. on the scale of 100. and an applicant who falls below 33⅓ in any one of the twelve subjects is disqualified.

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on June 10th, the president, Dr. J. H. Musser, in the chair. Dr. W. M. L. Coplin exhibited a specimen of cirrhosis of the liver and also sections of the morbid process from a human being and from a pig. Dr. Frank White exhibited a kidney with a double ureter, each portion of which arose from a separate pelvis, but united just before entering the bladder. Dr. J. Dutton Steele exhibited a tuberculous kidney and also a tuberculous testicle. Dr. Joseph Sailer discussed briefly the degenerative changes that take place in nerve cells. Dr. A. A. Eshner reported a case of multiple sarcomata in a child two and a quarter years old, with the primary lesion probably in the right kidney. Dr. D. Riesman exhibited specimens of valvulitis and cardiac thrombosis, splenic infarction, and uterine fibroids from a case of paretic dementia in which there was also cerebral embolism with softening. Dr. J. M. Baldy exhibited soft myomata of the pelvis, malignant adenoma of the fundus of the uterus, and membranes from a case of pelvic hæmatoma of the pelvis. Dr. Wilmer Krusen exhibited a large cystic tumor of the vermiform appendix.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending June 12, 1897. June 8th.—Surgeon M. H. Simons ordered to the *Iowa*, June 16th. June 10th.—Washington B. Grove commissioned assistant surgeon from June 3d. Passed Assistant Surgeon R. P. Crandall detached from Naval Hospital, Norfolk, June 14th, and ordered to the *Iowa*, June 16th. Medical Inspector W. G. Farwell detached from special duty, marine rendezvous, Philadelphia, continuing other special duty. Surgeon D. O. Lewis after completion of examining board, Naval Academy, ordered to the marine rendezvous, Philadelphia.

The Late Dr. J. Lewis Smith.—At a special meeting of the medical board of the New York Foundling Hospital, held June 11, 1897, the following resolution was adopted:

"J. Lewis Smith, M.D., who died June 9, 1897, was for twenty-five years visiting physician to this institution.

"*Whereas*, The medical board has lost by death its oldest member, Dr. J. Lewis Smith, be it resolved that it record this tribute to his memory.

"His fame and his faithfulness have ever been devoted to the interests of this institution.

"*Resolved*, That this board attend the funeral in a body; that a copy of these resolutions be spread upon the minutes and forwarded to the current medical periodicals, copies of the same being sent to the family of the deceased.

[Signed] "JOHN J. REID, *President*.
"W. P. NORTHRUP, M.D., *Secretary*.

A New Hospital Building in Passaic.—The cornerstone of St. Mary's Hospital was laid on a recent Sunday afternoon by Bishop Wigger. Addresses were made by Bishop McQuade, of Rochester, and Governor Griggs. The building is to be erected on the corner of Aycrigg and Pennington Avenues.

Dr. Haffkine will in future be paid a salary of 2,000 rupees (about $1,000 silver) a month by the Indian government, for his work in searching for remedies for the endemic diseases of India.

Doctorless Regions.—There are said to be, out of 36,000 communes in France, 29,000 without any medical practitioner.

Obituary.

J. LEWIS SMITH, A.M., M.D.,

NEW YORK.

THE announcement of the death of this eminent physician came as a shock to the profession of this city. Although he was in his seventieth year and had nearly reached the limit of life fixed by the Psalmist, yet his activity in his daily duties and his devotion to the interests of medical societies gave an impression of better health and greater physical endurance than actually existed. He had not had good health for several years and at times was quite incapacitated for the fatiguing duties of general practice, but he would never yield to the advice of his medical friends and take a prolonged vacation. Though a great lover of nature and rural life, and fond of the pursuit of the natural sciences, no condition or circumstance could long detain him from the daily round of professional work in the city. His health was still further impaired a few months since in a runaway accident, in which he received a considerable nervous shock. He had scarcely recovered from its effects when he was thrown from a cable car, and so much lameness was the result that he was confined to his room. His digestion now became very much disturbed, followed by loss of strength and enfeeblement of the heart. The end came quite suddenly on the morning of the 9th instant after a comfortable sleep, in a paroxysm of dyspnœa with cardiac syncope.

Dr. Smith was a native of Onondaga County, N. Y., where he was born on October 15, 1827. His father, Hon. Lewis Smith, a prominent citizen of that county, was descended from John Smith, one of the founders of the New Haven colony. Dr. Smith's grandfather, Job Smith, was an officer of the fifth regiment, Connecticut line, in the war of the Revolution. On the side of his mother, Chloe Benson, he came of the Massachusetts Puritan stock. He received his preparatory education at the public schools and the Cortland Academy, Homer, N. Y., having as classmates Prof. John Bascom, of Williams College; Judge Woolworth, of Omaha; Rev. T. T. Munger, of New Haven. He entered the third term of the freshman class of Yale College in 1845, of which President Timothy Dwight was a member, and graduated in 1849, having won several prizes. He began the study of medicine with Dr. Caleb Green, of Homer, N. Y., professor of materia medica in Geneva Medical College. In 1851 he became a pupil of Prof. Austin Flint, Sr., and Prof. Frank H. Hamilton, both of whom were at that time professors in the Buffalo Medical College. He attended a course of lectures in that school and served one year as interne of the Buffalo Hospital of the Sisters of Charity. In 1853 he graduated from the College of Physicians and Surgeons of New York and immediately located in practice in this city. He had already a predilection for the study of the diseases of children, and formed his plans to devote his life to that department of medicine as a specialty. He improved every available opportunity to study the pathology of infantile diseases and for this purpose early sought and obtained the appointment of curator to the Nursery and Child's Hospital in Lexington Avenue. Here he made some of his most important original investigations. In 1858 he became connected with the Northwestern Dispensary and established its department of diseases of children, which he conducted with great success for several years. In 1868 he was appointed visiting physician to the New York Infant Asylum and soon after to the Foundling Asylum, with both of which institutions he remained connected during the remainder of his life. These institutions, which have comprised for many years a total population of upward of twenty-five hundred infants and children, afforded an incomparable field for the study of his specialty. And it was fully improved by him in every particular. For a quarter of a century he wrought in these fields with unremitting toil, and gave to the world the results of his investigations in the vast number of papers which he contributed to the current medical literature of the period. It was in these institutions that he tested every new "food for infants" and every new remedy for the diseases of children which was brought to his attention. From the large experience here gained he deduced those practical rules of feeding children which form one of the most useful features of his treatise. He was a very close observer, taking ample notes with his own hand, and weighing with judicial accuracy every detail in each case. He was naturally and proverbially slow in reaching conclusions, but when his judgment was finally formed there was no mental wavering or doubt; hence he was very conservative in his views, accepting no new opinion or theory without the most careful personal investigation and test of its merits.

Dr. Smith's career as a teacher began with his appointment as "clinical professor of diseases of children" in Bellevue Hospital Medical College, a position which he held for upward of a score of years. His clinics were always amply supplied with illustrative cases drawn from the outdoor department of the hospital. His method of teaching was purely clinical, each case serving as a text for a complete discussion of the main features of the disease to which it belonged. His manner was quiet and undemonstrative, but very emphatic in regard to the special features which each patient illustrated. Many of

these clinical lectures were published and attracted wide attention.

Although Dr. Smith cultivated the diseases of children as his specialty, he held the position of visiting physician to Charity Hospital for many years. In referring to this position and to the fact that he had a large general practice, he once remarked to a medical friend: "Any specialist in my opinion is a better specialist for being a good general practitioner."

Dr. Smith's first contribution to medical literature was made in the year 1854; it was an elaborate paper entitled "A Review of Epidemic Small-Pox as it Prevailed in New York at Different Periods during the Last Fifty Years," *New York Journal of Medicine*, July, 1854. The object of this paper was to illustrate the value of vaccination in saving infantile life. The same journal published the following papers: in September, 1855, and January, March, and May, 1856, an elaborate statistical paper on "Hydrophobia;" in January, 1857, a paper on "Remittent Fever in Children;" in March, 1857, a paper on "Infantile Pneumonia;" in July, 1858, a paper on "Post-mortem Appearances in Eleven Cases of Cholera Infantum."

During these earlier years of his professional life Dr. Smith seems to have been the only physician in this city who made the diseases of children a specialty; if indeed we judge by the medical literature of that period, he was the pioneer in this field, as he was the only constant contributor of papers on this subject to the current medical journals. From 1858 till his death, his more important papers contributed to the current medical periodicals aggregated upward of one hundred in number. He also made large additions during that period to the following works, viz.: "Supplement to Ziemssen's Cyclopædia of the Practice of Medicine," Ashhurst's "International Encyclopædia of Surgery," Starr's "Diseases of Children," Keating's "Cyclopædia of Children's Diseases," "Sajous' Annual," Pepper's "System of the Practice of Medicine," "Reference Handbook of the Medical Sciences," "Babyhood," etc.

Dr. Smith's reputation as an authority on the diseases of children gradually increased with the successive publication of papers as the years went on, until 1869, when the Lea Brothers, of Philadelphia, made flattering proposals to him to publish a complete treatise on the diseases of children. At that time but two original works on this subject had been published in this country, namely, that of Professor Dewes, of Philadelphia, and that of Dr. James Stewart, of New York. Both of these works had long been out of print. Dr. Smith at first positively declined the offer, alleging his unfitness for such a task; however, his medical friends urged him with such earnestness that he finally consented to undertake it. The first edition appeared in January, 1869, and was of very modest pretention, consisting of six hundred pages. It was received with very great favor. In the preface he states with characteristic modesty: "While the author has respected the opinions of previous writers, and has adopted them so far as they seem to be correct, he has depended much more for the material of his treatise on clinical observations and the inspection of the cadaver." A new edition was soon called for, and from that period to the present time new editions have been issued at intervals of two or three years, until the number reached eight in 1896. Permission has been asked to have it translated into German and other languages, but the only translation made was into Spanish. That this work should have been kept during his lifetime, by his own almost unaided efforts, so thoroughly abreast of the times as to maintain its position as the leading text-book, though it had numerous and formidable competitors, proves the large resources of its author and his great ability as a teacher. At the recent meeting of the American Pædiatric Society at Washington, the president, speaking of the evolution of pædiatric literature in the United States, said of Dr. Smith's treatise on the "Diseases of Children:" "It is a work on the 'Diseases of Children' that has immortalized his name, and his heart must throb with pride upon realizing that he has been able after twenty-seven years of active professional life to issue the eighth edition." On the day before his death he read these lines and, with a characteristic smile of diffidence, said: "This greatly overrates me."

Dr. Smith was a man of very quiet and unobtrusive nature and of unfailing devotion to his professional duties. He was very faithful to his friends and genial in his intercourse with his associates. He had a very high sense of professional honor. He was a member of the Episcopal church, and at his funeral services the Rev. Dr. Lynde, of New Haven, spoke very fittingly of his association with Dr. Smith and of his admiration for his gentle and faithful performance of his duties, having been often with him in his visits to institutions. Dr. Smith lost his wife many years since; he had eight children, four sons and four daughters. A few years since he lost his eldest son, J. Lewis Smith, Jr., a very promising physician. His eldest daughter is the widow of the late Dr. Frederic M. Warner, and his second daughter is the wife of Dr. Henry Comstock Hazen; two daughters are unmarried. He was a brother of Dr. Stephen Smith, of this city. He was interred in the family plot at Greenwood, beside his wife and children.

WILLIAM THOMPSON LUSK, M.D., LL.D.

NEW YORK.

Dr. William T. Lusk died on Saturday afternoon last, in the midst of apparent health, from cerebral hemorrhage. He was born on May 23, 1838, in Norwich, Conn. After one year passed at Yale College he went to Germany and studied medicine there for three years. In 1861 he returned to this country and enlisted in the union army as a private, but rapidly rose to be assistant adjutant-general. After serving three years he was retired, and then attended a course of lectures at Bellevue Hospital Medical College, receiving his medical degree in 1864. After eighteen months of further study in Paris, Vienna, Prague, and Edinburgh, he returned to New York and began practice here in 1865. His first professional chair was that of physiology in the Long Island College Hospital, which he held from 1868 until his appointment to the chair of obstetrics and diseases of women in the Bellevue Hospital Medical School in 1871. For a time also he was lecturer on physiology in the Harvard Medical School. He was also at one period editor of the *New York Medical Journal*. He received the honorary degree of A.M. from Yale in 1872, and that of LL.D. from the same college in 1894.

Dr. Lusk was always an active professional worker and soon reached the front rank among the leaders in his chosen field. He was a writer of mark, and his work on "The Science and Art of Midwifery" has been translated into several European languages, as well as into Arabic. He was also the author of a number of contributions to periodical literature. He was a member of many societies, was an ex-president of the American Gynecological Society, an ex-president of the New York Obstetrical Society, a corresponding fellow of the Edinburgh and London Obstetrical Societies, and one of the founders of the International Congress of Obstetrics and Gynecology. Dr. Lusk leaves three daughters and two sons, one of the latter a professor at Yale University and the other a practising physician in this city.

Reviews and Notices.

LECTURES ON RENAL AND URINARY DISEASES. By ROBERT SAUNDBY, M.D. Ed., Fellow of the Royal College of Physicians, London; Emeritus Senior President of the Royal Medical Society; Fellow of the Royal Medico-Chirurgical Society; Member of the Pathological Society of London; Physician to the General Hospital; Consulting Physician to the Eye Hospital; Consulting Physician to the Hospital for Diseases of Women; Professor of Medicine in Mason's College, Birmingham. With Numerous Illustrations. Second Edition. Philadelphia: W. B. Saunders. 1897.

TO the carefully revised previous edition has been added a section on "Miscellaneous Affections of the Kidneys." With the exception of four colored plates showing albuminuric and diabetic retinitis, the illustrations are mostly small woodcuts of urinary sediments, etc.

The pathologic studies upon Bright's disease and diabetes are especially valuable. Due importance has been attached to the eye changes in both these affections.

A PRACTICAL WORKING HANDBOOK IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE GENITO-URINARY SYSTEM AND SYPHILIS. Being the Revised and Enlarged Notes with Additions by GEORGE PARKER HOLDEN, M.D., of Clinical Lectures Delivered in Flower Hospital Amphitheatre by F. E. DOUGHTY, M.D., Professor of Genito-Urinary Diseases in the New York Homœopathic Medical College. Philadelphia: Boericke & Tafel. 1897.

THIS work of over four hundred pages began as a brochure of eighty-eight pages, published some years ago as "Clinical Lectures." Since then a demand for Professor Doughty's lectures have caused the author to revise and publish notes taken in the classroom over a series of years. There are few illustrations in the text, but an "armamentarium" following the preface contains pictures of the instruments habitually employed. The diagnosis and management of these special forms of disease do not materially differ from those found in the text-books of the so-called old school.

EATING AND DRINKING. The Alkalinity of the Blood the Test of Food and Drink in Health and Disease. By ALBERT HARRIS HOY, M.D. Chicago: A. C. McClure & Co. 1896.

A THOROUGHLY sound-sensed treatise, showing that the author has given much thought to the subject.

While containing much of interest to medical men in the way of original matter, etc., the text is such that any one can understand the reasoning.

ARTIFICIAL ANÆSTHESIA. A Manual of Anæsthetic Agents and their Employment in the Treatment of Disease. By LAWRENCE TURNBULL, M.D., Ph.G., Aural Surgeon to the Jefferson Medical College Hospital, Philadelphia; late Honorary President to the Otological Subsection of the British Medical Association, and of the Section of Laryngology and Otology of the American Medical Association. Fourth Edition. Revised and Enlarged, with Illustrations. Philadelphia: P. Blakiston, Son & Co. 1896.

THE present edition of this manual of anæsthesia has been increased to five hundred and fifty pages. The whole question appears to have been extensively entered into, including inhalations of oxygen and other gases in the treatment of disease. Illustrations of apparatus are given. A good index makes reference to any particular subject easy.

GENITO-URINARY SURGERY AND VENEREAL DISEASES. By J. WILLIAM WHITE, M.D., Professor of Clinical Surgery, University of Pennsylvania, and EDWARD MARTIN, M.D., Clinical Professor of Genito-Urinary Diseases, University of Pennsylvania. Philadelphia: J. B. Lippincott Company. 1897.

DRAWING upon the literature of the subjects, the authors have given in an acceptable manner those views which agree with their own experience, and have indicated those lines of treatment which they have personally found most successful. Two hundred and forty-three engravings and seven colored plates embellish the work. These illustrations, which have been taken largely from the collection of Dr. George H. Fox, are for the most part excellent. One, showing by shadowgraph the presence of a calculus in the pelvis of the kidney, indicates an important diagnostic method still in its infancy. French authors have been largely followed.

One commendable feature is the attention which has been paid to changes in the urine and their bearing upon the various pathologic processes. The technique of operative work has been carefully considered. The work is open to the same criticisms which apply to any conjoint or collaborative production. There is lacking that individuality which alone can hold the prolonged interest of the reader. The material could be gathered and put together by a score of men almost as well as by any two. The index is extensive but might have been better arranged for ease of reference.

ARCHIVES OF CLINICAL SKIAGRAPHY. Edited by SYDNEY ROWLAND, B.A. Camb. A series of collotype illustrations, with descriptive text, illustrating applications of the new photography to medicine and surgery. London: The Rebman Publishing Company, Limited. 1896.

THE present fasciculus (No. 3) shows skiagrams of wired fractures, ununited fractures, deformities, double monster, etc. The plates are loosely inserted and can be utilized for purposes of instruction, to illustrate lectures, etc. The descriptive text is brief.

ESSAYS AND ADDRESSES. By Sir J. RUSSELL REYNOLDS, Bart., F.R.S., M.D. Lond., LL.D. Ed., LL.D. Aber., President of the Royal College of Physicians of London, President of the British Medical Association, Physician to Her Majesty's Household, and Consulting Physician to the University College Hospital. London: Macmillan & Co., Limited. 1896.

A BEAUTIFULLY printed collection of writings of the late Dr. Reynolds, together with a brief sketch of his life, published by his widow. The essays are all examples of literary and scientific merit, and that on "Specialism" of itself makes the book worth having. The last essay, on "The Organized Progress of Medicine," delivered as the presidential address of the British Association in 1895, completes the volume.

HIGH ALTITUDES AND CONSUMPTION: Principles or Guides for a Better Selection or Classification of Consumptives Amenable to High-Altitude Treatment and to the Selection of Patients who may be More Successfully Treated in the Environment to which They were Accustomed Previous to their Illness. By A. EDGAR TARSEY, M.D., Adjunct Professor of Diseases of the Chest in the Philadelphia Polyclinic and School for Graduates in Medicine, and Consulting Physician to the Central Branch of the Y. M. C. A. Gymnasium, Fifteenth and Chestnut Streets, Philadelphia. Philadelphia: P. Blakiston, Son & Co. 1896.

THE title "High Altitudes and Consumption" on the outside cover of this work is a somewhat misleading one, for, with the exception of one chapter devoted to a consideration of that point, little mention is made of high altitudes; the major part of the volume has tuberculosis and environment for its subjects. There is no doubt that the author is correct when he says that in many instances a patient in an advanced stage of phthisis is ordered away to another climate by his doctor, and not only derives no benefit but sustains distinct harm from the change of air.

THE PRACTICE OF MEDICINE. A Text-Book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By JAMES TYSON, M.D., Professor of Clinical Medicine in the University of Pennsylvania and Physician to the Hospital of the University, Physician to the Philadelphia Hospital, Fellow of the College of Physicians of Philadelphia, etc. Octavo, pp. 1,183. Illustrated. Philadelphia: P. Blakiston, Son & Co. 1896.

THIS extensive work is divided into fifteen sections, to which an appendix is added, with tables of maximum doses which have been given with impunity, and minimum dangerous doses; schemes for transferring from the metric to the English system, centigrade to Fahrenheit, etc.

One is impressed at the outset by the business-like manner in which the author enters upon his work. Practicability and the imparting of truths as they exist in the

author's mind seem to predominate and permeate the various sections.

Despite the size of the work, there is little or no prolixity. The modern physician of the younger generation will take exception to the offhand way in which the antitoxin question is dealt with, unless he assumes that, since the preparation of the work has extended over a number of years, this chapter, as well as that on typhoid, was written early and prepared for press before much of a definite nature could be said about the latest tests in diagnosis and serum "cures."

A somewhat dogmatic manner of statement here and there is readily accepted by the reader, since he is made to feel that the author is giving honest opinions in a frank, straightforward manner; and, when blood-letting in pneumonia is advocated, the impression is left upon the reader that, if an author of Dr. Tyson's experience says so, there must be not only something but much in it. In the same way the statements regarding the employment of large doses of digitalis in this affection, especially in the stage of consolidation, carry conviction. It is, as the author says, a useful drug, but to do good and not harm it must be most judiciously employed. Dry cupping is advocated, not only to give relief from the distressing symptoms, but to hasten crisis and shorten the course.

In typhoid the bath treatment is strongly advocated and well described.

It would be strange if omissions, oversights, and errors had not occurred; so the reader may be prepared to find perhaps a little more than the average for works of this number of pages. One of the most complete sections—if not the most so—is section X., on diseases of the nervous system. It is written with thoughtful care, and shows the author's familiarity with this difficult class of diseases.

Morphinomanie et Morphinisme. Par le Dr. Paul Rodet, Médecin-Directeur de l'Établissement Hydrothérapeutique d'Auteuil; Lauréat de l'Académie de Médecine (Prix Capuron, 1894; Prix Falret, 1896). (Ouvrage Couronné par l'Académie de Médecine). Paris: Felix Alcan. 1897.

This work, which has been crowned by the Academy of Medicine of Paris, is a well-written treatise on a subject that is comparatively little known. Certainly much has been written in lay literature concerning the morphine habit, but this is the first attempt that has been made to treat the question exhaustively as regarded from a medical and scientific point of view. In the first instance, the terms morphinism and morphinomania are defined as follows: Morphinism is that state of intoxication by means of morphine in which the drug only influences action by physical troubles, while the term morphinomania is applied to those cases which present psycho-sensorial symptoms. In this book a complete history of morphinism is presented; the morphine habit is traced through its successive stages until it passes into that of confirmed disease; the ways and modes of morphinomaniacs are described in detail; and statistics bearing upon the matter are shown, which have been gathered from all parts of the world. From these statistics it is learned that, so far as the prevalence of morphinomania is concerned, Germany stands first on the list, then France, with the United States third. This is a statement that one would hardly expect to see. The author naïvely remarks that "in America observations on morphinism commence timidly to appear." It is further stated that in Germany there are entire villages whose inhabitants are all addicted to the morphine habit. The author rebuts the generally entertained belief that Paris is full of morphinists, and says that the numbers are greatly exaggerated. Statistics taken of one thousand cases collected from all countries, six hundred and fifty men and three hundred and fifty women, show that among the male morphinists medical men preponderate, claiming no fewer than forty per cent.; men of leisure come next with fifteen per cent.; among the females, the most numerous are the women of means, forty-three per cent.; the wives of doctors supply ten per cent. The chapter on the symptomatology of morphinism is followed by that on abstinence, and both are especially important; in fact, it is indispensable to have studied them closely in order to be able to follow the disease in its different phases. From the standpoint of medical jurisprudence, the question of the responsibility of those under the influence of the poison is fully entered into, and the following conclusions are arrived at: that when a person who has not long been given to the use of morphine is in a state of intoxication, such a person is responsible; on the other hand, that a person who is in a state of chronic morphine intoxication, and whose brain has in consequence undergone more or less grave changes, may not in many instances be responsible. Of course these cases must be decided by expert evidence. The fact is referred to as somewhat peculiar that morphine acts directly on the organs of generation in both sexes, producing impotence in the male and amenorrhœa in the female. Authors are divided in opinion as to the exact cause of the amenorrhœa, but all agree that morphine has a direct effect on the ovary, bringing about atrophy of that gland. The most important chapter in the book is the one that deals with the treatment. According to the author, the prognosis is usually favorable; he states that a morphinomaniac can be definitely cured, but that relapses are very frequent. The style and diction of the work are effective, and on the whole the book may be termed a distinct addition to the literature of medicine.

Racial Deterioration: The Relation Between Phthisis and Insanity. A paper read in part (as far as time would permit) before the American Public Health Association at its meeting at Buffalo in September, 1896. By Lawrence Irwell, M.A., B.C.L.

This paper, as its title implies, deals with a much-discussed subject. It cannot, however, be affirmed that fresh light is thrown on the question by its publication. It is rather a *réchauffé* of the opinions of eminent authorities, for the most part English, that tend to uphold the views of the neo-Darwinian school of biology, which are also the views of Mr. Irwell. The paper is well worded and compiled, and the effort to show in a clear manner the link of connection between insanity and the tuberculous diathesis is plausibly attempted.

Leprosy and the Charity of the Church. By L. W. Mulhane. Chicago and New York: D. H. McBride & Co.

This is, as the author states, merely a compilation of facts picked up here and there relating to the "awful scourge of leprosy," pointing to the heroic work performed by the sons and daughters of Holy Church. It is a small book of one hundred and fifty pages, containing some illustrations.

A Practical Treatise on Diseases of the Skin. For the Use of Students and Practitioners. Fourth and Revised Edition. By James Nevins Hyde, A.M., M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago; Dermatologist to the Presbyterian, Agustana, and Michael Reese Hospitals of Chicago; and Consulting Dermatologist to the Chicago Hospital for Women and Children; and Frank H. Montgomery, M.D., Lecturer on Dermatology and Genito-Urinary Diseases, and Chief Assistant to the Clinic for Skin and Venereal Diseases, Rush Medical College, Chicago; Attending Physician for Skin and Venereal Diseases, St. Elizabeth Hospital, Chicago. Illustrated with 110 Engravings and 12 Plates in colors and monochrome. Philadelphia and New York: Lea Brothers & Co. 1897.

The popularity of Dr. Hyde's work is again illustrated in the most tangible manner. The list of those diseases which have necessitated the rewriting of many chapters is too long and contains too many novel names to be here reproduced. Among new illustrations are five engravings and three plate pictures. As an evidence of appreciation of the services rendered in this edition by the author's associate, Dr. Montgomery, the latter's name has been placed upon the title-page.

It may be truthfully said that the present edition, though following the last after so short an interval, has been greatly improved and brought well up to date.

A Text-Book of Bacteriology. Including the Etiology and Prevention of Infective Diseases, and a Short Account of Yeasts and Moulds, Hæmatozoa, and Psorosperms. By Edgar M. Crookshank, M.B., Professor of Comparative Pathology and Bacteriology, and Fellow of King's College, London. Fourth edition. Reconstructed, revised, and greatly enlarged. London: H. K. Lewis. 1896.

In the revision twenty-six chapters have been added, which, taken in conjunction with the many changes and amplifica-

tions necessitated by the rapid advances in this branch, make of this fourth edition practically a new work. As with the previous issues, this one will undoubtedly be found of great value in the bacteriological laboratory and to health officers, as well as at times to all interested in contagious diseases and their prevention. Part I. deals with stainings and recent technical methods; Part II. with the bacteria of infective processes; and Part III. with descriptions of bacteria, making this portion rather complete for laboratory use, but not so generally useful otherwise. The work is freely and beautifully illustrated, several new colored plates having been added from originals by the author.

Society Reports.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FOURTH TRIENNIAL SESSION.

Held in Washington, D. C., May 4, 5, and 6, 1897.

WILLIAM H. WELCH, M.D., OF BALTIMORE, PRESIDENT.

(Continued from page 862.)

AMERICAN DERMATOLOGICAL ASSOCIATION.

Second Day—Wednesday, May 5th.

IN the first session of the second day's proceedings new officers and members were elected. The former were: *President*, Dr. Hyde, of Chicago; *Vice-President*, Dr. Bronson, of New York; *Secretary and Treasurer*, Dr. Bowen, of Boston (re-elected). The new members taken in were Dr. Montgomery, of Chicago, and Dr. Hutchins, of Atlanta. It was decided to meet next year upon the first Tuesday in June in or near New York City.

Dermatitis Due to X-Rays was one of the questions discussed in connection with the exhibition of photographs and drawings. Among the now rather frequent ill effects noted, aside from the more superficial lesions, are deep ulcerations, periostitis, and ostitis. Cases were reported by DR. GILCHRIST and DR. BRONSON. In some instances there is a rather deep indolent slough, which takes a long time to separate and is followed by very slow healing. The theory of bombardment by minute metallic particles was the one favored, and suggestions for prevention by the interposition of some non-penetrable screen were made. Dr. Gilchrist stated that those subjects who show after the first exposure any idiosyncrasy in this respect should be exposed a second time only in the most cautious manner.

Hereditary and Continuous Shedding of the Fingernails.—DR. DOUGLASS W. MONTGOMERY, of San Francisco, reported the case of a strong healthy man of thirty-five years of age, who had been troubled from birth with a constant shedding of the fingernails. He stated that his mother's nails fell like his own, one or two nails being affected every seven or eight months. He had two maternal uncles whose nails fell every three years or so. Other members of the family on both sides had bad nails, but the patient could not say that they fell off. His immediate family had no affection of the nails. There were no stigmata of hereditary syphilis, no indications of psoriasis or eczema, nor of the generalized exfoliative diseases of the skin, nor of any constitutional disease whatever. There was a small quantity of albumin in the urine, but the patient did not appear to be suffering from Bright's disease. The patient said that one or two of his nails were constantly falling, six to eleven months completing the cycle. A nail first became a dull yellowish-white over the lunula, and then began to lift away from the nail bed from behind forward till it fell off. The shedding was completed in about three months, after which the nail grew in again perfectly normal in from three to eight months. There were no subjective symptoms attending the process, and there was no order in which the nails were attacked.

DR. WHITE asked if there were any trophic changes noted in the hair, or if other members of the family had been similarly affected. He referred to photographs in the exhibition room, which he had brought to illustrate how combined trophic changes in the hair and nails ran through three generations of a family.

DR. KLOTZ spoke of similar changes affecting the teeth.

DR. MONTGOMERY said that the theory of degeneration would not apply. There were no changes in the hair or teeth; the nails were healthy in appearance and were shed unchanged. The patient's mother and maternal uncle had been similarly affected, while the father's nails had been reported as being "crumbly."

Symmetrical Atrophy of the Skin.—DR. J. A. FORDYCE, of New York City, reported a case which occurred in a woman, aged forty years. The hands, elbows, knees, and ankles were the seats of atrophic lesions, which were surrounded by a dusky-red zone of dilated capillaries. The atrophy followed closely on the hyperæmia, which seemed to be the primary condition. Clinically the affection resembled the cases described by Buchwald, Pospelow, Touton, Bronson, and others. The eruption was absolutely symmetrical, and had up to a short time before been progressive. On microscopic examination the atrophy was found to be secondary to an inflammation which was located in the skin and underlying connective tissue. The epidermis was invaded by exudation corpuscles, which had produced a thinning and degeneration of its constituent cells. No organic affection of the nervous system could be detected, although there was evidence of vasomotor disturbance.

DR. KLOTZ spoke of a case which seemed to have originated in rheumatism.

DR. HYDE thought some of the appearances were very suggestive of the erythematous form of lupus.

DR. GILCHRIST approved the term idiopathic atrophy.

DR. BRONSON thought there might be some central nerve lesion or possibly a spinal affection behind the process. While similar to his own case, it differed in being more diffuse.

DR. DUHRING said the condition was properly classed with the atrophies. Other diseases belonging in the same class, such as that known as striæ atrophicæ as well as morphœa, were preceded by inflammation. The latter, however, occurring in one stage of a disease, did not of necessity throw the affection out of this class, since in subsequent stages all inflammatory symptoms disappeared.

Some Cases of Feigned Skin Diseases.—DR. F. J. SHEPHERD, of Montreal, read the paper. The first case was of a woman who was employed in a hospital, and who had patches of dry gangrene on both hands and forearms. The patches were about one inch in diameter and circular. They had been coming out for ten days before being seen by Dr. Shepherd. The hands were carefully bandaged with a starch bandage over cotton wool, and no more spots appeared. The girl rapidly got well. Some of the patches showed an appearance of concentric rings, and were evidently produced by a heated metal disc.

The next case was one of huge blisters on both cheeks of a woman, aged fifty, a cook on a farm. The blisters always came out after working in the fields—a proceeding to which she strongly objected. The blisters fused together, and one blister would cover

the whole of one cheek. Some acid no doubt produced the lesions.

The third case was one of persistent croton-oil eruption after a single application two years previously. This patient, when the rash on the cheek faded, had an inflamed face, followed always by the development of huge blisters on each cheek. The patient was a young woman of a decidedly hysterical temperament, and seemed to take a delight in showing her breasts covered with croton-oil eruptions to the students.

The fourth case was one of patches of gangrene on the dorsum of the left foot. This was the third attack in four years. The first followed recovery from typhoid fever. As soon as the gangrenous skin separated, the ulcer left behind soon healed. The girl liked being in the hospital, where she attracted some attention, owing to the peculiarity of her case and the absence of cause, as the patches did not affect any one area supplied by a special nerve, and the ends of the toes in which the circulation was good were quite normal. The girl was addicted to liquor and tobacco. On one occasion in the hospital she set fire to her clothes. Dr. Shepherd drew attention to the similarity of these gangrenous patches to those occasionally produced by hot-water bottles applied to unconscious patients. The absence of motive in a case would not preclude the diagnosis of a feigned disease. A desire to obtain sympathy or notoriety is sufficient cause in many cases.

Dr. Allen believed that we should make a distinction between hysterical eruptions and those intentionally produced. He referred to an instance of multiple gangrene as belonging with the first class. He spoke of the great importance of differentiation between these conditions and burns from hot-water bottles closely simulated in one of the reader's photographs.

Dr. Duhring agreed as to the importance of excluding hysterical eruptions, and thought that before we can call an eruption "feigned" we must have absolute proof that it is such. He had personally observed but few instances of feigned lesions, and had proven in numerous instances that cases which had been so designated were in reality of neurotic origin.

Dr. Grindon spoke of artificial eruptions which were not feigned, instancing a young man who inflicted burns upon the skin as a sort of penance.

Dr. Bronson spoke of the morbid susceptibility on the part of the patient, especially in the matter of hot-water-bag burns, and thought the reduced condition of the patient had much to do with the severity of the traumatism. Similar lesions may occur not so much by design as because of some peculiar exaggeration of reaction to slight injury.

Dr. White could not agree with Dr. Duhring that absolute proof was required. It would rarely happen that one could be detected in the act of self-mutilation. In convictions for murder, circumstantial evidence may have been the strongest if not the sole proof. Why should we not admit it here? He referred to an ulcerative dermatitis about the region of the mouth, evidently due to some application for removing hairs, but the use of all such applications was most strenuously denied by the patient.

Impetigo Herpetiformis.—Dr. M. B. Hartzell, of Philadelphia, reported a case of this nature in a woman over seventy years of age. An eruption of pustules upon the trunk, attended by chill and fever, was followed by similar lesions upon the face, neck, and extremities. The lesions were grouped, and followed by crusting with miliary pustules about the border. There were severe constitutional symptoms. There were several recurrences, and death finally resulted. Of the twenty-one cases reported, three have occurred in men. Tuberculosis has been found in three of the seven instances in which autopsy was made.

Impetigo Herpetiformis or Dermatitis Herpetiformis.—Dr. J. A. Fordyce, of New York City, reported a case occurring in a man, aged sixty-six. The eruption when first seen was nearly universal. It was made up of grouped vesicles and vesico-pustules, which became confluent over the legs and arms. Over the thighs and abdomen large irregularly rounded plaques were seen, which extended in a peripheral manner, while slowly clearing in the centre. A new outbreak of lesions was accompanied by an elevation of temperature and intense pruritus. After existing for several weeks the eruption slowly disappeared, leaving larger pigmented areas on which new groups of vesico-pustules would appear. Papillomatous lesions developed in both axillary spaces. A small amount of albumin and some granular casts were found in the urine. The blood and serum from the vesicles contained a large number of eosinophile cells. A piece of skin from a recent lesion excised for microscopic examination showed an acute inflammation of the derma and the presence of vesicles in the deep layers of the epidermis. The cell exudation contained large numbers of polynuclear leucocytes and numerous eosinophile cells. The eruption presented certain features pertaining to both impetigo herpetiformis and Duhring's disease, and seemed to justify the view which this writer originally held, that they should both be included in the same class.

Dr. Duhring said that in Dr. Hartzell's case he had been impressed by the thickening of the skin from chronic œdema, considerable corium being involved. The grouping was irregular. There would seem to be a close connection between this disease and pemphigus vegetans, to which it bears marked analogy. The mucous layer of the corium is thickened in both. Dr. Fordyce's case should be ranged with those of impetigo herpetiformis, in which there is marked herpetiform arrangement, but the lesions are deeper seated than in dermatitis herpetiformis. He thought it well to retain the term proposed by Hebra for this class.

Dr. Johnson said he had seen two cases, one in a male subject. The condition of the skin described by Dr. Duhring as soft and leathery was not present in these cases. He regarded Dr. Fordyce's case as dermatitis herpetiformis, among other reasons because there was a vesicular eruption.

Dr. Gilchrist thought bacteriology offered much better chances than clinical observations in arriving at the etiology of these affections. Eosinophiles are found to be present in a variety of vesicles, including those due to poison ivy.

Dr. Hyde said eosinophile cells were present in abundance at times in the lesions of dermatitis herpetiformis.

Dr. Hartzell said that in his case the grouping was marked, but the distinctive feature was the surrounding ring of miliary pustules.

Dr. Fordyce said a peculiarity in his case was an entire absence of scarring, thus differing from dermatitis herpetiformis. He agreed that the two conditions were closely related to each other and also to pemphigus vegetans. A tendency to papillary formation is common to all these conditions.

Dr. Duhring said Dr. Fordyce's observations relating to scarring differed from his own. He did not recall any case of permanent scarring in uncomplicated dermatitis herpetiformis.

Third Day—Thursday, May 6th.

Strong Applications of the Ichthyol Group was the first paper of the second day's session, by Dr. H. G. Klotz, of New York. Ichthyol, thiol, and tumenol,

members of the "reducing" group of drugs, are usually applied only in weak combinations in skin diseases. The reader had found by experience that strong applications are very effective even in acute inflammatory conditions of the skin, if judiciously used at the proper intervals. Besides the effect on cornification, the contracting power upon the blood-vessels and the antiparasitic properties came into play. The speaker laid particular stress upon the facts that ichthyol dries rapidly on the skin and forms a suitable protective without further dressing. He has used it besides in erysipelas, in which its value is widely known; in other forms of acute dermatitis, viz., dermatitis venenata, with particularly good effects in dermatitis from burns and from freezing; in traumatic dermatitis (mostly from intertrigo and scratching); further in acute eczema, herpes zoster, and he thinks it will be found useful in erythema multiforme, dermatitis herpetiformis, urticaria, and in the acute exanthemata. In chronic inflammations the effect is more pronounced if preceded by cauterization or strong stimulation.

Discussing Dr. Klotz's paper the speakers recognized the value of ichthyol in many affections and thought well of the suggestions as to modes of application. Tumenol was stated to be more efficacious in relieving pruritic affections. It is claimed by Bronson that stronger solutions of bichloride can be used with advantage when combined with ichthyol than in watery solution. Since ichthyol in strong watery solution dries into a varnish-like coat, as has been shown by Klotz, the futile attempts to find a suitable medium for its application as a protective dressing may be abandoned. It was thought, however, that in certain conditions, such as erysipelas, collodion might in itself exert a beneficial influence upon the dilated vessels, and thus aid in the reducing and antiparasitic action of the drug.

The Nature of the Xanthomata was the title of a paper presented by Dr. S. Politzer, of New York. The peculiar yellow plaques and nodules in the skin known as xanthoma have been the subject of extensive studies on the part of pathologists and dermatologists, ever since they were first described by Addison and Gull in 1850. The greatest diversity of opinion exists as to their nature. This is due probably in part to the fact that different authors have examined different stages of the disease, and in part to the fact that the different forms of xanthoma have been assumed to be merely different clinical manifestations of the same process. The author's histological studies are based on thirteen cases—five of them cases of xanthoma planum palpebrarum, four of xanthoma tuberosum, and four of xanthoma diabeticorum. The clinical grounds for separating xanthoma of the eyelids from multiple xanthoma are as follows: The nodules of xanthoma multiplex are firm, round, elevated papules; the patches of eyelid xanthoma are soft plaques in the level of the skin. Eyelid xanthoma persists through life; multiple xanthoma sooner or later undergoes involution. Eyelid xanthoma is quite common; multiple xanthoma is extremely rare. If the eyelids were in this preponderating degree the seat of predilection for a common xanthoma, we should expect to find the eyelids affected in every case of multiple xanthoma; but, as a matter of fact, the two forms are rarely associated in the same individual. With the extensive material at his command the author has been able to show that common eyelid xanthoma is not a new growth, but is due to a degeneration of pre-existing, embryonally misplaced muscle tissue. The so-called xanthoma cell is a fragmented muscle fibre in a state of granulo-fatty degeneration, with proliferation of the muscle-cell nuclei. The various stages of the change from normal muscle fibre to "xanthoma cell" were demonstrated in sections under the microscope, drawings made by Dr. Ira Van Gieson, and microphotographs. This explanation of the origin of eyelid xanthoma harmonizes with a number of hitherto unexplained clinical and pathological facts, *e.g.*, the absence of any clinical signs of tumor; its almost exclusive occurrence in the face, where peculiar muscular conditions prevail; its heredity; its usual development after middle age, when degenerative processes are apt to occur; the peculiar yellow pigment that is always present in muscles undergoing fatty degeneration, etc. The structure of multiple xanthoma is shown to be wholly different from that of eyelid xanthoma. It forms a sharply circumscribed tumor in the cutis. It is an irritative hyperplastic development of connective tissue, whose cells produce fibrous tissue on the one hand, or undergo fatty degeneration on the other. In diabetic xanthoma the process is a little more diffuse and the tendency toward fatty degeneration more marked than in the non-diabetic multiple xanthoma. In both, irregular patches of granulo-fatty matter, interspersed with cellular detritus, occur in the middle of the nodules as the results of the fatty degeneration of the cells. In over eighty-five per cent. of the recorded cases of multiple xanthoma, far too large a number to be accounted a mere chance, there was either diabetes or some severe lesion of the liver with jaundice. The author thinks it likely that further research may show that the fibrous nodes and fusiform enlargements of tendons in chronic rheumatism are to be placed in the same general class as the nodes of xanthoma. We should then have a large group of diseases, hepatic, diabetic, rheumatic, all characterized by toxæmic conditions, in all of which irritative connective tissue lesions occur in the skin and elsewhere. At one end of this series we should have the persistent fibrous node of rheumatism; at the other, the transient nodules of diabetic xanthoma, while between them, intermediate in its tendency toward the formation of fibrous tissue and fatty degeneration, ultimately undergoing involution, would stand the nodule of common multiple xanthoma.

Discussing this paper Dr. Hyde said that while it was unusual for xanthoma planum of the lids to occur in diabetics, he had observed such an instance. He agreed with the reader that there were objections to the qualitative "diabeticorum" for the variety to which it was applied.

Dr. Johnson said the fact that the lesions in multiple diabetic xanthoma might disappear coincidently with a decrease in the sugar of the urine, and recur with a renewed excess of the latter, plainly took these lesions out of the class of new growths. Xanthoma of the lids could therefore on this ground alone be separately considered.

Dr. Morrow thought there was a direct causal connection between the presence of sugar in the urine and the development and exacerbation of lesions in the diabetic variety. Lesions tend to recur after removal, as he had shown in a case of his own.

Dr. Allen said that at the last meeting he had advocated in a paper on "glycosuric dermatoses" that the term "diabeticomm" be dropped in describing several affections occurring in the presence of the symptom glycosuria.

Dr. Bowen thought the reader's theory of the formation of the xanthoma cell was very likely to be correct. It was greatly to be desired that transition forms should be demonstrated to strengthen the reader's claims.

Dr. Shepherd reminded the members of the case he had presented in Montreal, in which the lesions of xanthoma multiplex had promptly disappeared upon the removal of a mass of calculi from the gall bladder.

Dr. Politzer closed the discussion by stating his

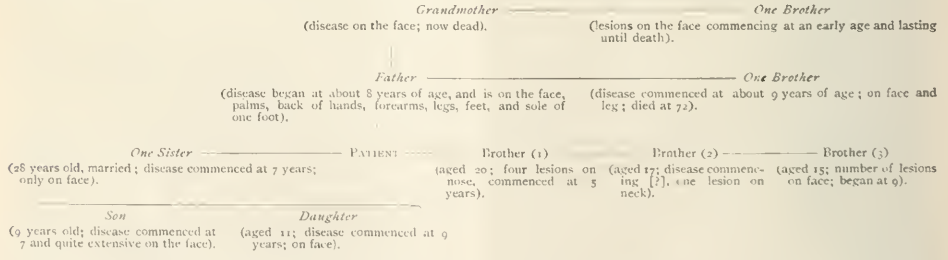
belief that the generalized form of xanthoma occurring upon the hands, face, etc., was of the connective-tissue variety, and that hence it was capable of disappearing spontaneously. Glycosuria in patients with eyelid xanthoma was a coincidence only. Behind the sugar there probably existed a toxæmia acting in a causative way to produce the multiplex form called "diabetic."

The Dermatologist in Pathology.—Dr. Welch, president of the congress, was present at this session and made a brief address, in which he referred to the opportunities which were being grasped by those working in cutaneous medicine for the elucidation of complex pathological questions. In no other field were such facilities offered for combined clinical and pathological observation and experiment. The skin more than other tissues is subject to a great variety of external irritants and infections whose reactionary effects can be closely watched in the living subject and excised for microscopic study. Properly pursued investigations in this department he confidently expected would in the near future add enormously to our knowledge in the broader realm of general pathology. He expressed much personal satisfaction with the section's work.

A Universally Adaptable Scale of Measurements for the Accurate and Uniform Description of Cutaneous Lesions.—This paper was presented by Dr. C. W. Allen, of New York, who showed first the desirability of a system which could be adopted for all countries. The inaccuracy of description by reference to seeds, grains, nuts, fruits, vegetables, coins, and the like was gone over, and the international confusion often occasioned in important questions was dwelt upon. The scheme proposed took for the unit one-quarter of a millimetre, suggestively called by the reader a *tetmil*, from the Greek equivalent indicating "one-quarter." The sizes range from one to five hundred, and a series of numbered circles inclosed in the larger circle of the scale show at a glance their relative size. It was suggested to authors to insert the scale in their text-books on dermatology, and that by its use the writer would be saved long descriptions and the reader would soon familiarize himself with the numbers and secure a more adequate idea of the size and form of lesions than by the older method. Scientific accuracy was, however, the desideratum, especially as to the smaller lesions, upon whose exact size a diagnosis often rested. A table of equivalents giving the old terms and their corresponding scale size was incorporated in the paper, based upon actual measurements, and it was thought by the reader that this feature alone, if adopted, would prove of value as giving to the various objects now employed for comparison a definite dimension based upon the average sizes of objects which often varied greatly as between themselves. The proposed scheme was discussed and it was generally admitted that reform in the direction proposed was called for. It was voted to refer the matter to a committee which should bring the question up at the next international congress.

A Peculiar Affection of the Hair Follicle was the paper next read by Dr. Joseph Grindon, of St. Louis. The affection consists of a chronic inflammation of the hair follicle characterized by extrusion of a portion of the root-sheath proper *en masse*, which remains threaded over the hair and is carried up with it in its growth, the process being repeated from time to time until successive masses bearing a superficial resemblance to nits are strung along the hair. It is accompanied by slight redness about the mouth of the follicle and results in a curable alopecia. There are found little grayish-white masses threaded beadwise on the hair. In their size, color, and distribution they are so like the ova of the pediculus capitis that one is almost certain to mistake them for the latter at first sight. The little masses consist of the cells of both layers of the internal root sheath (Huxley's and Henle's) surrounded by a layer of amorphous detritus and sebum. Besides pediculosis there are other clinical conditions which superficially simulate this form of folliculitis. Among them are trichorrhexis nodosa, monilethrix, piedra, leptothrix, and a few clinical curiosities, such as Hodara's disease, Giovannini's disease, etc. In the discussion this observation was considered of interest and importance in connection with nomenclature of the diseases of the hair, as well as in differential diagnosis.

Parakeratosis.—Eleven cases of parakeratosis (Mibelli) or hyperkeratosis excentrica (Respighi) in one family were reported in a paper by Dr. T. Caspar Gilchrist, of Baltimore. "These two patients, father and son, whom I am able to exhibit to-day, are two of the eleven cases of this very rare disease. The first patient whom I have named in the scheme which I present below I have called "the patient," as he was the first of the cases. The father, who is sixty-four years old, shows almost all the typical lesions of this disease, especially on the backs of both hands, fingers, wrists, forearm, and palms, as well as on the legs and dorsum of the feet. The patient is a young man, twenty-one years of age, who has had the disease since he was five years old, when it commenced on his ears, nose, chin, neck, back of hands, and right forearm. The lesions were extremely slow in appearing and in growing. The most remarkable feature about the whole case is the family history, which is here given in a tabular form, together with a very brief description of the disease in each case.


Grandmother
(disease on the face; now dead).
One Brother
(lesions on the face commencing at an early age and lasting until death).
Father
(disease began at about 8 years of age, and is on the face, palms, back of hands, forearms, legs, feet, and sole of one foot).
One Brother
(disease commenced at about 9 years of age; on face and leg; died at 72).
One Sister
(28 years old, married; disease commenced at 7 years; only on face).
PATIENT
Brother (1)
(aged 20; four lesions on nose, commenced at 5 years).
Brother (2)
(aged 17; disease commencing [?], one lesion on neck).
Brother (3)
(aged 15; number of lesions on face; began at 9).
Son
(9 years old; disease commenced at 7 and quite extensive on the face).
Daughter
(aged 11; disease commenced at 9 years; on face).

"There have been eleven cases in four generations, eight males and three females. Of these, eight had been examined personally. The separate descriptions given by three of the family of the disease as it occurred in the others, whom I examined later, were so correct that I have fully accepted the statement that it was the same disease which occurred on the deceased members. The patient (first) has been under my care eighteen months, and the disease was not diagnosed until many histological specimens were examined. The eruption consists of lesions of various sizes and forms, which present two varieties, viz., the smallest, which are chiefly on the face, and consist of minute (0.5 to 1 mm. in diameter), dirty brown, semiglobular elevations of a

horny nature. They grow very gradually, and when they reach the size of a small pinhead (1 to 2 mm.) the centre sinks in and a peripheral horny ridge is found. Coursing along the ridge appears a minute groove, and as the patch becomes large the centre takes on an atrophic though callous appearance. The largest patches are about split-pea sized. In the father's case there was absence of sweating within the areas of the largest patches. It was found that after removal of some of the lesions with a curette and the application of the silver-nitrate stick, the characteristic papule would reappear on the scar. They did not return after excision. New lesions had been seen to appear during the course of weekly observations of the patient. Microscopical examinations were made of sections obtained from twenty lesions excised from the patient, three from the father, two from one of the brothers, and one from the nephew; and the result showed that the disease began either as a marked hyperkeratosis of the sweat pore and upper portion of the duct, or of the opening of the sebaceous gland, or of the two adjoining openings of both glands. This was followed in some instances by dilatation of the sweat duct and gland beneath, followed by atrophy of the glomerules. Sections from some of the oldest lesions presented a picture almost like that of psorospermosis follicularis vegetans (Darier).

"Mibelli has reported three cases and very briefly referred to three others in Italy; Respighi reported seven cases of this disease and also briefly referred to four others, but only one case has been published outside of Italy, and that was by Hutchins, of Atlanta, Ga. (He gave only a clinical description.) Neither Mibelli nor Respighi thought that this disease was hereditary, but these eleven cases in four generations show very strong evidence of an hereditary taint.

"The reader proposes the name porokeratosis excentrica for this disease, as the former refers to the chief pathological factor, and the latter to a very striking clinical feature."

What Conditions Influence the Course of Syphilis? was the subject for general discussion, which was opened by Dr. R. W. Taylor, of New York, who presented the adult aspects of the case. The subject of infection and course of syphilis was exhaustively reviewed, and the conclusion reached that a great variety of conditions modify the effects of the virus in different individuals.

Infantile Syphilis.—Dr. James Nevins Hyde, of Chicago, opened the discussion on "Infantile Syphilis—What Conditions Influence its Course? (*a*) The Virus? (*b*) The Individual?" He considered, first, the phenomena of syphilis in intra-uterine life, syphilis of the ovum and of the fœtus; second, extra-uterine or hereditary syphilis of the infant; third, acquired infantile syphilis. With reference to the first, the author considered its frequency in several social states of the people, the errors most commonly committed in the interpretation of the signs of the disease, and the percentage of abortions and miscarriages in the products of conception. Collating the fruits of seventeen hundred pregnancies, it was shown that about one-third terminated by the death of the ovum or fœtus. With reference to the facts of extra-uterine syphilis of the products of conception, after a review of the sources of error, it was shown that of seventeen hundred pregnancies there were born eleven hundred and twenty-one living children, of whom nine hundred and fifty-six died within the first twelvemonth after the conclusion of pregnancy. Considering then the relative importance of both virus and individual, the struggle for existence would appear to be hopeless were it not for a single and remarkable fact. The mothers who can offer breast milk to their syphilitic children save between ten and twenty per cent. of the patients who are set down by some authors as inevitably lost if not nourished at the breast of the mother. This remarkable result is due and solely due to the improved nutrition of the victim of the disease. Acquired infantile syphilis was shown to result in an enormous proportion of all cases with favorable results as regards the new being, the author citing a number of illustrative facts, and concluding that in these cases, as in acquired disease of adults, "he is indeed blind who cannot see . . . the wall that is ever and again built as a bulwark to the encroachments of disease by the sound constitution, the satisfactory habits, and the hygienic environment of the selected individual."

In the discussion Dr. Atkinson took the ground that the intensity of the poison depends largely upon the susceptibility of the individual.

Dr. Grindon thought the dosage a matter of importance which had not been touched upon, and spoke of certain observations which had been made in connection with vaccination, which went to show that the amount of virus inserted at times influenced the result.

Dr. Hartzell thought it largely a question of soil, and that bacteriology substantiated this view in relation to many similar processes.

Dr. Allen thought there were two sides to the question, and that reasoning from analogy we must admit an occasional intensity of virus—as in a succession of nerve and cerebral cases.

Dr. Montgomery spoke of superinfections, and objected to the use of the term symbiosis in this connection.

Dr. Klotz called attention to his own paper, which had not been referred to, but which went over the whole question. He said his own conclusions had been as hypothetical as those arrived at by the speakers.

Dr. Fordyce had confirmed the observation of Van Gieson, that secondary infiltrations occur at an early period (a few days) at some distance from the initial sore. In gouty subjects syphilis is apt to be severe—the late sclerosis may be a combination of a lithæmic state superadded to the specific virus effects.

Dr. Sherwell agreed with Dr. Klotz that the germs of tuberculosis and syphilis are antagonistic, and does not believe that syphilis leads or predisposes to tuberculosis.

Dr. Morrow held that the soil and not the seed determined the nature of a given case. Analogy does not help us in the solution of the problem. We must rely upon clinical data. In hereditary syphilis we must assume that in succeeding pregnancies there has been a succesive attenuation of the virus.

Congenital Ichthyosis.—Dr. James M. Winfield and Dr. J. M. Van Cott presented conjointly "A Contribution to the Etiology of Congenital Ichthyosis. Report of a Case with Absence of the Thyroid, with Microscopic Report of the Condition of the Skin." After giving the family history, the paper entered into the history of the mother. She had been pregnant seven times, and four times gave birth to normal children; two were ichthyotic, the first of which was reported by Dr. Sherwell before the American Dermatological Association in 1894. During the first, second, third, fourth, and sixth pregnancies the mother's condition was excellent, she being neither nervous nor sick. During the fifth, which resulted in the first ichthyotic infant, she was subjected to considerable anxiety, and at the sixth month received a severe nervous shock. When she became pregnant for the last time she immediately grew exceedingly nervous and worried lest she should become the mother of another deformed baby.

At delivery the infant weighed about four pounds. The body was enveloped in what appeared to be a thick coating of vernix caseosa, which on removal left the

skin red and shiny. If no lubricating protective was used the whole cutaneous surface soon became scaly and fissured. Four days after delivery it appeared as follows: the whole body was covered with thick reddish-brown epidermic plates, which were larger and more marked over the extensor surfaces; some of them were from one-sixteenth to one-tenth of an inch in thickness, and one-half to two inches in diameter; between the plates were fissures of varying depths. Movement of the limbs produced cracks about the flexures of the joints, which extended deeply into the underlying tissues. The autopsy was made about eight hours after death. The body was considerably emaciated, and covered with large fatty epidermic scales. On examining the neck the thyroid gland was found to be absent. There was no sign or trace of its ever having existed.

A number of slides were prepared from portions of the skin taken from the back, thighs, arms, and scalp. Dr. Van Cott's report was: "The horny layer of the skin is considerably thickened; the rete Malpighii appears fairly normal. The sweat and sebaceous follicles are present. Both the rete and subcutaneous areolar tissue present in some of the sections evidences of necrosis with small round-cell infiltration, and in certain areas the lymph spaces are occluded with bodies resembling in every respect micrococci. Those lymph spaces which are filled with these morphological elements are more common in the neighborhood of the blood-vessels, both arterioles and venules.

"The important etiological points are: First, the absence of the thyroid. Second, the presence of micro-organisms in and about the lymph spaces. That the thyroid has some influence on the nutrition of the skin is an established fact, as is evidenced by the occurrence of various dermatoses when this body is atrophied or diseased; and, further, there are numerous recorded instances in which the administration of thyroid extract has exerted a beneficial influence on skin affections when hyperkeratinization and thickening were prominent features. Just what etiological bearing the absence of the thyroid has on the production of ichthyosis congenita and kindred diseases cannot be positively stated without further clinical and post-mortem proof; still from the above facts it is but fair to conclude that in this case, at least, the absence of this body had some marked effect on the nutrition of the skin and the development of this cutaneous affection. The occurrence of micro-organisms in the lymph spaces at once brings up the question whether this and similar cases are types of true ichthyosis, or, as Dr. Van Cott puts it, a variety of dermatitis. If these micro-organisms were the cause of this excessive plate formation, it is possible that the term ichthyosis sebacea is the correct one; for a bacterial irritation could easily produce a universal seborrhœa."

Pseudolupus of the Face Due to the Presence and Growth of Blastomyces was the title of a paper presented by Dr. T. C. Gilchrist, of Baltimore. A photograph was passed showing an extensive lesion of the face, which had evidently destroyed the eyelids to a great extent and caused marked disfigurement. The objective appearances were those of a lupus vulgaris, or of a tuberculosis of the skin. The affection had begun a number of years before as a papule near the ear, from which point extension had gradually occurred, leaving scar tissue to mark its path. A plaque covering the back of one hand had existed for four years. A chart was exhibited showing a series of inoculation experiments in animals, which resulted in nodules in the lungs, from which cultures were made and other animals inoculated. In every instance pseudotubercle pustulation or caseation was the result, and which by inoculation would always produce lesions similar to those of tuberculosis, which latter disease was, however, always most carefully excluded. The bodies which produce this blastomycetic dermatitis are doubly contoured, budding organisms, resembling the yeast plant and growing in the same way. They have never before been shown to possess interest to the dermatologist. They were demonstrated under the microscope.

Lymphangioma of the Labia Majora was the title of a paper presented by Dr. J. C. White, of Boston. The affection had existed for several years in the person of a young lady, and assumed the form of papillomatous growths resembling lymphangiectases as much as they did lymphangioma. The diagnosis was difficult, and the reader did not know in just what way it was fully to be determined. Drawings were shown and the microscopic appearances demonstrated.

(To be Continued.)

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

GENERAL MEDICAL COUNCIL—CHRONIC HYDROCEPHALUS IN ADULT—WOUND OF MESENTERY—HERNIA—FEMORAL HERNIA WITH APPENDIX IN SAC—ROYALTY AT GUY'S—DINNER TO LISTER—THE LATE DR. ROBERTSON AND MR. NIXON.

London, May 28, 1897.

The General Medical Council met on Tuesday, under the presidency of Sir Richard Quain, whose address on the occasion followed the old lines. Much pleasure was expressed that the president was able to be present after his severe illness, and, considering his advanced age, Sir Richard looked quite himself again, and delivered his address with remarkable energy and clearness.

The council bowed, as in duty bound, to the decision of the privy council respecting the Apothecaries' Hall of Dublin, and referred to a committee the matter of reporting on the appointment of examiners and their remuneration.

The attention of the council was called by Mr. Brown to the low standard of the preliminary examinations, and some strong remarks were made as to the passing of candidates who are not well grounded in the rules of the English language.

Sir D. Duckworth declared that some boards passed men who would not be taken as ushers in private schools, and yet they were considered good enough for the medical profession. He thought it time the council found out which boards passed men whose ignorance disgraced the profession.

The midwives question was brought up, and after some rather strong remarks it was agreed to inquire whether the privy council desired the bill for registration to be considered in the present session.

On Wednesday the procedure under the penal clauses was discussed, and the report on dental education received and ordered to be sent to the licensing bodies concerned for consideration before the November meeting.

At the request of the president, Sir William Turner was asked to preside for the rest of the session.

Yesterday penal cases were heard, an address to the Queen on her long reign was voted, and a statement was received from the president regarding a deputation to the local government board on death certification.

The council further agreed to make representations to the privy council with reference to the proposal of Italy to restrain practice by foreign medical men in that country.

The report of the pharmacopœia committee was

adopted. The work is in an advanced state, proofs were in the hands of members, and it is expected the volume may be completed in time for the November session.

Chronic hydrocephalus producing practically no symptoms up to the age of sixteen and one-half years, and then followed by cerebral symptoms proving fatal, is certainly very unusual, but such a case was related at the last meeting of the Clinical Society by Dr. Frederic Taylor, under whose care it came in Guy's Hospital on September 11th. For some days there had been severe headache and vomiting, and on admission the gait was unsteady and the boy's head measured twenty-three inches in circumference. On the 19th paralysis began, and he died the next day, conscious up to three hours before his death. At the post-mortem thinning of the skull bone was found, and the cerebral ventricles contained thirty ounces of liquid.

A case of wound of the mesentery with subsequent gangrene of the intestine was related by Mr. Lockwood. The patient, aged sixty-four, stabbed himself with a carving knife. The abdomen was opened to stop hemorrhage, which was found to come from several rents in the mesentery, one being one-half inch from the bowel; but it was hoped that there was room for anastomosis. The man died two days afterward, and the bowel opposite the wound was becoming gangrenous. The vascular supply of the mesentery and bowel had been examined in the dissecting-room, and no anastomotic loops were found less than one inch from the bowel, which should therefore have been resected. Some other cases were mentioned bearing upon the anastomosis of the mesenteric vessels, which was considered untrustworthy.

Mr. Howard Marsh then related a case of strangulated inguinal hernia, in which the coils of small intestine were so distended with fluid that he found it necessary to incise them freely before they could be repaired. He closed the incisions by Lembert's sutures. The patient recovered without a drawback.

Mr. Spencer remarked that section of the nerves supplying a ligated portion of intestine produces accumulation of clear fluid inside it, suggesting that in this case the nerve supply had been in some way interfered with. The plan of incision adopted was generally approved.

Mr. Bidwell then related two cases, both in women, of irreducible femoral hernia, in which the sac was occupied by the vermiform appendix and distended by clear fluid. He reduced the appendix in both cases after notching Gimbernat's ligament. Only a few such cases have been recorded, and in most of them the appendix was excised.

A similar case was mentioned by Mr. Langton, who would have notched Hey's ligament rather than Gimbernat's, as causing less weakness of the abdominal wall.

Mr. Eccles referred to a case he related last year in the Pathological Society, and thought the appendix had a great tendency to form adhesions. In that event it was easier to excise it.

The Prince of Wales opened the new buildings of Guy's Hospital Medical School on Wednesday. The preparations were well arranged, and the function went off most successfully. In the colonnades were a number of patients on couches or chairs, and as the prince passed he made sympathetic inquiries. Heavy rain played havoc with the millinery of the visitors in the midst of the proceedings, but they were carried out with precision. After declaring the building open, the prince spoke eloquently of the great work to which it was devoted, and urged the students to make the best use of the opportunities provided. "Take care," he concluded, "that the great profession to which you have aspired to belong shall, when you leave it, stand as high in the service and in the affection of the public as it does at the present time." He also said he had satisfied himself as to the vivisections performed at Guy's.

The dinner to Lord Lister by his former house surgeons and dressers was held on Wednesday, and was a most agreeable reunion. A souvenir was distributed to those present, with a list arranged in chronological order of all who had held these offices, so far as could be ascertained. There was also an excellent portrait of his lordship.

Dr. Lockhart Robertson died on the 18th inst. He had been a lord chancellor's visitor in lunacy, president of the Medico-Psychological Association, and for a time editor of the *Journal of Mental Science*, to which he freely contributed. He was president of the section of psychology at the International Congress in London, and one of the translators of Griesinger's work on "Mental Disease."

Mr. F. A. Nixon, of Dublin, died on Sunday. He had been seized with apoplexy the previous Tuesday. He was on the surgical staff of Mercer's Hospital, and of course so far involved in the conflict thereat. He was professor at the College of Surgeons, an able teacher and surgeon, and much esteemed.

The name Nixon reminds me that the accident mentioned in a former letter of mine (MEDICAL RECORD, May 15th) did not happen to Sir Christopher, as I stated "from information received," but to a namesake, as my informant tells me.

THE HOSPITAL PAY SYSTEM.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I am glad to see you take a hand in the fight for the correction of "The Abuses of the Hospital Pay System," and commend all you say in your article in the MEDICAL RECORD of June 5th. You have touched a chord that should, and I have no doubt will, electrify the medical profession at large.

Every physician knows that numerous persons, who occasionally call him in and pay him, go to the hospitals and dispensaries for treatment—"not free," they say, "for I pay for my medicine, and sometimes contribute to their support" (but they don't say how little they pay), thereby easing their conscience and pride, if they have any; and some of these people make a show of "living in style." It is a gross injustice to the layman as well as to the physician. The liberal, generous layman A contributes of his resources—which, as a rule, are not much above his necessities—to support these institutions, and never for a moment does he think of applying to them for relief, but, like the man he is, he calls in or goes to some physician and pays him for his services: while B, who is equally or perhaps better able to contribute to the support of the hospitals, does not, but does go to them for free treatment. Now B robs, yes, robs A: he might just as well take the money from the pocket of A, and use it to pay the little mite that he is required to pay for his treatment and medicine.

There is another abuse which you do not mention, but which in my judgment and experience is equally as bad as the others, and that is that the public is supporting institutions that benefit a few physicians and surgeons who are favored by appointment on the staff of the institution, and to the detriment of the many. These institutions are close corporations, and do not permit any other physician to attend even the patient he sends there, nor do they permit the patient who may elect to go to a hospital, either as "free" or "pay," the privilege of calling the physician of his

choice; he must take such as the hospital furnishes him.

Many persons are so situated that it is inconvenient, sometimes impossible, for them to get necessary care and nourishment. They may be obliged to go to the hospital, but are anxious to have and to pay their physician, who is familiar with their present as well as their past history, to continue to attend them. The moment, however, a sick person crosses the threshold of a hospital, he is deprived of his choice, and the physician loses patient and fees, while generally the hospital staff treats him free; he may, however, pay for his board, lodging, and nursing.

Every physician cannot be on the staff of hospitals, but he should have the privilege of attending the patients he sends into the hospitals; and patients who are admitted should be permitted to call any physician they may want. A few hospitals have this system, and it does not cause any friction, nor does it cast any reflection upon the institution; on the other hand, it tends to invite patronage. It is because physicians are not allowed to attend their patients who require hospital care and enter the hospital, that so many hospitals are springing up everywhere. No medical man wants to lose his livelihood, neither does he want to lose his interesting cases; therefore, if he can induce some of his friends to join him, he obtains a charter and starts a hospital. Open the wards to all physicians and you will see fewer of the smaller hospitals and sanatoriums, and the larger ones will not have to go begging for patients or money either. Let the physician have an interest in the hospitals, and he will send many patients that he otherwise would strive to keep away.

If the public knew it was supporting a system of, in reality, private sanatoriums, it would decry it, and say: "Open your doors and let in the 'light of liberty.'"

C. C. Henry, M.D.

Brooklyn, N. Y.

CONCERNING SUNSTROKE.

To the Editor of the Medical Record.

Sir: Many years ago there were general practitioners in the land—a race now nearly extinct. I remember that, when I was practising on the lower east side, just after the war, we had a "heated term," during which sunstrokes were frequent. Persons who had fallen insensible in the street were brought by policemen or passers-by into our offices, and we treated them as best we could, usually in a rear area, by pouring cold water over their heads and rubbing their bodies with mustard and water, while the policeman went for a push-cart or peddler's wagon to take the victim home or to the station house, meanwhile telegraphing for the police surgeon. There were no telephones. I think we saved some lives by this stimulating treatment, before the days of tub baths and strychnine and ambulances. We realized that we were dealing with a condition of profound nervous depression or shock, and we treated the patient accordingly.

Drs. Lembert and Van Gieson, and others who discussed the subject on Thursday evening at the Academy of Medicine, have added largely to our knowledge of the pathology of heatstroke and deserve the highest praise, but for lack of time little reference was made to a very important phase of the subject—that of prophylaxis. When the history was obtainable in the cases related, there were well-marked prodromes—such as headache, dizziness, chromatopsia, thirst, and dryness of the skin.

With this in mind, should we not warn those who are exposed to excessive heat against neglect of these danger signals? It is far better for the laborer to lose his daily wage or even his job than to work at the peril of his life. A day's rest in a cool room (if possible), with the head kept thoroughly wet, may save the life.

Can we not supplement the efforts of the board of health by suggesting to the managers of charitable societies the supreme importance of the simple precaution I have mentioned? Through their visitors they can reach the class who need this instruction the most. They might warn them also against the use of alcohol in any form, as it is certainly a predisposing cause of sunstroke in the vast majority of cases.

The fierce heat of previous summers may be repeated, and we should do our best to guard the public against it.

Henry E. Crampton, M.D.

THE COMMITTEE ON EXHIBITS OF THE BRITISH MEDICAL ASSOCIATION.

To the Editor of the Medical Record.

Sir: In justice to the writer and his committee, I would ask that this have a prominent position in the next issue of your very valuable paper. The same is in answer to an article published in your issue of June 5th, page 809, among the items of the week, having been copied from *The Lancet* of a previous date, and having additional comments, made of course in good faith by some of your staff. Now I might say that I regret that such a paper as *The Lancet* should employ one as their correspondent who would write up an article of this nature, with a vein of condemnation running through it, for the article is quite incorrect and never had the indorsement of the officials connected with the museum committee. Had such information been sought for, the writer of *The Lancet* article would have ascertained that the following was the correct state of affairs:

The museum committee of the British Medical Association has leased the largest building in Montreal, namely, the Victoria Skating-Rink, and is spending a large sum in flooring and tabling the same, having drawn up a neat, colored, lithographed plan, showing the layout, and which is being adhered to. Prices are also being maintained as originally arranged for. Space has been readily taken up, so that at the present moment there will not be much left for any who may "hysterically clamor" for the same. I might say that the American manufacturers have come forward in their usual princely manner, so that those visiting Montreal next August will be able to view one of the largest and finest pharmaceutical exhibitions ever held in North America.

As for the museum catalogue, the committee are more than satisfied with their success regarding it, both as to the style and its financial aspect. We have again to say that the success of this edition is entirely due to our American neighbors.

I presume I have said enough over my name to satisfy the readers of your valuable journal that the statements made in *The Lancet* are far from what is officially given out, and that *The Lancet's* Montreal correspondent would better in the future ascertain the correctness of the articles he sends to his paper, or I am afraid *The Lancet* readers will find Montreal news in the future a very uncertain matter, and therefore detracting very much from your contemporary across the Atlantic.

James M. Jack, M.D.,
Honorary Secretary, Museum Committee.

Montreal, June 9, 1897.

Prolapse of the Rectum.—Torsion as for urethrocele, twisting all the layers of the rectal wall to the level of the levator ani.—*Gaz. des Hôp.*

Therapeutic Hints.

Oxyuris Vermicularis.—

℞ Menthol ..... 0.25 cgm.
Ol. oliv ..... 60 gm.

Or:

℞ Ether. sulphurici ..... gtt. xx.
Glycerini ..... 30 gm.
Aquæ ..... 150 gm.

To inject after an evacuating enema.

—Comby, *La Pratique de la Méd. inf.*, 1897.

Mouth Hygiene.—The following soap is useful for brushing the teeth, etc.:

℞ Medicinal soap ..... 30 gm.
Glycerin ..... 30 "
Alcohol at 90 per cent ..... 15 "
Salicylic acid ..... 1 "
Essence of peppermint,
Coloring matter .....āā q.s.

M. S. Mouth soap.

—Chompret.

Cough of Phthisis.—

℞ Peronin ..... 0.50 cgm.
Aq. dest ..... 100. gm.

M. S. A teaspoonful in a glass of sweetened water before retiring.

Or:

℞ Peronin ..... 0.30 cgm.
Pulv. ext. glycerrhizæ, q.s. ut ft. pil. div. No. xxx.

S. Two or three at bedtime.

—Schroeder, *Therap. Monats.*, No. 1.

Rebellious Epistaxis.—

℞ Antipyrin 0.50
Tannin ..... 1.
Pulv. sacch. alb ..... 10.

M. S. Snuff several times daily.

—Rendu.

Pertussis.—

℞ Pulv. benzoini,
Bism. salicyl .....āā 10 gm.
Quin. sulphat ..... 2 "

Nasal insufflations, at first five times daily.—Moizard.

Hyperidrosis.—

℞ Bals. peruvian ..... gr. xxiv.
Ac. formici,
Chloral. hydrat .....āā ʒ ij.
Alcohol ..... ʒ v.

M. S. Apply with pledget of cotton or in generalized hyperidrosis as spray.

—Heusner.

Vaginismus.—

℞ Cocainæ hydrochlor ..... gr. iij.
Ext. belladonnæ ..... gr. iiss.
Strontii bromid ..... gr. iv.
Ol. theobrom ..... ʒ ij.

M. ft. suppositor. vaginal.

—Touvenaint.

Coryza.—

℞ Cocaini ..... gr. v.
Menthol ..... gr. iv.
Salol ..... ʒ iss.
Ac. boric ..... ʒ iij.

M. S. Use as a snuff.

—Lermayez.

Oil of Cinnamon by inhalation causes diminution in number and disappearance of tubercle bacilli from the sputum in phthisis, and tends to cure the disease by arresting growth of bacilli and by preventing organisms capable of growth from passing along the bronchi to infect new lobules.—Thompson.

Epilepsy.—Voisin maintains that of all drugs the bromide of potassium is the one which has done the greatest service. Germain Sée, Constantin Paul, Dujardin-Beaumetz, agree that bromide of strontium is less active. The potassium salt may be given to the adult up to eight or ten grams daily, and Féré has gone as high as twenty grams.—Delmis.

Bites and Stings of Insects.—Ichthyol in its purity is superior to ammonia.—Ottinger.

Toothache.—

℞ Lini aconiti (B. P.),
Chloroformi .....āā ʒ iij.
Tr. capsici ..... ʒ i.
Tr. pyrethri,
Ol. caryophylli,
Pulv. camphoræ .....āā ʒ ss.

M. S. A few drops on cotton to be placed in the cavity.

Pustular Acne.—

℞ Ichthyol 1
Bismuth subnitrate 1
White precipitate 1
Vaseline 10

S. Apply at night.

—Hebra *and* Ullman.

Hoarseness in Singers.—A light purgative, moderate diet, baked apples; spray throat with:

Cocain. hydrochlorat ..... 1 gm.
Strychninæ sulphat ..... 0.05 cgm.
Aq. dest ..... 100 gm.

and give as pastils to dissolve in the mouth:

℞ Cocain. hydrochlorat ..... 0.05 cgm.
Tr. aconit ..... gtt. x.
Sacch. alb.,
Marshmallow .....āā q.s.

For eighty pastils.

An hour before going on the stage the singer is to take five strychnine granules of one milligram each.—Ricardo Botey.

Habitual Congestion of the face in lupus, acne, varicose conditions, etc.:

℞ Dry extract of hamamelis ..... 0.01 cgm.
Bicarb. of sodium ..... 0.25 "
Calcined magnesia ..... 0.20 "
Powdered ergot ..... 0.05 "
Socotrine aloes ..... 0.05 "
Powdered nux vomica ..... 0.02 "

Two such powders daily for twenty days. Then after an interval begin again.—Brocq.

Vegetations of the Vulva.—

℞ Pulv. savin ..... 1 gm.
Alum. desiccat ..... 25 "
Hydrarg. chlorid. corros ..... 1 "

A more active application is the following:

℞ Pulv. savin,
Iodoform,
Acid. salicylic .....āā p. æ.

—*New York Medical Journal.*

Exuberant Granulations in varicose ulcers:

℞ Argenti nit ..... 50 cgm. to 1 gm.
Bals. Peru ..... 10 "
Vaseline ..... 100 "

—Unna.

Cramps of Pregnancy.—

℞ Chloroform ..... 10 gm.
Bals. Fioraventi ..... 50 "
Alc. camphorat ..... 40 "

M. S. To apply with friction several times daily to the contracting muscles.

—Tarnier.

Sulphate of Quinine in Labor.—Dr. Schwab (*Revue Obstétricale et Gynécologique*, December, 1896) considers quinine as an efficient oxytocic. Quinine stimulates uterine fibres when they have once begun to contract, and hence is useful in lingering labor; but as it does not set contractions going, it is not an abortifacient. Quinine has this advantage over ergot:

the contractions which it sets going retain their normal intermittent character. It acts within twenty-five minutes as a rule. Dr. Schwab gives a gram in two "cachets," taken at an interval of ten minutes. He prescribes this remedy particularly when the membranes are ruptured and it is advisable to end the labor as soon as possible. It is harmless to both mother and child, and, in case of failure, forceps can be used and there is no danger from the tonic contractions of ergot. There is a slight tendency to internal hemorrhage. Coules advocated quinine in abortion with retention of fœtal remnants. Schwab has used it in three cases with good results, but his experience does not enable him to say in how far the quinine contributed to the good results.

Gastric Psychopathies.—The only treatment required is to remove the subject from the influences of his surroundings, and give back to him the habits of normal alimentation by forcing him from the start to take the necessary quantity of food with proper reassurances. Once cured of their phobia, these patients must be overfed and kept upon a tonic *régime*.—SOLLIER.

Rachitism.—

R Phosphorus	0.01	cgm.
Dissolve in		
Ol. amygd. dulc.	10	gm.
Add		
Pulv. gum. arab.	5	gm.
Syr. simp.	5	gm.
Aq. dest.	80	gm.

Each teaspoonful contains half a milligram or one-twentieth grain of phosphorus. Dose below the age of one year, one teaspoonful daily; from the twelfth to the fifteenth month, two; and over two years of age, four teaspoonfuls daily.—KASSOWITZ.

Early Symptoms of Rachitis.—The very young infant and the young child suffer from rachitis in many ways. Insomnia is quite frequent. Many sleep better when carried about on the arm, because the cerebral congestion is lessened in the erect posture. As soon as they are laid down the brain becomes hyperæmic; the child wakes up and makes night hideous. Such children have night terrors on waking up; they are very irritable, easily frightened, peevish, or morose and bad-tempered, sometimes to a degree of moral or intellectual insanity. The suspicion of rachitis ought to be aroused when children perspire copiously all over, or mainly on the head. They rub their heads on the pillow to such a degree as to become bald on the occiput. I wish I could impress the necessity of connecting these signs with rachitis, and the advisability of not waiting for all its most prominent symptoms to appear before the diagnosis is made. The regulation of the diet is the principal remedy, but it is a mistake to believe that a food which does not disturb the bowels is for that reason alone a sufficient nutriment and a safeguard against rachitis.—DR. A. JACOBI, *Archives of Pediatrics*, November, 1896.

Dulcin, a derivative of Berlin blue, is said to be two hundred and fifty times sweeter than sugar. It is a crystallized white powder, fusible at 173 F., soluble in eight hundred parts of water at 15 C., in fifty of boiling water, and in fifteen of alcohol at ninety per cent. It is absolutely inoffensive in the dose agreeable to diabetics. Pastils containing twenty-five milligrams, the equivalent of five grams of sugar, have been made. The taste is much more like sugar than is the case with saccharin. Some of the author's diabetic subjects have used the preparation for a year without any bad effects.—*Journal de Medecine de Paris*, February 7th.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 12, 1897:

	Cases.	Deaths.
Tuberculosis	129	90
Typhoid fever	11	2
Scarlet fever	157	13
Cerebro-spinal meningitis	2	5
Measles	214	10
Diphtheria	261	31
Laryngeal diphtheria (croup)	12	6
Small-pox	4	1
Chicken-pox	18	0

Legislative Summary for New York State.—The public-health law was amended, § 187, so that the article relating to pharmacy shall not apply to the sale by retail dealers or merchants of ammonia, bicarbonate of sodium, borax, camphor, castor oil, cream of tartar, dye stuffs, Epsom salts, essence of ginger, essence of peppermint, essence of wintergreen, Glauber's salts, glycerin, licorice, olive oil, Rochelle salts, sal ammoniac, saltpetre, salts of tartar, sal soda, and sulphur. In the same section, "usual domestic remedies" include also paregoric and essence of anise; but the following were stricken out from the list as it was before: Epsom salts, Rochelle salts, salts of tartar, borax, sulphur, camphor, castor oil, olive oil, origanum, spike, amber, wintergreen, peppermint, wormwood, and glycerin. This amendment is known as chapter 297.

Chapter 282 amends § 20 of the public-health law, relating to local boards of health, so that the members of village boards of health shall continue in office until their successors are appointed, unless removed therefrom; provided, however, that upon failure to appoint a board of health at the first meeting such appointment may be made at any subsequent meeting, in the event of no appointment having been made by the county judge as thereinafter provided. In town boards of health the citizen added to the town board shall be appointed at the annual town meeting instead of within thirty days thereafter, and he shall hold office for one year, or until his successor is appointed. The physician appointed as health officer of the town shall be a resident of the town.

The following amendments to the public-health law did not pass, the numbers referring to sections: 145, subdivision 4, relative to admission to examination, providing that the regents may, in their discretion, accept as the equivalent of the first year of the fourth requirement evidence of graduation from a registered college after four years of general preliminary education in addition to the high-school course fixed by law as a minimum, provided that such college course shall have included not less than the minimum required for such admission to advanced standing in languages, physics, chemistry, and biology, and provided that such substitution be specified in the license; 22, providing that, when one or more towns and the incorporated villages therein unite in one registration district, the registrar of vital statistics of such combined district will be required to make separate returns to the State board of health of village and town certificates of births, marriages, and deaths; 22, allowing a certificate of birth to be returned by the parent or custodian of a child born, if there was no physician or midwife in attendance; 141, State board of medical examiners, allowing representation to the New York State Medical Association; 207*b*, giving the State Pathological Institute privileges as to cadavers from

State hospitals; 145, requiring candidates for examination for the practice of medicine to be citizens of the United States; 211 to 217, new sections requiring proper sanitary conditions and ventilation in public buildings and schoolhouses; 160, making more strict regulations for the practice of dentistry; 43, providing that the State board of health shall appoint inspectors to sample and analyze ale, beer, and porter; 148, relative to licenses, providing that applicants who commenced the prescribed three years' course provided for by section 2, chapter 468, laws of 1889, prior to January 1, 1888, who have attended upon the course prescribed by any registered medical school of this State for at least two years prior to June 1, 1892, who received the degree of M.D. from a chartered medical school prior to August 1, 1895, who received the degree of M.D. from a registered medical school prior to August 1, 1896, and who have been duly licensed by a State medical board to practise medicine, surgery, and obstetrics in such State, may without further examination, on payment of $10 to the regents, and on submitting such evidence as they may require, receive from them an indorsement of their licenses or diplomas, conferring all rights and privileges of a regents' license issued after examination; 2, allowing the governor to appoint five members of the State board of health, instead of three; 3, giving a salary of $3,000 to each of the five members to be appointed by the governor; 6, giving the State board of health power to declare garbage and fertilizer plants as nuisances.

A bill failed to pass providing for bath commissioners in cities of the first and second class. Also a bill constituting the State board of health and the State engineer a water board to investigate and report upon a supply of pure water for the principal cities and towns of the State.

Section 412, subdivision 1, of the penal code was amended so as to forbid the use of what are known as "knock-out drops." The law, chapter 42, reads as follows: "A person (other than a duly licensed physician or surgeon engaged in the lawful practice of his profession) who has in his possession any narcotic or anæsthetic substance, compound, or preparation, capable of producing stupor or unconsciousness, with intent to administer the same or cause the same to be administered to another, without the latter's consent, unless by direction of a duly licensed physician, is guilty of a felony, punishable by imprisonment in the State prison for not more than ten years. The possession by any person (other than as exempted in the foregoing subdivision) of any such narcotic or anæsthetic substance or compound, concealed or furtively carried on the person, is presumptive evidence of an intent to administer the same or cause the same to be administered in violation of the provisions of this section."

The same code was sought, but without success, to be amended so as to forbid any one to commit any act injurious to the public health, to public morals, etc. The following amendments to the code of civil procedure did not pass: Abolishing coroners' juries; requiring surrogates, besides funeral expenses, to pay all debts against the estate for services rendered and materials furnished by physicians, pharmacists, and nurses; forbidding pharmacists, as well as physicians, from disclosing confidential communications; exempting lawfully practising physicians and surgeon dentists from jury duty.

The pharmacists had a bill introduced reducing their licenses under the Raines liquor-tax law, but the amendment was passed as one of the general amendments to that law.

A law was passed permitting the examination of dental students matriculated prior to January 1, 1896, under the conditions as to preliminary education in force at the date of their matriculation; but a bill requiring persons practising dentistry to display professional signs failed to pass.

The administration of the State Veterinary College was changed as to State funds; but a bill creating a State veterinarian and several bills relating to the practice of veterinary medicine and surgery failed to pass. General amendments to the plumbing act also failed.

An amendment to the tax law was passed, providing that a lot or building owned and actually used for hospital purposes, by a free public hospital, depending for maintenance and support upon voluntary charity, shall not be taxed as to a portion thereof leased or otherwise used for the purposes of income, when such income is necessary for and is actually applied to the maintenance and support of such hospital.

Perhaps the most important bill that did not pass was that of Senator Sullivan's, relating to and defining dispensaries, requiring them to be incorporated or licensed, forbidding their establishment in a "drug store" or a "tenement house," providing that the word "dispensary" shall only be used in connection with an incorporated or licensed dispensary, that persons shall not obtain relief from dispensaries by false representations, and that a violation of this act shall be a misdemeanor; also empowering the State board of charities to make rules and regulations and to annul or suspend incorporations and to revoke licenses.

Among the other bills that did not pass were the following: Repealing the charter of the Pedic Society of the State of New York; regulating the practice of optometry in the State of New York; requiring an analysis of patent medicines; forbidding the manufacture and sale of cigarettes; forbidding the deposit of dumpage, garbage, and refuse matter within the territory of any town, village, or city, without the consent of the board of health therefor.

Laws relating to New York City were passed as follows: Amending the charter of the Society of the Lying-in Hospital relative to subscriptions, the election of subscribers as members, and the election of physicians and surgeons; amending section 484 of the consolidation act, so that every hotel, theatre, hospital, asylum, or school, hereafter built, must be fireproof if over seventy-five feet high; exempting the real estate of the Montefiore Home for chronic invalids from taxation, assessments, and water rates; authorizing, by condemnation proceedings if necessary, the acquirement of a site in the twelfth ward for a public hospital; amending the Greater New York charter so that the board of pharmacy shall be constituted, two members by the New York College of Pharmacy, one member by the German Apothecaries' Society, and two members by the Kings County Pharmaceutical Association, and providing that three-fifths of surplus and penalties shall go to the New York College of Pharmacy and two-fifths to the Brooklyn College of Pharmacy; appropriating $5,000 for the use of the health officer of the port of New York, for the purpose of preventing the introduction of infectious and contagious diseases; allowing, from the city funds, forty cents a day to the Mt. Sinai Hospital for each charity patient, the aggregate not to exceed $35,000 a year.

These bills relating to New York City did not pass: Amending section 1,776 of the consolidation act so that if any body is found lying in any street, park, or public place, or in any building where the same will interfere with the free use thereof, the officer in command of the police precinct wherein such body is found may cause removal to be made; establishing a municipal laboratory, with one department of chemistry and toxicology, and another of pathology and bacteriology; for the relief of the Beth Israel Hospital Association from taxes and water rents;

appropriating $75,000 of State money for new quarantine buildings on Swinburne Island; allowing, from the city funds, $1 a day to the Seton Hospital for charity patients, the aggregate not to exceed $30,000 a year; providing that persons retired from the health department may have half-pay pensions not to exceed $1,200 a year.

The charter of Brooklyn was amended so that the Manhattan Hospital and dispensaries were added to those already drawing appropriations. These bills failed: Changing the corporate name of the Central Throat Hospital and Polyclinic Dispensary of Brooklyn to Central Hospital and Dispensary; creating a board of physicians and surgeons for the city of Brooklyn, defining the duties thereof, and abolishing all surgeons connected with any of the departments of said city except the department of health; converting the Inebriates' Home for Kings County into a State institution, and establishing the New York State Hospital for Dipsomaniacs and Inebriates; amending the charter of Brooklyn, relating to the erection and maintenance of public hospitals for the treatment of persons suffering from infectious or contagious diseases.

Outside of New York and Brooklyn, these laws were passed: Authorizing the commissioners of the almshouse of the city and town of Newburg to pay to Saint Luke's Home and Hospital of Newburg the sum of $1,000 per annum, for the care and maintenance of indigent persons; authorizing the raising and appropriating by the towns of Hempstead, North Hempstead, and Oyster Bay of moneys to support inmates of the hospital of the Nassau Hospital Association, at Mineola, in the town of North Hempstead; allowing not to exceed twenty governors of the Albany Hospital, and authorizing the park commissioners to set apart a site for a new building; granting a charter for the House of Providence to establish hospitals, etc., in Onondaga County; allowing the supervisors of Richmond County to give not to exceed $10,000 a year to the S. R. Smith Infirmary; a new midwifery law for Chautauqua County; amending the Erie County midwifery law, so as to increase the examiners from five to nine, the term of office to be three years.

These bills did not pass: Charter for the Lucy A. Wood Rowe Memorial Association of Troy; allowing the Riverview Sanatorium at Fishkill to treat inebriates.

The supply bill had an item (which was passed) of $6,000 for the Pasteur Institute, in full, for services. The same bill contained an item of $10,000 for the faculty of the medical department of the University of Buffalo, for the equipment and maintenance of a laboratory to be devoted to an investigation into the causes, nature, mortality rate, and treatment of cancer, and the salaries of officials of the same. This item was vetoed by the governor in these words: "I cannot approve a proposed policy which requires the State to engage in the investigation of the causes of various diseases with which the human family is afflicted. I think that the interest of the people themselves and the skill, intelligence, and enterprise of physicians may be depended upon to make such investigation."

Abortion Dangerous in England.—A member of a distinguished family in England telegraphed to a no less distinguished dermatologist: "How can I abort eczema?" The police, getting wind of such a dispatch being sent, and thinking "Eczema" was a woman's name, placed the gentleman under arrest. The tragedy itself was, however, aborted by a prompt explanation that ex-Emma and eczema were not the same.

X-Rays Prevent Operation.—Dr. Vasseur, of Marseilles, swallowed a bone, which lodged in his throat. Thinking it still there, an operation was about to be undertaken, when the rays were utilized and showed that the foreign body had passed on, leaving only its irritation behind. An operation was thus obviated.—*Deutsche medicinische Zeitung.*

Unusual Foreign Body in a Pig's Stomach.—The Paris correspondent of the *British Medical Journal* relates that two banknotes of £40, enclosed in a metal sheath, were recently found in the stomach of a pig which was slaughtered immediately after it had been bought at a fair. The notes were in a perfectly clean condition, and the sheath was but slightly affected by the action of the gastric juice.

The Struggles of Sir James Y. Simpson.—A life of the late Sir James Simpson has just been published, written by his daughter, and contains many interesting facts connected with his life not generally known before. James Simpson was the son of the village baker at Bathgate in Linlithgowshire. At the age of fourteen he went to the University of Edinburgh, and was one of the hard-working, frugal race of Scotch scholars. He lived on $50 a year, his only extravagances being books. A significant entry is quoted from his diary; it is as follows: "Finnan haddies, 2*d.* (4 cents); bones of the leg, £1 10*s.* ($7.50)." In 1838, when he was twenty-seven years old, he became lecturer in obstetric medicine in the Extra Mural School. Two years after he was appointed professor of obstetrics at the university. In 1847 he discovered chloroform. At the early age of fifty-eight he died, his end hastened by overwork.

How the Smoke Test is Made.—In Mr. Wingate's communication on "The Insidious Influence of the Soil on Health" in the MEDICAL RECORD of May 1st he speaks of making a "smoke test" on a suburban residence. If not too much trouble will you kindly inform me how that test is made?

A. H. DORRIS, M.D.

LINCOLN, NEB.

[A small portable machine worked by a fan is placed on the roof of a building and the smoke made by burning tarred paper and sulphur is forced down the soil pipe and through all the branch pipes, and drains, under pressure. If there is the smallest leak in the plumbing, or if, as often occurs, any pipe is choked with rust, grease, or other obstruction, the defect can be exactly located. It is far more accurate than the peppermint test, especially as the latter is usually made.—C. F. WINGATE.]

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Original Articles.

THE TREATMENT OF ACUTE BRONCHO-PNEUMONIA IN YOUNG CHILDREN.[1]

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THE frequency of broncho-pneumonia, as well as its serious nature, makes the subject of treatment important. In early life not only do inflammations spread rapidly by continuity along the bronchial mucous membrane until soon the ultimate tubes and alveoli are involved, but the histological structure of these organs is favorable to quick inflammatory action. Thus the bronchial tubes are large, with much development of interstitial connective tissue, while the alveoli are relatively small, with thick walls that harbor many capillary blood-vessels. In young subjects the bronchi are apt to get plugged with mucus which is not easily expelled, and this may lead to collapse of adjacent alveoli and spread of the pneumonia. The walls of the chest are soft and yielding, so that the movements of the thorax in the act of respiration easily become embarrassed, especially in rickety children. Owing to the fact that the physical signs of broncho-pneumonia may be obscure, especially in an early stage, the diagnosis is often not made until the disease is well advanced. This is unfortunate, as early recognition of the grave nature of the complaint, a guarded prognosis, and vigorous measures to sustain the patient are at once demanded. In addition to merely physical signs, a careful observation of the rational symptoms is of the greatest utility. Simple acceleration of the respiration and a change in the normal ratio between the respiration and pulse will help in the way of an early diagnosis, often before the physical signs are clearly recognized. This is important, as the physical signs vary widely according to the location and dissemination of the disease process. Thus in cases in which the interstitial alveolar connective tissue is more largely involved than the alveoli, the few fine râles heard only on deep inspiration may easily escape detection, but there will always be quick and somewhat labored breathing.

As the disease advances, the dyspnœa, dilatation of the alæ nasi, recession of the soft parts on inspiration, high temperature, and prostration will give the diagnosis and indicate the treatment even in those cases in which the physical signs are uncertain and shifting. The treatment resolves itself into sustaining the vital forces, at the same time following the indications that may arise in connection with high temperature and with the disturbed functions of the heart and lungs. The latter are largely mechanical, and the embarrassment of these organs can often be helped by timely efforts at relief. The general line of treatment here mentioned has been followed in several hundred cases in hospital and private practice. The treatment directed toward the vital forces is, of course, supporting. Frequent administration of easily assimilable nourishment is indicated. Milk, meat broths, expressed beef blood raw fresh eggs well beaten, and any similar substance may be used according to the judgment of the physician or taste of the patient. When the fever is high, kumyss, matzoon, or buttermilk is often relished. Water, either plain or aerated, is grateful and may be freely administered. A mistake is sometimes made of crowding the food too much in our zeal to sustain the patient. If an excess is given the patient is distressed by fermentation, and then flatulent distention of the stomach and bowels will further impede the already embarrassed respiration. Even after absorption takes place, if the blood is overloaded with nutritive material, a further burden may be placed upon the lungs in the aid required for its assimilation. Considerable judgment is often required to push feeding just to the proper point. No drug that will irritate the stomach or interfere with digestion must be given. Any temporary benefit that may be obtained by such administration will not count against loss of strength following interference with digestion and assimilation. Depressing drugs must not be given to infants, and be very carefully employed with older children. Stimulants and supporting drugs that aid in the maintenance of the vitality have also a favorable effect upon the disturbed action of the heart and lungs, and will be mentioned in such connection.

Considering first the respiratory function, the indication is to soothe and clear out the irritated bronchial tubes, promote the liquefaction and absorption of the exudate, and prevent if possible the spread of congestion. Anything that will promote the free access of pure air to the crippled lung will be a help. One aid consists in keeping free and clear the entrance to the respiratory tract—the nostrils. A little extra secretion that is apt to collect in these parts tends to embarrass the breathing. In slight occlusion a few drops of liquid albolene instilled into the nostrils will be sufficient, especially in young infants. In other cases free irrigation with a warm alkaline wash, such as half a teaspoonful of borax to a cup of water, will produce a beneficial effect upon the respiration. The air of the room should be as pure as good ventilation can secure. Such ventilation may be accomplished by opening windows from the top or by open fires. As long as direct draughts are avoided and the temperature of the room is maintained at 68 to 70° F. in winter, too much fresh air cannot be procured. A room with a sunny exposure is to be preferred, as the air is softer. In children under four or five years there is no expectoration, and yet great relief will follow if the mucus that collects in the larger tubes and is occasionally coughed up can be removed by the finger of the nurse rather than swallowed. The respiratory muscles are weak and their action is much impeded if mucus collects in the tubes, perhaps followed by congestion and atelectasis of adjacent areas of lung. The salts of ammonium seem to be the most valuable agents in aiding to clear the bronchi. I never employ the muriate on account of its nauseous taste, but rely upon the carbonate or aromatic spirits of ammonia. These preparations are given frequently in small dose. The carbonate is prescribed in watery solution and admin-

[1] Read at a meeting of the New York County Medical Society, April 26, 1897.

istered in milk. A baby of one year can take a grain every two hours, or even every hour, if the symptoms are urgent; the irritating qualities seem to be lost when it is given in this way. Perhaps even better are from five to fifteen drops of the aromatic spirits given in water, which makes a refreshing and stimulating drink. One of the best methods of easing the bronchial secretions is by inhalations. A constant teasing cough is relieved by breathing warm moist air. An ordinary croup kettle will serve the purpose, and a few drops of spirits of camphor or turpentine added to the water in the boiler will enhance the effect. The most satisfactory method of inhalation in my hands consists in employing the Whital & Tatum No. 3 vaporizer. In this apparatus, just over the boiler and separated from it by a perforated diaphragm, is a small receptacle holding a fine sponge, upon which is placed any substance that is to medicate the steam. Two parts of pix liquida in one part of alcohol make a good application with which to soak the sponge. The vapor generated by the boiling water passes through this sponge, and the fumes of the tar added to it are very agreeable to the respiratory organs. The inhalation may be given every two or three hours, or much oftener, in highly irritable cough. If the child objects to having the vaporizer near at hand, a partial tent can be extemporized by an umbrella. The tendency toward hypostatic congestion should cause the position of the child to be changed as much as possible. Infants must not be allowed to remain all the time in their cribs, but should be occasionally held in the arms of the nurse. Counter-irritation to the chest walls seems to give some relief. The skin may be reddened by the application of mustard pastes, or in urgent cases dry cups may be employed. In average cases the skin is thoroughly rubbed with warm camphorated oil, and a jacket of cotton batting, covered with oiled silk, applied. While this may not have any effect upon the inflammatory action, it keeps the skin at a uniform temperature and seems to add to the comfort of the patient. In severe cases the respiration fails, shown by rapid and labored breathing with more or less cyanosis. Here ozone or oxygen is indicated, as it tends to stimulate the respiration as well as temporarily relieve the blueness caused by the collection of carbon dioxide. As is well known, carbon dioxide is produced more abundantly in early life than in later years; hence the lungs have relatively more work to perform. Not only are the lungs crippled in their natural work in pneumonia, but the high temperature and inflammatory action increase still more the production of carbon dioxide, so that great strain is put upon the parts of these organs that are still able to perform their function. Add to this the filling of the bronchial tubes and the poor development of the respiratory muscles, and we can understand how a weakening and failure of respiration are what is constantly to be dreaded. The blood charged with carbon dioxide tends to sluggish movement in the lungs, soon followed by exudation and emigration into the alveoli and tubes. The fatality would be much greater were it not for the compensation of a vigorous heart and blood-vessels, and here is where the greatest advantage can be pursued in treatment. The right heart, which has to bear the brunt of the pulmonary obstruction, is relatively strong in early life, while the arteries, being healthy and elastic, aid the action of the left heart.

Thus in children with any form of pneumonia, heart failure is apt to be secondary to respiratory failure, just the reverse of what usually happens in adults. As the respiration becomes weaker and the lung more congested, the blood collects in the veins from the pulmonary obstruction, and the indication is to prevent stasis in the lungs by stimulating the heart, at the same time drawing off the blood as much as possible into the arteries. This may be accomplished by dilating the arteries, which, by lessening the amount of blood in the veins, takes off some of the pressure from the engorged pulmonary circulation. Nitroglycerin is thus most valuable in relaxing the arterial system, and hence to a certain extent emptying the veins into the arteries. One-two-hundredth of a grain may be given every two hours, or oftener in urgent cases, to an infant of one or two years. I have recently given nitrite of sodium, as it is reported to be more prolonged in its action than the nitroglycerin. Aconite will likewise relieve arterial tension, but is depressing upon the heart and should be carefully given in the pneumonia of childhood. One of the best stimulants to the heart and respiration, as well as the nervous system, is sulphate of strychnine. This is one of the most valuable drugs we possess in the treatment of pneumonia, in combining this threefold beneficial action without increasing arterial tension. One-four-hundredth of a grain of sulphate of strychnine may be given to a baby of a year old every two, three, or four hours, and even larger doses may be administered in urgent cases, as tolerance is soon established. Alcohol is also one of the best stimulants, and a one-year-old baby may have thirty drops of whiskey, well diluted in water, every two hours. This may be increased or diminished according to indications. In septic cases and in those marked by great prostration, alcohol is beneficial in large doses in sustaining the vital forces and the heart, and at the same time relaxing the arteries. In average attacks, however, it is best not to push alcoholic stimulants, as they frequently have the effect of lowering the tone of the digestive organs, especially if given for too long a time. Camphor and caffeine are occasionally to be given, and may be substituted for the alcohol. Digitalis is administered carefully, if at all, on account of its tightening effect upon the arteries, which increases the work of the heart as well as the venous congestion. If employed, it should be combined with a vasodilator.

With reference to temperature, no treatment is indicated in average cases. Especially is the use of the wood-tar derivatives to be deprecated. They are apt to be more harmful in their effects than the high temperature if let alone. Phenacetin is sometimes useful in small doses for the relief of nervous irritation and pain, and may thus be given combined with a stimulant. The application of cold is much the safest and most effectual way of reducing high temperature. Placing an ice poultice, made by mixing finely cracked ice with flaxseed meal, around and on top of the head is often effectual. This likewise relieves, to a certain extent, the deleterious effects of very high temperature upon the brain and nervous system. I have often used cool compresses around the chest, and when this procedure is properly followed it is rarely if ever necessary to employ the bath or the general cold pack. The child is stripped, wrapped in a blanket, and placed upon a table. A stimulant is given and the feet are placed in contact with hot bottles. A compress sufficient in size to surround the chest is plunged in water from 80° to 90° F., and applied about the chest. This is changed every ten or fifteen minutes, the temperature of the water being gradually lowered until the desired result is obtained. In cases of intra table fever, it may be necessary to reduce the water to 40° F. As long as the hands and feet are kept warm, the cool compresses may be applied, but coldness of these members is a contraindication to the local or general application of cold. When the temperature is reduced to 102° or 103° F., the compresses are not renewed, but are kept in position in case the temperature ascends again to an unsafe degree. In the mean time they act in the same way as a cotton-batting jacket.

I have sometimes kept a child in this position for several days, applying cold when indicated by hyperpyrexia, which tends to recur. This clinical fact is probably explained by a mixed infection, and not the pneumococcus alone being responsible for the disease. Wide variations in the temperature point to the former condition. When the temperature rises to 105° or 106° F., the respirations and pulse become extremely rapid, and unless the fever is quickly reduced there will be spread of the disease as well as great prostration. The reduction of the temperature by one or two degrees will sometimes mean 20 or 30 less respirations to the minute, with corresponding improvement in the circulation and general nervous tone. The cool compresses to the chest produce this result more safely and handily than any other method with which I am familiar.

To sum up, the treatment resolves itself into careful nourishment and support; in keeping the respiratory passages as clear as possible, from the nose to the ultimate bronchial tubes; in trying to maintain as good an action as possible of the lungs, and avoiding increased congestion and pulmonary obstruction by means of proper stimulation of the heart, and equalizing the balance of the circulation between the veins and arteries; in attacking hyperpyrexia. Frequent doses of strychnine and nitroglycerin are the drugs found most useful.

A STUDY OF MAXIMUM *X*-RAY EFFECTS WITH THE STATIC MACHINE.

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In the MEDICAL RECORD of February 6, 1897, I presented general memoranda of my observations with Crookes tubes and static machines prior to December 15, 1896, and expressed conclusions based upon experiments in adapting vacuum tubes to the discharges of the therapeutic Holtz machine so that satisfactory *x*-rays could readily be obtained without failure, fluctuations, or puncture of the tube.

These conclusions, which are confirmed by time, were: 1st. That no method now known, however costly, will surpass the efficiency of the Holtz machine with tubes suited to it. 2d. That the Holtz machine and tubes adapted to its maximum discharge will readily and economically equal or surpass the best *x*-ray effects producible by any or all other means of electrical excitation with any design of tubes that can now be obtained.

In that report no attempt was made to consider maximum effects or to determine the ultimate capability of powerful static bombardment in high vacua, and the results then spoken of can now be obtained by any physician employing similar apparatus and methods. It is of interest, however, to consider what are the present ultraordinary effects at the disposal of the surgeon who seeks to locate promptly a bullet in the skull, thorax, or pelvis, or to make an instantaneous examination into any of the larger joints and deeper structures of the body. It is becoming more and more manifest that beyond the ordinary *x*-radiance which suffices for examinations of the small joints and thinner portions of the body, there is an urgent demand for facilities to invade with the eye and the fluoroscope the densest opacity that the human trunk presents. All physicians now recognize this fact and eagerly inquire what can be done in this respect. I shall here set forth the notes of some recent experiments.

Given a powerful Holtz machine and the best fluoroscope, *x*-radiance beyond the ordinary depends upon the tube and the operator's skill. A high-efficiency Crookes tube is therefore the most essential factor in the maximum surgical utilization of *x*-rays. It is an instrument of extreme delicacy and variable nature, and is adapted to the uses of the expert rather than the beginner. To deserve the term high efficiency the selected tube must readily and profusely produce *x*-rays of constant and steady action which will penetrate powerfully to a considerable distance and give sharp detail and definition to shadows. Such a tube requires a high vacuum, and, while tubes of lower resistance can be kept in continuous action with the static machine for more hours than any operator would desire, the achievement of higher intensities is accompanied by some limitation in the time during which uninterrupted excitability can be maintained.

Intensity in effect within vacuum tubes is proportionate to intensity of cause, and the *x*-ray potential rises toward the maximum in proportion to the expenditure of high potential electrical energy. A high-resistance state is therefore required for maximum results, and it will be found to demand a reasonable practice in tube manipulation to operate a really magnificent high-vacuum tube and produce its startling and grand effects. As the same demand for reasonable skill exists in all fields of instrumental work, the fact can hardly be cited as a deterrent peculiar to Crookes tubes. In testing a large number of tubes which have been made according to my suggestions, and which physicians can now readily obtain, I have observed the following effects under favorable conditions:

(1) A completely darkened room, daylight and gaslight excluded, and the eyes reasonably guarded from the bright glow of the tube, so as to prepare them for the differentiation of dim shadows.

(2) A competent fluoroscope. That used by me at present is one of the improved barium-platino-cyanide screens recently introduced.

(3) A high-efficiency Crookes tube developed to its maximum of *x*-ray generation.

(4) An eight-plate Holtz machine producing its maximum current.

(5) A pair of the usual interrupters correctly adjusted to suit a given tube and current.

Tests.—My test piece is a strip of half-inch pine board backed with assorted metallic objects of various sizes, from a small point to a medium-sized key, and wound with a dozen spirals of fine copper wire.

The shadow of the key is visible through the board at thirty-six feet distance from the tube; at fifteen feet the small objects and fine wires show plain definition; at five feet the board is like thin porcelain held in front of an incandescent lamp; and at six inches the test piece appears almost in a glow of light.

Placing Webster's "Unabridged Dictionary" and two encyclopædia volumes six inches in front of the tube, I have an aggregate of thirty-six hundred pages of paper plus six heavy board covers, through which the objects upon the test piece against the screen are clearly defined to the eye. Through a metal footplate electrode, composed of two heavy layers of sheet copper one inch apart, the objects on the test piece are visible twelve to twenty inches from the tube.

The mechanism of the hand, wrist, arm, ankle, and all small and thin parts appears upon the screen three feet from the tube. Between the distance of thirty-six and twelve inches from the tube, all gradations of transparency, such as the surgeon may require for these parts, are secured. When the object is nearer than twelve inches, the bones become sufficiently transparent to allow the ready detection of a broken needle embedded in the radius or ulna, or bones of

the hand, one of the most difficult of foreign bodies to locate with the fluoroscope.

The shoulder and knee-joints are quite distinctly shadowed at three feet from the tube, and the increase in transparency up to six inches is adequate for full surgical examination.

The head of a grown person viewed through the screen from side to side at all distances, from three feet down to four inches between the tube bulb and the ear, shows increasing transparency, until not only the lighter portions—frontal sinus, antrum, nose, etc.—are penetrated, but any small metallic object placed opposite the thickest part is plainly seen wherever it is moved, showing that a bullet anywhere in the head could be quickly located with ease. At the maximum of radiance the transparency of the skull is about equal to the transparency of the hand as exhibited to me by operators employing tubes of ordinary efficiency with medium-coil currents.

The spinal column and the osseous detail of the trunk are visible in clear outline and may be studied in different degrees of transparency at all distances up to three feet. The detection of a bullet, fracture, or dislocation by the fluoroscope in even the densest parts of the body is thus assured with these rays.

At between three and four feet from the tube the heart of an ordinary man is seen in nearly normal position and size. In a man of spare build it is as plainly seen, in as sharp detail and exact definition, as would be a pear or acorn held behind the fluoroscope. The heart shadow is magnified (as are all other objects) when inspections close to the tube are required by low-efficiency apparatus, but when thirty or forty inches may intervene between the eye and the reflector the mass of the heart stands out in clear and undistorted relief upon the fluorescing screen. The MEDICAL RECORD of April 10th contains an article upon "Fluorography for Determining the Position, Size, and Movements of the Heart." It describes quite a complicated and rather uncertain process of mapping or tracing the heart outline, a process which consumes, it is said, about fifteen minutes' time with an expert, and can hardly be accomplished at all in many subjects. I would like to quote the technique in full, but it fills seventy lines of the MEDICAL RECORD, and space forbids. With a high-efficiency tube my own technique consists in seating the patient on a stool a couple of feet in front of the tube, with the screen over the heart anteriorly. I then sit down and look into the fluoroscope while the patient shifts forward, until the heart shadow is most distinct. That is all there is to it. As the whole outline is clear cut and sharp, there is no need of tracing paper, the draughtman's art, or the delay of the fluorographic method so interestingly reported as the outcome of a month of experiment and study. I do not need to "map out the heart with a tracing pencil," for I can see it with sufficient plainness in almost every subject examined; but the recent discussion before the Academy of Medicine illustrates the difficulties against which operators without high-efficiency apparatus have been earnestly contending in their enthusiastic desire to harness the *x*-ray to important medical uses.

The advantages of great penetration, sharp definition, and wide radius of action are too obvious to require comment (for every one is seeking them), but one of the interesting side effects in my own experiments has been the observation of my own vertebræ, shoulder-joint, clavicle, ribs, and heart movement, as well as outlines of the skull bones through their covering. The shadows thus seen are distorted by the necessary position of the screen, and are by no means so clear as when witnessed by a second person who does not have to crane his neck to peer into the fluoroscope. A modified shape of this instrument could, however, easily be devised to enable every physician either to note his own anatomy or gratify others who might desire to do so.

In respect to photographic work, it is sufficient to say that by the aid of *x*-rays that penetrate rapidly to long distances the object may be placed at more than ordinary distance from the tube if desired, and the familiar exposure time may be reduced. At sixteen and a half inches I have secured the ribs of a man upon the negative in one and a half minutes, but for a full and satisfactory picture of the trunk of the body, showing all the osseous detail, five minutes should be allowed, with the sensitive plate twenty or twenty-five inches from the reflector. The pelvis and knee have thicker bones, and exposure times for these must be governed by the result desired, but any picture that formerly took thirty minutes with good apparatus can now be made in one-third of the time.

These capabilities indicate an efficiency which will prove helpful for rapid surgical examinations in all parts of the body. To reduce penetration when examining thin parts and small joints, we have but to slow down the machine a little to reduce the potential of the current; or we may remove the object farther from the tube, for penetration is inversely as the square of the distance from the source of *x*-rays, and if objects of small opacity are too transparent when within the field of maximum radiance, it is simpler and easier to move back ten, twenty, or thirty inches from the tube than to modify the action in any other way. To examine thicker objects requiring maximum penetration, revolve the plates at the greatest safe speed and approach the object and fluoroscope as near to the tube as proper definition requires.

With regard to the tendency of a high-efficiency Crookes tube to increase its already high resistance during active electrical excitement and the consequent increase of difficulty in its satisfactory operation, I may say that such a tube should glow promptly upon starting the machine into action, and maintain an even and brilliant radiance during a reasonable length of time, or be caused to do so by such reasonably brief manipulation as nearly every tube in frequent use requires. By this is meant a period varying from a few seconds to five minutes. If occasionally, at very rare intervals, I consume ten minutes in establishing the desired action, I do not complain, but never spend more than this time upon a single tube to get it started. When it is once in proper action, I expect it to maintain its radiance as long as wished, without stopping the machine. From thirty minutes to two hours may be considered long enough for practical purposes, for coil tubes are usually rested at very short intervals.

When, however, a high-efficiency static tube is successfully started into action and is pushed for magnificent effects by an expert operator, who drives through this fragile cell the most furious electrical tornado that can burst forth from the flying wheels of a powerful Holtz machine, the polarization may suddenly become rapid and the tube may revolt at further work. It then needs treatment according to the phenomena displayed. A single tube will not work daily

with uniform efficiency, for very near the border line of maximum effects there may be developed a resistance so great that the current will not establish a circuit through the vacuum. It does not, however, permanently disable the tube when this border line of high excitability is once passed, for again and again throughout months of service we can reduce the resistance, bring back the proper electrical state, and repeat for an indefinite number of times the best effects that were obtainable in the beginning.

When the original construction and exhaustion of a Crookes tube has been demonstrated to be correctly adapted to the static current, we may feel confident of securing in future work the equal of the best radiance that was produced when the earliest test was made. This fact is reassuring when at length we find that a time-tried and priceless tube appears to have lost its glow forever. At this point some operative experience and skill are a source of confidence and serenity, for in two or three minutes often, and almost certainly within ten minutes, we may coax back the radiant glow as steadily as before. If overuse has altered the resisting state until it will not yield immediate surrender, the expert does not hover in eager and anxious uncertainty over the vacuum, but at once recognizes the nature of the functional derangement and proceeds according to the indications for treatment; and if the tube finally needs a fresh exhaustion, this involves but a small cost.

It constitutes a great economy of time as well as an unspeakable comfort to be able to step from guesswork to certainty in understanding the behavior of a Crookes tube; to know at a glance or by a moment's test whether it is a good tube or a poor one; whether any apparent revolt is acute or chronic; whether it is past remedy, or whether it can be quickly recalled out of apparently hopeless aberration and illuminated again with the glow of its best estate. When we know at once what is the matter with a refractory tube and how to correct it, we have made a long step toward satisfactory *x*-ray work. It is the state of doubt as to the significance of phenomena visible within a tube which perplexes and distracts the uninstructed physician. Maximum effects of any kind, or such as I have referred to above, are now equally within reach of any physician who understands the management of *x*-ray tubes. My remarks here do not apply to occasional flashes of great radiance followed by days without again witnessing a similar view, but report effects which are reproduced at will at different times with different tubes, and as often as the conditions are made to conform to the limitations of the fluoroscope.

Simplicity, convenience, and safety in static machine work stand out in strong contrast with other methods of *x*-ray generation. During the height of current action the operator may safely touch any connecting wire and with impunity hold the bulb of the glowing tube in his hand; nor does the current need to be switched off every five minutes to cool the tube. When I once start a demonstration with a given tube I do not stop the current till I get through, and thirty minutes' continuous action produces no apparent necessity for any cooling process.

In closing this report I may again repeat what I stated in my former article, that since September 1, 1896, I have never punctured or broken one of my own tubes in regular work. I may also add that I find the improved interrupters, as somewhat modified by my further experience, a decided convenience in adjusting the current strength.

865 Union Street.

Gonorrhœa.—The urethra will bear contact of water at 113° F., which prevents development of gonococci. —Callari.

REPORT ON HYDROPHOBIA.[1]

By CHARLES W. DULLES, M.D.,
PHILADELPHIA.

It is now eleven years since the Medical Society of the State of Pennsylvania, by resolution, requested me to continue the studies in regard to hydrophobia of which at that time I made a report, and to communicate the results of these studies to it from time to time. Several of these communications have already been made, and I now wish to report the cases of so-called hydrophobia that I have collected and studied during the two years since the meeting in 1895. The accumulation of these cases has required a great deal of labor, and I have taken pains to verify, as far as possible, the facts, and to correct the errors of published accounts by correspondence with the physicians who have had the care of the cases. I have sent to a large number of physicians a blank, in order to obtain answers of a systematic character. Many of my correspondents, in addition to filling up these blanks, have communicated with me by letter, explaining points outside of those referred to in the blank, or giving fuller details than the blank permitted.

I think it proper to remark (as others may) that there have come to me only those cases occurring east of the Mississippi River. I have at times had information of cases further west, but either the disease is very infrequent in the far West or the reports of cases do not reach the East as do those of cases occurring in the latter section.

I find that I have collated forty cases. Of these, twenty-three occurred in the States of New York, New Jersey, and Pennsylvania; six occurred in Ohio, Kentucky, and West Virginia; four in Maryland; one in Washington, D. C.; two in Georgia; two in Louisiana; and one in Illinois. A large number of these cases, to my mind, fall plainly under the head of spurious cases, but they have all been considered by those who treated them, or by their friends, as genuine cases of hydrophobia. For example, a little child died last year at the Pennsylvania Hospital, in Philadelphia, of what was believed to be hydrophobia by the medical men in attendance, though experimental investigations made by the then bacteriologist to the Board of Health of Philadelphia, Dr. Bolton, led to absolutely negative results; and, according to the test which is spoken of as infallible by those who follow the lead of Pasteur, the child could not have died of hydrophobia. Another case was that of a man believed to have died of hydrophobia, but who was found by a coroner's inquest and autopsy to have died of pneumonia and uræmia.

Two very striking cases occurred within a year at Duryea, near Wilkes-Barre, Pa. One was that of a boy bitten by a dog that had no symptoms of rabies whatever, who was sent to New York and treated in the Pasteur Institute, and soon after his return (May 12, 1896) died of paralytic rabies—a form of rabies that was unknown before the time of Pasteur's so-called prophylactic treatment. The other boy died March 14, 1897, six or eight weeks after a dog bite, and my correspondent in Duryea writes me that a dog and three other children bitten at the same time are still alive and well. The boy that died lived within five hundred yards of the boy that died in 1896, and he had been so talked to about hydrophobia and was so nervous that he was in constant dread of the disorder and was afraid to go abroad.

A specimen of an imperfect account is furnished by the case of a man who died July 23, 1895, in Chicago. The victim had rescued a child from the attack of a dog some months before at Perth Amboy, N. J., and was bitten in the leg. He was cauterized. After the

[1] Read before the Medical Society of the State of Pennsylvania, May 18, 1897.

lapse of several months he appeared in Chicago, unable to talk coherently and not able to remember how he had reached Chicago from New York. The account states that "a physician declared that Bulow had the rabies." He was strapped in bed, and in a short time died.

Another curious case is that of a little boy, who died February 19, 1896, in Brooklyn, after an attack of some apparent inflammation of the throat, and the opinion given by a physician of the New York Pasteur Institute that his case was hopeless. It is regretted that chloral was freely administered from first to last. At an autopsy it was found that the cause of death was œdema of the lungs, while the meninges of the brain were somewhat inflamed. The father of this boy was treated at the New York Pasteur Institute, because it was feared that he had received some of the boy's saliva in a cut (how recent is not stated) upon his thumb.

Another interesting case is that of a young woman of New Jersey (whose death is not recorded and whose case is not in my table), who, in March, 1896, had all the symptoms of hydrophobia except inability to swallow—which the account hopefully says "may come later." She was a nervous person. Her clothing had been torn by a dog, although her skin was not injured. She was a constant reader of hydrophobia literature.

A point of interest to me in this investigation has been to compare the number of deaths that I find after bites of animals believed to be rabid with those that are the foundation of a great many statistics. In 1895 I reported finding three deaths in one hundred and seventy-five persons bitten. Of these three, one had been treated in the Pasteur Institute in New York; of the second I have no details at all; and the third was a child that died three weeks after being bitten, and while the dog was still alive and as active as ever. Since then I have investigated ninety-two cases of persons bitten by dogs believed to be rabid, with five deaths; and every one of these five patients had been treated at the New York Pasteur Institute. In these cases the bites were inflicted by animals that bit one or more persons and animals.

The figures just given, of course, do not represent what could be considered as an absolute ratio of deaths to the bites of animals believed to be rabid. They deserve careful consideration, however, from the fact that persons bitten under circumstances of such grave suspicion and so naturally alarming might be expected to furnish quite as large a quota of deaths as any class of bitten persons.

The most dramatic occurrence of the past two years in connection with hydrophobia is unquestionably the death of four children in Baltimore out of eight bitten by one dog, and all treated at the New York Pasteur Institute. I have a large correspondence in regard to these cases, and I went to Baltimore to learn more about them. I found the medical profession in that city naturally much impressed, and disposed to accept the opinion of those who attributed the deaths to the dog bite, and not to the treatment; but from my knowledge of the disease and my acquaintance with the peculiar features that have been introduced into its symptomatology since the practice of so-called "protective inoculations," I am strongly of the opinion that the boys died partly of laboratory rabies, partly of dread and mental impressions, and partly from the way in which they were treated. I am impressed more and more every year that the general mode of treating hydrophobia—the mode recommended in the text-books—is probably responsible for a considerable number of deaths charged against the disease. It is to me a most astounding thing, that when it must be known that narcotics have never rescued a single person from death, medical teachers will advise and medical men will practise the treatment of these diseases with morphine, atropine, chloral, bromides, and chloroform. I am satisfied that it would be better to administer no medicine at all than to continue this pernicious practice. One of my correspondents writes me that the father of his patient—a veterinary surgeon bitten by a dog that was not rabid, and who endeavored to fortify himself against his obvious fear by reading on the subject—requested him to give something to his son to kill the latter. He writes further that this he did not do, unless it might be that the opiates he gave produced the desired result.

A case interesting to me has occurred within the past year. Last May a child was brought to me, who had been bitten by a stray puppy with which it was playing. The child's wound was cauterized with nitrate of silver soon after. The dog died of fits at the Philadelphia pound, where the pound keepers state it was not rabid. A veterinary surgeon who had seen the dog and was obviously afraid of it, said that the dog was rabid. Experimental inoculations made with the medulla of the dog by the bacteriologist of the city of Philadelphia killed rabbits, and the opinion was positively given by the bacteriologist and by the coroner's physician of Philadelphia that the dog was rabid and that the child was in great danger. The father was advised to send the child to New York. At the suggestion of a physician who was interested in my investigations, the child was brought to me. I measurably allayed the horrible anxieties of the father and mother, although it was impossible entirely to remove the effect of what had been said to them, and undertook the care of the child. That child is to-day in perfect and blooming health. From what I know of the nervous make-up of the whole family, I should fear very much the effect on his mind of such associations as are inevitable to those who go to a Pasteur Institute for treatment, even if the inoculations there practised did not produce that deadly disease known to noncredulous observers as "laboratory rabies."

I have sometimes known a great deal to be made of the occurrence of so-called hydrophobia in very little children, and I have in my records cases of abject fear and a certain knowledge of the symptoms in children four or five years old, and I personally know of children under four years of age whose dread of dogs is so great that they might easily have the symptoms of any disease shaped largely by what is with them a dominant idea.

In this connection I may speak of what I may call a dominant idea of physicians and of the laity, namely, that persons with so-called hydrophobia may inoculate others with the disease. This is an absolutely [illegible] idea. There is not, in the whole history of hydrophobia, a single credible case in which a person suffering with hydrophobia has communicated this disorder to another human being or animal, and it is safe to say that all persons suffering with this disorder who show a disposition to bite are simply maniacal. My own observation and my studies convince me that those cases which have the greatest claim to consideration as cases of inoculation with rabies, present no such symptom as imitation of the action of dogs or a disposition to bite. When I read accounts of children only nine or ten years old requiring the combined strength of several men or restraining with ropes to keep them from injuring others, I regard it as a sad demonstration of the profound ignorance that members of the medical profession share with the laity in regard to this subject, and the weakening of their judgment by their fears.

In concluding this informal presentation of the panorama that has passed before me in the last two years, I would like to make a brief statement in regard to my own position.

I began to study hydrophobia more than fifteen years ago, and I have tried to familiarize myself with

the literature of the subject from the earliest times until the present; I have seen three cases in my own practice and in consultation; I have carefully studied the details of thousands; I have followed the discussions on the subject which have taken place in scientific societies in every part of the world; I have kept track of the doings of Pasteur and his colleagues and followers year by year since they were first made public; I have had a very large correspondence from all parts of the world in regard to it; I have tracked up many cases to ascertain facts not stated in public accounts, or to obtain explanations of what was stated; I have studied the diseases in which the symptoms of so-called hydrophobia occur, and I have endeavored correctly to interpret the facts that I have collected. At the beginning my views were those which I presume are now held by the most cautious minds; but, as my study has progressed, I have become entirely satisfied that hydrophobia cannot be considered as a specific disease. I think the word "hydrophobia" should be used just as we use the word "convulsions," without prejudice as to the cause of the phenomena. There can be no doubt that death with a peculiar train of symptoms has often followed the bite of a dog; but these symptoms and the usual fatal issue are in no way peculiar to injuries inflicted by animals believed to be rabid. There are very many cases in which the belief in the madness of the dog rests wholly upon the result in the person bitten, and it is not scientific to assume that this belief is more than a belief; and no person fit to discuss the question would treat it as a demonstration. Further, the symptoms appear in a great many diseases, and persons bitten by dogs enjoy no immunity from these diseases. Besides this, there are many cases in which persons have died of hydrophobia while the dogs have survived. There are other cases in which the symptoms of hydrophobia have appeared after various traumatisms; and such a traumatism as is caused by a dog-bite may (without assuming the presence of a specific virus) lead to nervous symptoms and death.

It is curious, in considering the effect of dog bites, to note that they should cause so many deaths in what we may call the private walks of life, and practically none among men who are constantly handling large numbers of dogs. My notes furnish me with but a single case of death from hydrophobia occurring in the person of a keeper or attendant in a public pound in any large city in the world, from Paris to Philadelphia, and from Moscow to San Francisco. The same is true in regard to persons who habitually take stray dogs upon the street, such as dog catchers, policemen (as in London), and the attendants of such an institution as the London Home for Lost and Straying Dogs, where over two hundred thousand dogs have been handled without a case of hydrophobia. I have consulted a number of keepers of so-called "kennels," and I have never learned of a death among any of them, although I have found innumerable bites, many of them by dogs believed by their owners to be rabid. It is a remarkable fact also that, though there has been such a fever of excitement about rabies in Paris in recent years, I learn of no deaths among the pound keepers and attendants there. If the bites received by the persons employed in such places could be counted, the customary figures in regard to the ratio of deaths to bites would have to be enormously modified. The often-quoted guess of John Hunter of 1 to 20, or the new-fashioned one of Pasteur of 1 to 16, would probably have to be exchanged for one much lower than that which I have seemingly gathered, of 1 to 75 or perhaps 100.[1]

All these things and many more that I cannot recount have led me to my present conviction.

[1] Let it be understood that the figures above, 5 to 92, I am disposed to attribute to the treatment of the Pasteur Institute.

Progress of Medical Science.

Treatment of Acromegaly with Pituitary and Thyroid Extracts.—At a recent meeting of the Medical Society of London, Rolleston (*British Medical Journal*, April 17, 1897) exhibited a woman, twenty-six years old, who had suffered from acromegaly for upward of two years and who for a period of five months had been treated with mixed pituitary and thyroid extracts, with great improvement. The superficial resemblance between acromegaly and myxœdema seemed to justify the administration of thyroid extract, especially as in several cases of acromegaly treatment with pituitary extract alone had failed to effect any improvement.

Unsuccessful Splenectomy for Rupture of the Spleen.—Strange and Ware (*British Medical Journal*, May 1, 1897) have reported the case of a laborer, fifty-one years old, who, while driving a cart, fell between the shaft of his own and the wheel of a passing wagon. He stood up and was taken to a neighboring inn, where brandy was administered, and he was then driven to the hospital. On admission, he complained of pain in the abdomen, especially on the left side, and he looked extremely ill. His face was pale, his lips were blue, his respirations were rapid, and his pulse was very collapsing. There was no evidence of fracture of ribs. The abdomen was almost motionless and the left side was exceedingly tender, there being distinct dulness in the flank, which did not alter with change in position. The right flank was resonant, except toward the extreme back. The urine contained no blood, and the bowels acted naturally. The condition of the patient grew progressively worse. The pallor had become intense and the pulse was extremely rapid and almost imperceptible; the dulness in the left flank now extended nearly to the middle line. A diagnosis of internal hemorrhage, with probable rupture of the spleen, having been made, two and a half pints of normal saline solution at a temperature of 105° were injected into the median basilic vein, and the abdomen was opened in the median line by an incision from about an inch below the tip of the ensiform cartilage to the umbilicus. There was at once a gush of blood from the peritoneal cavity. The liver was found to be intact, but after clearing out and tearing through large quantities of blood-clot the spleen was felt to be extensively ruptured on its anterior border. On attempting to bring the organ forward, it was found to be firmly fixed and of abnormal size. The adhesions were torn through, a transverse incision being additionally required, and at one spot on the convex surface the splenic substance was found to be torn. The spleen was now brought forward, traction on the pedicle increasing markedly the already collapsed condition of the patient. The pedicle having been tied with silk in three parts and the spleen removed as rapidly as possible, the peritoneal cavity was cleansed by means of sponges of an immense quantity of liquid and clotted blood. Transfusion was again resorted to and strychnine administered hypodermically. The patient, however, failed to rally and succumbed before the abdominal wound was entirely closed. The presence of adhesions, which were an unexpected complication, was attributed to previous malarial infection contracted in India.

Fibrinuria.—Dr. Arthur Klein gives the history of a case in which fibrinous clots were passed, and analyzes the previously recorded instances (four in number) in which this has occurred. The patient was a man of fifty-two, who had been ill for fifteen months with cough, headache, and dyspnœa on exertion, to which had recently been added swelling of the extrem-

ities and rigors (*The British Medical Journal*). Examination led to the diagnosis of Bright's disease; the urine was acid—specific gravity, 1.013—and contained a large quantity of albumin, with numerous hyalin and epithelial casts. Treatment consisted in hot baths and milk diet, and the patient improved considerably, the œdema almost completely disappearing. Ten days after admission it was noticed that the urine, which was slightly alkaline, contained a large number of grayish-white clots, some rounded and others flattened, and varying in length from half an inch to four inches; some were as much as two inches thick. These, if allowed to stand, settled to the bottom, and the supernatant urine sometimes showed a further curious phenomenon in the shape of fine threads which formed a network extending throughout the fluid. On shaking this became detached from the sides of the vessel, and formed a well-marked clot; the urine had thus clotted just like a serous fluid. The amount of deposit remained constant except just before a rigor, when it diminished, to return to its former amount with the subsidence of the temperature. If the clot were allowed to remain in the urine for a few hours, it disappeared entirely, probably by a sort of process of self-digestion. Chemical examination proved the clot to be composed of fibrin. The urine from which it was deposited showed, as compared with that voided at other times, alkalinity, much diminution in solid contents, an especially minute amount of phosphates, but an enormous quantity of albumin. There could be no doubt as to the renal origin of the fibrin, but it was very hard to define its pathological cause: evidences of nephrolithiasis, kidney abscess, etc., which had been present in former cases, were here wanting, nor did hæmaturia ever appear. Klein attributes the coagulation to the alkaline reaction, the large quantity of albumin, and the almost complete absence of phosphates; it bore also, no doubt, some relation to the sudden rigors and rises of temperature. Some time after the completion of the experiments the patient became worse and died; the kidneys were found to be in a condition of amyloid degeneration, and their tubules contained hyaline masses and threads giving Weigert's reaction for fibrin. Klein adds the notes of analyses of two other kinds of clots. The one was found in the urine in a case of cystitis; it consisted of a nucleo-albumin inclosed in a capsule of mucin. The other was a cast from a patient suffering from plastić bronchitis, and this failed to give the fibrin reaction either in bulk or in section; it consisted of mucin, and contained large colonies of diplococci.

Origin of Fat in the Body.—The subject of the origin of fat has once more been taken up by the experimentalist. Many years have now elapsed since the well-known French chemists, MM. Dumas and Boussingault, as the outcome of their researches, maintained that animals, whether herbivorous or carnivorous, were supplied with all their proximate principles by the vegetable kingdom—the former class directly, the latter indirectly through the herbivora on which they preyed. Animals, according to these observers, did not make fat, sugar, or albumin, but derived each and all of these substances from plants. This position was contested by Liebig, who contended in regard to fat that this was not altogether obtained by animals from the fat of their food. On the contrary, they were able to make it with either sugar or starch. He pointed out, as Huber had done before him, that bees fed on sugar or honey alone were capable of forming fat in the form of wax, but Huber had omitted to weigh the bees before dieting them, and Dumas and Boussingault ingeniously argued that the wax formed on a diet of pure farina or sugar was originally stored up in the bodies of the bees and utilized by them in the construction of their combs. Liebig therefore still supported the view of Huber, and held that the greater part of the fat which is deposited in the animal body and that which is found in the milk of nursing mothers is formed in the body and almost exclusively from the hydrocarbonaceous compounds of the food. The albuminoids, he thought, played quite a subordinate rôle from this point of view, as, indeed, seemed probable when it was considered that the food of the herbivora which store up much fat is chiefly composed of carbohydrates, while the bodies of the carnivora, whose food is chiefly albuminous, contain little or no fat. Moreover, he experimented on a goose, which from a lean condition was fattened to such an extent that three pounds of fat were obtained from it, although the maize with which it had been fed did not contain anything like that quantity of fat. Dumas and Boussingault returned to the charge by making a careful analysis of the food given to a cow for a year and determining the quantity of fat which the animal yielded in the milk. They found the fat introduced with the food to be considerably in excess of that eliminated by the milk, but Liebig scored a point by observing that nearly all the fat ingested with the food escaped undigested from the bowels in the fæces. Subsequent experiments, especially those of Lawes and Gilbert, on the herbivora clearly demonstrated that one, at least, of the sources of fat is the farinaceous material ingested. In the mean while various circumstances had led some investigators to adopt the view that the albuminoid or nitrogenous constituents of the food might play a part in the generation of fat. Thus it was found that animals fattened best when their food, if chiefly farinaceous, was mingled with some albuminous compounds; while Pettenkofer and Voit demonstrated that in a dog freely supplied with flesh the whole of the nitrogen thus introduced into the economy was recoverable from the urine and fæces, while the carbon remained in the economy and hence, probably, formed or aided in the formation of fat. The observations of Kemmerich on nursing bitches, of Subbotin on feeding dogs with palm oil and meat, of Hofmann on larvæ fed on defibrinated blood containing a known quantity of fat, all pointed in the same direction and led Voit to maintain, first, that the fat of animals is exclusively formed from the proteid aliments, and secondly, that hydrocarbonaceous compounds are not converted into fat in the animal organism, but simply preserve from oxidation the fat formed from the proteids. The latest researches on this point, however, are not quite in accordance with Voit's views. The most recent observer, Dr. Kaufmann, arrives at the following conclusions: The proteids, in common with the ternary compounds of the food, contribute to the formation of fat, but, contrary to Voit's statement, they are not the exclusive origin of it. When during digestion a large quantity of proteids is absorbed it rapidly undergoes disintegration and forms fat. This fat has, speaking generally, three applications. One part oxidizes and passing through the phase of glucose supplies the requisite energy for the general physiological work of the organism; another part undergoes incomplete oxidation and is transformed into carbohydrate which is stored up in reserve as glucogen; while the third part remains intact and is deposited as fat. The proportion of fat which is fixed during the digestion period varies with the abundance of the repast and the richness of the organism in glycogen. If the animal is poor in glycogen it may happen that the whole of the non-oxidized fat may be converted into glycogen. Calorimetric investigations demonstrate that if the anaerobic decomposition of albumin really occurs the process is not attended with any disengagement of heat.—*The Lancet.*

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THE FAILURE OF THE CONSOLIDATED-COLLEGE SCHEME.

THE time-honored name of Bellevue Hospital Medical College is to remain intact and assume its old prestige in the history of clinical teaching in New York, where it had been temporarily left during the recently pending negotiations with the University Medical College. Doubtless the thousands of its alumni in every clinic will rejoice to know that their alma mater is neither dead as a distinct entity, nor lost to sight in the amalgamation with copartnership interests. During thirty-seven years of existence it has made an enviable record for itself and earned the reputation of a first-class metropolitan medical school. It would be a pity that such a good name should be lost in any attempt to trim to an apparently temporary expediency of joining interests with a general university, which, with all its present claims and future prospects, has yet to make its own reputation. It is a matter for congratulation that the Bellevue Hospital Medical College can act independently in its own interests and has enough backbone to take care of itself, irrespective of any outside help that might directly or indirectly cripple its original purposes.

The same may be said for the University Medical College, which has even a longer record as a leading medical school and plenty of resources to guarantee its continued prosperity. Individually they are scarcely susceptible of improvement, but the attempt to join them in a consistent whole has been a lamentable failure.

There were numerous reasons for arriving at such a final and definite issue. These had reference mostly to the arrangement of details which would give each faculty in the proposed combination a proper division of interests. When once the discussion was started all sorts of complex questions arose. Promises and compromises were in order, until finally the differences of opinion as to relative rights became so irreconcilable that, to use an expressive though inelegant business phrase, "the deal was definitely declared off."

As usual under the circumstances the leading managers on both sides were naturally tempted to look after their own interests in joining their fortunes with the combination. The equitable distribution of chairs in the new faculty was a serious matter, in view of the necessity of dropping some of the teachers who had served long and honorably in their respective positions.

The plan for a radical reorganization of the prospective faculty was naturally viewed with disfavor by such as were not in close and confidential relations with the leaders on either side. The appointment to a responsible position in one of the faculties of a gentleman who was unknown to the profession by any work he had done was not calculated to inspire confidence in such members of both faculties as had fairly made their own records. Thus the pecuniary influences as bearing upon the future policy of the parent plant became ominously pronounced. But, further than this, each member of the faculties had a right to consider himself as a leader in his own line, with that proof which success as a teacher always makes manifest by a well-maintained following of appreciative students. The difficulty of finding suitable places for all and giving each his proper position was painfully apparent from the first. In acordance with the well-known law, two bodies could not occupy the same place at the same time.

A still greater trouble in reconciling different views as to relative rights was occasioned by inviting gentlemen already connected with other universities to occupy prospective vacancies. This was scarcely to be construed as a compliment to those who had already filled such positions. The yielding of certain special privileges in the assumed interests of the consolidation as a whole was another matter which provoked much discussion and ended in much disagreement. The peacemakers on either side had a hard time, accordingly. Finally it became quite evident that each medical college had much more to lose than to gain in any attempt to adjust these difficulties, and the result is as we have mentioned. From what we can learn the course is an eminently wise one, and the many friends of both institutions will rejoice in the opportunities which the recent experience have given them of realizing how much each has had in the past and how much more each will have in the future.

THE EXPERIMENTAL PRODUCTION OF FAT NECROSIS.

A SERIES of experiments of an interesting character has lately been made by Dr. Herbert W. Williams, at Buffalo University. The experiments were with the object of producing fat necrosis in animals, with a view to demonstrate the connection between it and affections of the pancreas. That there is a connection cannot be doubted, but its significance has yet to be proved. Opinions differ on the subject. Fitz says that most cases of pancreatic hemorrhage occur without fat necrosis, and that simple necrosis usually takes place without hemorrhage. Even in severe varieties of fat necrosis accompanying pancreatic hemorrhage, the fat necrosis cannot be regarded as the essential cause of the hemorrhage in such cases. Ponfick, the first to recognize the relationship be-

tween fat necrosis and affections of the pancreas, held the view that fat necrosis when extensive was associated with old and fresh hemorrhage. Baker was of the same opinion. Hlava excited a hemorrhagic pancreatitis with fat necrosis in a cat by injecting the diphtheria bacillus into the pancreas after laparotomy. The experiments at Buffalo University were conducted in the same manner as those of Hildebrand. "The animals selected were two dogs, one rabbit, and seventeen cats. They were anæsthetized with ether. The operations consisted in the placing of a ligature about the gastro-splenic portion of the pancreas near the duodenum, or the duodenal portion of the pancreas, or both. In most cases as many as possible of the veins leaving the pancreas were also tied. In the majority of cases a solution of continuity in the pancreas was effected. In one instance the gastro-splenic portion of the pancreas was cut through on the distal side of the ligature. From the two dogs the results were negative. In the rabbit there were traces of fat necrosis close to the ligature. From the seventeen cats ten results were negative. In two there were minute areas probably of fat necrosis, and in five there was well-developed fat necrosis. In all the animals studied the diagnoses were based on the microscopic examination of the tissues."

It will be seen from the foregoing account that these experiments were fairly successful, and, when the results of preceding experiments are taken into consideration, it appears evident that ligation of the pancreas in the cat may lead to fat necrosis. As Dr. Williams says, however: "It seems unjustifiable at present to say more than that extensive injury to the pancreas can cause fat necrosis." Experiments are also being conducted with the object of testing the direct action of the excised pancreas upon fat tissue, and it is believed that the results will be successful. Any account of these would as yet be premature, as more time is required to observe the conditions under which the change is effected. In some countries hogs are very subject to fat necrosis. Balser found it in the fat tissue or about the pancreas in nearly all Hungarian swine, frequently in Algerian, and in a few German. In order to determine the condition of the swine of America in this respect, Dr. Williams examined the pancreas of one hundred hogs, and says: "It was impossible to learn anything more concerning the animals than that they were raised either in Ohio, Indiana, Illinois, or Michigan, and were apparently sound and healthy. The pancreas of the hog is surrounded by a quantity of adipose tissue, which is also abundant between the lobules. The fat cells are very large. Little white flecks, consisting of single fat cells or groups of fat cells, are often seen in the pink parenchyma. Not rarely one meets with dark red spots in the parenchyma, several millimetres in diameter, apparently the result of hemorrhage. The organ, taken as fresh as possible, was cut in slices, one to three millimetres thick, and each slice carefully examined. In two cases fat necrosis was found." The fact should be mentioned that in three of the cases of fat necrosis of a marked type in cats a diplococcus infection was associated.

THE ANTIVACCINATION CELEBRATES.

A HANDFUL of cranks calling themselves members of the Antivaccination Society of America gave a dinner in this city recently to celebrate what they regarded as a victory over the national sin of protective vaccination. The State of Illinois, which has made itself famous in times past by its stupid health enactments, refused to pass a bill making the vaccination of school children by boards of health compulsory, and hence the rejoicing. It is quite certain that the intelligent people of the State, including the large majority of the well-educated medical men of that commonwealth, were either too indifferent to show their strength in combating the machinations of a few wrong-headed individuals, or they concluded that the utility of vaccination had passed beyond argument. In either case the intelligent majority has yielded its rights to the irresponsible and fanatical minority. It is the old lesson which enforces the necessity for watching even the best of laws, against the possibility of their being altered and thus rendered nugatory. The fact that the antivaccinators have won means nothing but future disaster. It is the fool laughing in the face of danger. To call it a victory is like hurrahing for sheol. It is more than a shame that in this century of progress, marked by so many brilliant triumphs in medicine, one of the greatest of the latter should suffer its high claims to be ignored and its grand usefulness to be curtailed by the senseless and persistent wails of a few fanatics. If Illinois is to be the banner State for this movement, the skull and crossbones are its proper insignia.

News of the Week.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending June 19, 1897. June 14th.—Surgeon E. Z. Derr ordered to duty with new naval rendezvous, New York. June 16th.—Passed Assistant Surgeon J. F. Urie detached from marine rendezvous, Boston, June 24th, and ordered to the *Wabash* same day. Surgeon F. B. Stephenson detached from the *Wabash* June 24th, and ordered to marine rendezvous, Boston, same day. June 17th.—Assistant Surgeon W. B. Grove ordered to the naval laboratory, New York, June 21st. Passed Assistant Surgeon L. W. Spratling ordered to the naval hospital, Norfolk, July 1st.

Jubilee Honors.—The list of medical honors at the Jubilee celebration was very short. Sir William MacCormac and Dr. Samuel Wilks, President of the Royal College of Physicians, were created baronets.

A Charge of Attempted Bribery.—The editor of the *Lancet-Clinic* says that at the recent meeting of the American Medical Association a western railway agent offered free transportation to the members of the committee on nominations if they would select Denver as the next place of meeting. He acquits the Colorado delegation of any previous knowledge of the railway man's offer, but he rightly says that in future

the proof of such a proposition being made by any interested party should be a sufficient cause for a rejection of the claims of any city.

Aseptic Oath Taking.—A sanitary Bible for the use of courtrooms has just been put on the market. It is bound with white celluloid instead of leather, and it can therefore be washed and disinfected from time to time.

A Case of Leprosy in Baltimore.—A woman who was taken to the Johns Hopkins Hospital recently, suffering from some undiagnosed skin disease, was found to have leprosy. She was promptly isolated, and when it was learned that she had come from another city she was sent back in a private car, that is to say, alone in a freight car.

The Johns Hopkins Medical School, in Baltimore, held its commencement on Tuesday, June 15th, on which occasion the members of the first graduating class of this school received their diplomas. There were fifteen in the class, one being a woman. All of the graduates will remain for a year of graduate work in the hospital. One of the graduates has been appointed to the faculty.

The Victoria Jubilee in Denver.—At a meeting of English residents in Denver, recently held to consider the best means of celebrating the Queen's reign of sixty years, it was decided to erect an addition to St. Luke's Hospital in that city, to be called the "Victoria Wing."

Father Kneipp, the Bavarian priest, who lately became famous on account of the wide spread of his guesses at hydrotherapy, died on June 17th in Woerishofen, at the age of seventy-six years.

An Encounter with a Jersey Mosquito.—The newspapers contain an account of an Italian, forty-two years old, who rashly went to visit some relations in New Jersey a few Sundays ago. While there he was bitten by a mosquito, the wound became painful and infected, and the man became wildly delirious and was taken to Bellevue.

International Congress of Forensic Medicine.—An International Congress of Forensic Medicine will be held at Brussels August 7th. The following are the questions proposed for discussion: (1) The internal factors of the putrefaction of corpses; (2) the place and duties of the medical jurist in expert evidence as to accidents caused by tainted meat; (3) the toxicology of acetylene; (4) poisoning by carbonic oxide; (5) criminal lunatics and asylums; (6) professional secrecy in the courts; (7) the lung test in the determination of live birth; (8) the medico-legal significance of subserous ecchymoses; (9) responsibility, particularly partial responsibility; (10) hypnotism in relation to crime.

Professor Fresenius died at Wiesbaden, on June 10th, from apoplexy. He was born in 1818 at Frankfort-on-the-Main, and was made professor of chemistry at the institute there in 1845.

Protecting the Health of Prisoners.—Intending convicts in Missouri must take care not to expose themselves to any contagious disease, otherwise they will not be permitted to enter jail. The board of health of that State has recently issued an order that all officers who bring prisoners to the penitentiary must carry with them a certificate of health signed by a local physician and countersigned by the secretary of the State board of health, which certificate must state that the prisoner has not been exposed to any contagious disease for thirty days prior to his transfer to the penitentiary.

Trouble at the Homœopathic State Hospital.—The managers of the new State hospital at Collins, N. Y., recently removed the superintendent, and now fear that they cannot find another, and yet cannot open the hospital until they do. The superintendent must be a homœopathic physician, must have served at least five years as physician in some insane hospital, must have had some experience in homœopathic treatment of the insane, and must be a citizen of New York State. The only two men who are eligible under this rule, it is said, are personal friends of the removed superintendent, who absolutely refuse to accept the appointment in his place.

Small-pox still lingers in this city, isolated cases being every now and then discovered by the health inspectors. One case was recently found among the patients in the waiting-room of the Vanderbilt Clinic. The patient had been sitting with the others for upward of an hour before the nature of the disease was discovered. A physician in New York was recently arrested on a warrant granted by the board of health, on the charge that he failed to notify the board that two children whom he was attending were suffering from small-pox.

Beriberi prevails alarmingly in Santiago de Cuba.

Dr. Columbia Rivera, of Mexico, has been licensed as a physician, and appointed to the San Andrés Hospital. She is said to be the first woman to be admitted to practice in that republic.

International Exhibition of Dentistry.—An international exhibition of dentistry, dental surgery, and hygiene of the mouth is to be held at the Marlborough Hall, Polytechnic Institute, London, in September of this year.

Yellow Fever.—The steamers arriving at this port from Colon now bring yellow-fever patients regularly among their passengers. The *Finance*, which arrived on Monday last, had had two deaths on the passage and brought three passengers ill with yellow fever to quarantine. Dr. Sanarelli delivered a lecture on June 10th before a large assemblage of physicians and scientists, members of the diplomatic corps, and others in Montevideo. He described the bacillus which he had discovered and believed to be the specific micro-organism of yellow fever: he calls it the bacillus icteroides. It is found in the blood and also in several of the internal organs of those suffering from the disease. Dr. Sanarelli said he had not yet succeeded in obtaining an efficient antitoxin, but was working at the problem constantly, and hoped

soon to discover a serum by means of which preventive inoculations can be made.

A World-Language Symposium.—A new scheme looking to the adoption of an international language comes from Russia. The inventor of "Esperanto," a manufactured speech, analogous to "Volapük," Mr. L. Samenhof, of Grodno, invites all who have ideas on the subject to send him an article embodying them. He will have these printed and copies sent to each of the writers. The latter must read all the articles and then write another very brief essay embodying his final judgment. We do not know whether the question will be decided by a majority vote of the writers or by Hospodin Samenhof himself. In any case it would seem that polyglots only can take part in the discussion, since it is necessary that each one should read all the articles written by all the other contributors from all parts of the earth. The scheme would be a practical demonstration of the necessity of an international language, but we doubt whether it will settle the question of the choice of such a common speech.

The International Congress.—First-class railway tickets from the Russian frontier to Moscow and return will be given free of charge to all members of the congress who have already paid their subscription of $5. Such may obtain the tickets by making application to the Secretary-General, Prof. W. K. Roth, at Moscow, with a statement of the route which it is intended to take from and to the frontier. The ladies accompanying members will not be entitled to free transportation. A special committee has been formed to arrange for hotel and lodging accommodation for visitors, under the presidency of Professor Chervinsky, of Moscow, to whom applications may be made for information. Rooms may be retained in advance, and offices will be established at each of the railway stations in Moscow, where applications may be made on arrival. The cost of rooms will average about two rubles (one dollar) a day. A committee of ladies has also been formed with the object of insuring the comfort and convenience of ladies belonging to the families of members of the congress. This committee will have a central office, at which visitors on their arrival may obtain any information they require. The committee wishes to be apprised in advance of the names of all ladies who will be present, and notice should be given to Professor Savelieff, through the general secretary. The organizing committee of the section on military surgery announces that many papers have been promised, and it begs all intending contributors to send the titles and abstracts of their papers, before June 1st, to the president of the section, Prof. Lewshine Volhouka, maison Mihalkoff, Moscow. The committee offers to members of the section free lodging in the wards of the surgical clinic. The wards were emptied on June 1st, and are now being painted and put in thorough order, and the beds will be disinfected. There will be accommodations for seventy-five persons, eighteen in rooms by themselves, the other fifty-seven in the wards, of which there are seven with four beds each and four with eight beds. It is announced that Professor Herzen, who was to deliver one of the general addresses, will be unable to attend the Congress. In his place the Committee has elected Dr. Léon Frédericq, of Liége, who is to represent the Belgian Government at the Congress.

Dr. H. D. Didama.—A dinner was given on the evening of June 9th to Dr. Henry D. Didama, of Syracuse, N. Y., to celebrate the fiftieth anniversary of his graduation in medicine.

Inspection of Ice.—Health Commissioner Reynolds, of Chicago, proposes to have the ice sold in that city regularly inspected, in order to prevent the use of impure ice taken from the Chicago River and other more than suspicious sources.

The Sale of a Practice.—An account is printed in the Lynn (Mass.) *Evening Item*, of June 4th, of a successful suit of one physician against another to restrain him from practising in that city contrary to his agreement. The case, as reported, was that Dr. E. B. Herrick came to Lynn from Amherst, and bought a resident physician's practice, the latter signing an agreement not to practise in the city as long as Dr. Herrick remained here. He then left the city, but about a year later came to Swampscott, which is close to Lynn, and resumed practice, and, as he admitted upon the stand, again began practice among his old patients in Lynn. Dr. Herrick brought a bill in equity in the superior court against the offending colleague, to have him restrained from practising in Lynn. As a result Judge Dunbar enjoined the defendant from practising in Lynn in violation of his promise.

Dr. W. A. Adams, of Fort Worth, Texas, has recived the degree of LL.D. from Mercer University.

A Special Steamer for Montreal.—So many members of the British Medical Association have expressed their intention to go to Montreal that it is feared the regular steamships of the St. Lawrence lines will be unable to accommodate them. Accordingly it is proposed to charter a special boat to go from Liverpool to Montreal and return, remaining on this side ten days.

Feeders for the Hospitals.—If the cable cars of this city continue their work of destruction, it may before long become necessary to build a special hospital for the accommodation of their victims. On Monday last the papers gave a long list of casualties of the day before, and the injured were distributed so that nearly every hospital in town had the care of one or more of them.

The Late Dr. Wm. T. Lusk.—At a meeting of the medical board of St. Vincent's Hospital, held on the 14th of June, 1897, to take action on the death of Dr. Wm. T. Lusk, it was resolved to give expression of the deep sorrow of the members of the board at the death of one who had labored so long and so well for the institution and for its inmates, and of a

colleague who, by his courtesy and geniality, had won the high esteem of his associates. It was further resolved to express to the family of the deceased the condolence of the members of the board, and to forward a copy of the action to the medical journals.

Mr. Ernest Hart and "The Lancet."—The statement having been made in an English contemporary that Mr. Ernest Hart, editor of the *British Medical Journal*, was once a co-editor of *The Lancet*, the editors of the latter hastened to deny the fact, stating that the gentleman once occupied merely a subordinate position on the editorial staff. Mr. Hart has replied that the present editors know nothing about it, and asserts that he was for a time co-editor with the late Mr. James Wakley, a fact which he is in position to substantiate by means of the formal agreement.

The Third Mexican Medical Congress will be held in Guadalajara on July 7, 8, 9, and 10, 1897. Dr. Rafael Lavista is president and Drs. M. Carmona y Valle and Eduardo Licéaga are honorary presidents; the secretary-general is Dr. Luis E. Ruiz. The programme of subjects for discussion in the various sections gives promise of an interesting meeting.

Apotheosis of the Queen's Nurses.—One of the many funny things happening in relation to the Queen's diamond jubilee is the recent publication of a "Hymn in Commemoration of Queen Victoria's Nurses," written by the Dean of Rochester. The comicality of loyalty could hardly go farther.

The Plague in Bombay is practically at an end. Since the outbreak of the disease in that city, thirty-eight Europeans have been attacked, of whom fourteen have died. Yersin treated fifty cases of plague with his serum, and of this number thirty-three were cured. The mortality had been eighty-three per cent. Cases treated with small doses of serum have a death rate of sixty per cent.; with large doses, seven per cent. A telegram from Vienna, dated May 21st, states, however, that the commission sent to India has reported to the Academy of Sciences that neither Professor Yersin's nor Professor Haffkine's serum has been successful in the treatment of cases of bubonic plague. Haffkine had a disagreeable experience upon arriving at Agra from Bombay. He had gone there to continue his studies on the plague, and for that purpose took with him some cultures and mice, but the authorities feared some of the germs or infected mice might run away, so they burned them all up.

Small-Pox in Madrid.—The epidemic of small-pox which prevailed in Madrid during the last half of last year has now subsided. The total number of deaths caused by the disease in 1896 was sixteen hundred and seven.

Foreign Medical Practitioners in Italy.—In answer to a question recently raised in the Italian Chamber of Deputies, the government gave out that it intended to introduce a bill shortly to forbid the practice of medicine in Italy by any foreign physician who had not passed the official examination and fulfilled the other conditions imposed upon native practitioners. The opponents of such a measure say that it would drive away thousands of English and American tourists and residents who now contribute very largely to the supply of ready money in Italy. But these tourists go to Italy to see the antiquities and art treasures and to enjoy the climate, and not to meet physicians of their own nationality unless misfortune compels them. Moreover there will be plenty of English and American practitioners who will, if necessary, seek and obtain Italian qualifications, so that there will, as now, be no dearth of foreign physicians, and the natives will thus gain nothing and neither will the visitors suffer for want of their own doctors.

A Congress of Balneology and Climatology will be held in Russia in 1898, to mark the centennial of the discovery of the mineral springs of the Caucasus, the best-known and most popular of all the Russian health resorts.

Women Physicians in Hungary.—The University of Buda-Pest has followed the example of the University of Vienna by conferring the degree of doctor of medicine on Frau Wilhelmina Wartha, Countess Hugonay. The lady's husband is a lecturer in the medical faculty of Buda-Pest.

Philadelphia Polyclinic.—Dr. T. B. Schneideman, formerly adjunct professor, has been elected professor of diseases of the eye in the Philadelphia Polyclinic. Dr. G. Hudson Makuen, formerly lecturer, has been elected professor of defects of speech. Dr. C. W. Burr has resigned the professorship of diseases of the mind and nervous system. An invitation was extended to visitors during the meeting of the American Medical Association, and during the week before and the week after, to attend all clinics, lectures, and demonstrations free.

The Sick-List of Armies.—Taking the mean for three successive years, the number of admissions to hospital in the armies of Europe was, per 1,000 of strength, Germany, 27.3; Russia, 43; France, 43.8; Great Britain (home), 203.7; (India), 438.

Letter Counting.—The Paris correspondent of the *British Medical Journal* mentions a curious case reported to a Bordeaux society by Dr. Ginostos. The subject was a young man who has, since the age of ten years, had an irresistible impulse to count the letters contained in a word or phrase that he hears, sees, speaks, or thinks. This habit is practised from the time he wakes to the time he goes to sleep. At night he sleeps without dreaming. When he does not talk he invents phrases and counts the letters in them. Thirty-two is a number which gives him satisfaction; thirteen displeases him, but nevertheless he does not recoil from arranging phrases with thirteen letters. This unceasing automatic operation does not in any way interfere with his daily work, or reading, or carrying on a conversation. Unless previously informed it would be impossible and extremely difficult for anyone to detect the silent mental labor the young man—he is now twenty-seven—is always engaged in.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, April 26, 1897.

ROBERT A. MURRAY, M.D., VICE-PRESIDENT, IN THE CHAIR.

Treatment of Acute Broncho-Pneumonia in Children.—DR. HENRY DWIGHT CHAPIN read the paper (see page 901).

DR. JOSEPH E. WINTERS opened the discussion. He said the author had well covered the ground, and he would limit himself chiefly to emphasizing certain points. He would attach special importance to early diagnosis and the late appearance of physical signs of broncho-pneumonia. Broncho-pneumonia was always secondary to disease of the bronchi, never occurred primarily as a disease of the alveoli, and it was only after forty-eight to seventy-two hours after the onset of the alveolar involvement that we first recognized physical signs of consolidation. If we were to recognize broncho-pneumonia early enough to make our treatment effective at the outset of the disease, the diagnosis must be made by the change in the symptomatology which took place when the disease extended from the bronchi to the alveoli. It was not by the temperature, nor by the pulse, nor by the respirations alone that the diagnosis was made, but rather by a change in the symptoms with advance in the temperature, pulse, respirations, etc. Above all it was a change in the character of the cough. There was no resemblance between the cough of a bronchitis of the small or large tubes and the cough of a broncho-pneumonia. On involvement of the alveoli there was expiratory character added to the respiration—an expiratory dyspnœa and an expiratory moan.

Dr. Winters attached great importance to inhalations in broncho-pneumonia. Expectorants, he said, were absolutely useless and only disturbed the stomach. For inhalation he would use steam alone, for anything added would make the baby object to the one agent which was of benefit, namely, the steam. He gave oxygen freely, which he had found both beneficial and harmless. It was possible that a flaxseed poultice would relieve cough the first twenty-four hours, but he was very much afraid of adding any weight to the chest in babies suffering from broncho-pneumonia, for in these cases death resulted from failure of respiration, not from heart failure. Personally he never used poultices and was inclined to think they did harm. But when there was a filling up of the bronchial tubes, and one heard numerous moist râles over the chest, there was nothing more valuable than mustard paste, one part of mustard to four of flour, applied over the chest. This could be resorted to at intervals several times a day, or throughout the disease. Regarding cold compresses, he was very cautious about them in general, but he thought they were useful in broncho-pneumonia when employed as stated in the paper. They tended to diminish the secretions in the tubes. He also thought emetics had a place. When the child was becoming cyanotic from accumulation of mucus in the tubes, an emetic given at night, once in twenty-four to forty-eight hours, would relieve when other things failed. Alcohol was the best stimulant when one was needed, and disturbed the stomach least. Caffeine and atropine were also sometimes useful. But it must be remembered that these patients did not die of heart failure, as adults with pneumonia did, but rather of respiratory failure.

Cardiac Failure or Respiratory Failure?—DR. BEVERLEY ROBINSON could hardly agree with the author and the last speaker that the cause of death in broncho-pneumonia in children was respiratory failure rather than heart failure. While his experience with pure broncho-pneumonia in children had been limited, yet he had seen many cases, if those complicating measles, diphtheria, etc., were included. In not a few an autopsy had been made and seemed to confirm the clinical diagnosis of heart failure. In treatment he had for years been accustomed to keep the room full of creosote vapor in broncho-pneumonia, and in older children he also administered the drug internally. He presented a boy of about thirteen years who had recently recovered from an attack under the creosote treatment. While in practice it seemed to have proven its value, theoretically it seemed to be indicated, for broncho-pneumonia was believed to be an infectious disease. He knew of no drug which possessed germicidal power which could be administered internally in any notable quantity except beechwood creosote. Its use in tuberculosis was well known. While his experience with creosote in broncho-pneumonia was limited, especially limited in young children, he still had strong faith in its value, at least in older children.

Dr. Robinson regarded the antimony salts as among the best of expectorants. We were not always advancing by taking up new things, and might well give some attention to this agent as one among the good ones which had fallen largely into disuse. As to temperature, unless it went quite high, we might better let it alone, lest our antipyretics do more harm than good. This warning was especially applicable to the use of phenacetin and like drugs. Regarding poultices, they were heavy and nasty. Mustard was not pleasant. The same purpose could be accomplished with greater comfort to the patient by applications of soap liniment and spirits of turpentine to the chest and covering, if desired, with oiled silk.

Only Physical Diagnosis Reliable.—DR. HENRY KOPLIK said it was with considerable diffidence that he disagreed with the author and the first speaker on the diagnosis. Accelerated respiration did not mean much in a baby; any febrile movement would cause it. He begged his hearers not to make the diagnosis of pneumonia unless the physical signs were present; otherwise the necessity might exist next morning for explaining to the family why the baby was afebrile—a very disagreeable thing to do. If one would search for the crepitant râle he would very likely find it; if not the first day, the second day. Pneumonia was a disease of very limited duration, and the prognosis in babies was good; let them alone and most of them would get well. But the question was what to do for them while they were getting well. The physician should support them and look out for complications. He was not sure that expectorants and emetics had done anything but harm. By all means disagreeable drugs should be avoided. It should be borne in mind that the baby was trying to get over a disease, and it was our duty to spare the stomach as far as possible. Therefore one should not use camphor, ipecac, ammonia, tartar emetic, aconite; he should use as little of drugs as possible, and the patient would get well if it was so intended. As to inhalations, Dr. Koplik believed in pure air. He had never been able to convince himself that turpentine or creosote inhalations, which he could not stand himself, were agreeable to or good for the baby. He did not object to some steam in the air to make it moist. He did not use poultices or mustard pastes. It compromised the infant's chances of recovery to compel it to lift a pound weight with every inspiration. In short, he treated only symptoms. There were one or two drugs which were very useful, but they must be

given in very small doses. These were digitalis in drop doses, and strychnine, one-four-hundredth grain. He had not been able to convince himself that nitroglycerin was so useful a drug. As to alcohol, he used it less and less, for it interfered with digestion and was borne very badly by babies. The pyrexia of pneumonia was of short duration and seldom required antipyretics. Ice bags on the chest were of little use; they did not reduce the temperature so well as ice bags to the whole body. He rarely used the bath. Opium in small doses relieved pain and also tended to support the heart. Too much would paralyze the heart and cause œdema of the lung. One should look forward to complications, the most important of which was pleurisy.

Dr. William H. McEnroe mentioned Dr. W. H. Thomson's use of creosote and manner of administering it in ginger. Digitalis was dangerous, and the speaker would hesitate to give one-one-hundredth grain of nitroglycerin to a child. He had a great deal of faith in aconite, and would give the tincture until its influence was felt on the pulse, even up to five minims. It had been shown that, while beef tea stimulated the heart temporarily, it did not furnish nutrition, but rotted in the stomach. He would give milk or kumyss. Dry air would be better than a poultice if it could be applied.

Dr. J. Milton Mabbott agreed with his teacher, Dr. Robinson, with regard to the cause of death being heart failure in some cases of broncho-pneumonia. He had been at the bedside of many dying infants in the Nursery and Child's Hospital, and had witnessed many autopsies. While some infants with bronchopneumonia died for want of oxygen and from lung failure, others died of exhaustion and heart failure—inability of the heart to force blood to the cerebral centres and maintain life; others, again, of the two conditions combined.

Dr. Chapin said he had often thought that it was fortunate laymen were not present at medical meetings, especially when therapeutics was under discussion. He, too, believed in supporting the patient rather than in too much drugging, but it was possible to become too pessimistic, not to say nihilistic, with regard to therapeutics. One speaker's scientific conscience would not permit him to believe that the ice bag around the chest would reduce the temperature, yet it did. With the reduction of temperature the respirations also fell, and such applications sometimes made the difference between life and death. While alcohol did cause coagulation in the stomach, this could be avoided by largely diluting it. He had himself deprecated its careless use. As to creosote, his paper treated of broncho-pneumonia in very young children. He had tried creosote in all forms, and had never been able to give it without disturbing the stomach to infants. Of course this was not questioning the value of the drug in tuberculosis and bronchitis in adults. As to mode of death, in his experience the respiration had failed first, the child breathing faster and faster while the heart action was still pretty good; but at the last this, of course, also failed. In bronchopneumonia complicating diphtheria the influence of the diphtheria might cause the heart to fail first.

Hypochlorhydria.—

℞ Tinct. gentianæ,
Tinct. quassiæ,
Tinct. cascarillæ,
Tinct. absinthi.....āā 10 gm.
M. S. Teaspoonful ten minutes before meals.

The patient should further take ten or fifteen drops of hydrochloric acid in a little water at the end of the noon and evening meal.—Cardarelli.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FOURTH TRIENNIAL SESSION.

Held in Washington, D. C., May 4, 5, and 6, 1897.

William H. Welch, M.D., of Baltimore, President.

(Continued from page 894.)

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Second Day—Thursday, May 6th.

The second session was opened on Thursday morning at nine o'clock with the account of

Epithelioma of the Lower Lid.—Dr. C. H. Williams, of Chicago, Ill., reported a case of removal of an epithelioma of the lower lid, in which the main point of interest was the production of anæsthesia by cocaine cataphoresis, one pole of the battery being placed on the outside, the other on the inner side of the eyelid. The anæsthetic effect was eminently satisfactory.

Ptosis.—Dr. Robert Sattler, of Cincinnati, Ohio, reported the cases of a father and four sons, all with ptosis and epicanthus. The father had myopic astigmatism, the sons were hypermetropic. The levator palpebræ in each case was absent or extremely weak. Photographs were exhibited showing appearances and the results of operation for epicanthus.

Dr. W. H. Wilder reported a new operation for ptosis. It consisted essentially in folding the tarso-orbital fascia upon itself and holding it in position by means of a buried suture, there being no interference with the orbicularis muscle.

Dr. C. A. Oliver reported two cases of resection and advancement of the levator palpebræ muscle in traumatic ptosis with distortion. The two papers on ptosis operation were discussed by Drs. Fridenberg, Tansley, Sattler, and Harlan.

Relation of Weight to Vision.—Dr. George M. Gould read a paper on the law of refraction change following increase or decrease in body weight. He related several cases in which decided increase in body weight was accompanied by a very appreciable diminution in the amount of myopia, the change being most marked in the more myopic eye. *Per contra*, a very fat patient undergoing treatment for reduction of flesh in three or four months complained of deterioration of vision, and fifteen months later it was found that the refractive condition had changed from +1 to −1.

Refractive Changes in Diabetes.—Dr. S. D. Risley related two cases of saccharine diabetes accompanied by refractive changes, varying with the changes in the condition of the general affection. With disappearance of sugar in the urine the hypermetropia increased from + 2 D. to + 5 D. Ten days later the sugar reappeared and the glass was reduced to +3 D.

Cataract Extractions.—Dr. R. L. Randolph reported a series of one hundred and forty-nine consecutive cataract extractions, one hundred and seven with iridectomy, and forty-two simple. The complications in simple extraction were not due to prolapse of the iris but to plain iritis, just as in cases in which iridectomy was performed. He did many extractions without any expert assistance and among unfavorable surroundings, but these circumstances did not appear appreciably to affect the results.

Dr. O. F. Wadsworth, of Boston, Mass., reported several cases of intra-ocular hemorrhage during and following the extraction of cataract. This hemorrhage began at varying periods, in one case occurring

immediately after the completion of the section, in another at the completion of the operation, and in still another fifteen minutes after the operation.

Dr. L. A. W. Alleman, of Brooklyn, N. Y., reported the case of a child with opaque lens containing cholesterin crystals. After he had needled and removed as much as possible of the lens matter by suction, the cholesterin was clearly visible.

Dr. H. W. Ring, of New Haven, spoke of using eserine and pilocarpine instead of atropine after extraction, for fear of inducing prolapse of the iris. He wished to emphasize the value of the pressure bandage in prolapse.

Dr. Lucien Howe exhibited fixation forceps for use without assistance.

Dr. Risley inquired of Dr. Randolph when iritis occurred in his cases, and was informed that in all it occurred a number of days after the operation, and was believed to be infective. Dr. Risley had had cases like those of Dr. Wadsworth, and questioned why they occurred. In some of the cases there was evidently some disease of the vessels.

Dr. S. B. St. John desired to emphasize the practicability of cataract extraction without expert assistance. He controls the patient, when iridectomy is necessary, by instilling cocaine into the anterior chamber after the section is made and then waiting a minute or two before incising the iris. There is no pain. He spoke of cases in which the pupil appeared clear at the end of the operation, and some time after the operation soft lens matter filled up the whole opening. He reported a case of mania after cataract extraction when atropine had not been used.

Dr. David Webster, of New York, reported a case similar to those of Dr. Wadsworth, except that in his case not only the vitreous but the retina, and perhaps the choroid, had been extruded, and the eye was enucleated.

Dr. E. E. Holt, of Portland, Me., corroborated the experience of Dr. St. John, but said that he did not often perform irridectomy.

Dr. John Green, of St. Louis, had also had some experience with cases of hemorrhage after extraction. He related a case of a high degree of corneal astigmatism after operation, reaching 12 D.

Dr. Weeks spoke of Köller's method of obtaining anæsthesia of the iris, by injecting one or two drops of cocaine beneath the loose conjunctiva over the corneal margin.

Dr. J. M. Ray, of Louisville, Ky., spoke of the effect of dacryocystitis on extraction. In these cases he relied on the conjunctival flap for early union, and opened the eye early.

The discussion was continued by Drs. Williams, Howe, Murdoch, Wadsworth, Wilson, and White, and closed by Dr. Randolph.

Taxis of the Eyeball.—Dr. S. O. Richey, of Washington, D. C., read a paper on taxis in increased tension of the eyeball. He stated that in the venous stasis accompanying the condition, taxis carefully performed tended to prevent thrombosis of the choroidal veins and referred to the oblique course of the venæ vorticosæ through the sclera as a factor in preventing the escape of blood through the vessels in increased tension. He wished to persuade his colleagues to transfer their attention in these cases from the anterior to the posterior segment of the eye.

Retinitis Proliferans.—Dr. J. E. Weeks, of New York, reported a case of retinitis proliferans, with exhibition of drawings of microscopic sections. He stated that an essential in retinitis proliferans was the extension of the membrane from the retina into the vitreous.

Dr. E. Fridenberg, of New York, exhibited a water-color of a case of retinitis circinata, remarking upon the pathognomonic importance of differentiation between the affection under discussion and nephritic retinitis. He also called attention to an appearance of newly formed vessels in the retina, and believed it had not been mentioned before in this connection.

Tobacco Amblyopia.—Dr. G. E. de Schweinitz, of Philadelphia, Pa., described a case of tobacco amblyopia, with autopsy and microscopic examination of the specimens, and exhibited photographs of the same, showing the bundle of nerve fibres affected in different portions of the optic nerve.

Dr. S. Theobald reported a case of marked impairment of central vision following prolonged use of the affected eye, occurring in a student at Johns Hopkins University while he was engaged in calibrating burettes. Ophthalmoscopic examination disclosed white spots in and around the macula. Vision, $\frac{8}{200}$. Treatment, pilocarpine, and later biniodide of mercury; result, $V=\frac{20}{20}-$.

Dr. A. A. Hubbell, of Buffalo, N. Y., read a paper on "Hysterical or Functional Blindness," describing three cases.

Optic Atrophy Following Sexual Excess.—Dr. J. A. Spalding, of Portland, Me., related the history of a group of four cases of optic atrophy following sexual excess. Treatment was ineffectual, and all four subjects gradually lost useful vision, though they did not become totally blind.

Standards of Form and Color in Railway Service.—Dr. C. H. Williams read a paper on what standards of form and color should be required in railway service. He had used representations of semaphores, made on the same scale as the test type, and found that they answered the requirements. He thought that while absolutely perfect vision should be required for entrance into the service, the standard for old employees might be somewhat reduced with safety. In the matter of color, he used a light behind a screen with an opening permitting the light to shine through, and varied the color of the light. He found that a hole two millimetres in diameter corresponded to the $\frac{20}{30}$ of the test type as to accuracy of perception of color, and increased the aperture with the distance, so that a record could be made of the color and light perception in the same way as that of form.

Officers.—At the executive session the officers of the society were re-elected for another year, and the place of meeting selected for next year was New London, Ct.

(*To be Continued.*)

Amputations at the Hip-Joint.—Dr. Charles B. Parker (*The Cleveland Medical and Surgical Journal*, January, 1897) summarizes the advantages of the external incision in amputations at the hip joint as follows: 1. The hemorrhage can be completely controlled by the Esmarch elastic ligation, and if placed as suggested in this article it can never slip. 2. The vertical incision is made in the least vascular area, and the circular is placed so low that the gluteal and sciatic vessels are not divided. 3. The plane of division of the limb may be placed lower than by any other method of amputation, and thus the shock may be very much diminished. 4. The future artificial limb is to rest principally upon the tuber ischii, and the scar is farthest removed from this point and from the anus. 5. In certain cases, especially of severe or chronic hip disease, the condition can be explored through the vertical incision, and, if it is too extensive to be relieved by resection or curetting, the incisions can be extended and the amputation carried out. 6. It is the best form of incision when it is desired to make the operation subperiosteally. 7. By this method of amputation, the flattening of the hip and consequent deformity are less.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

LOYALTY AT THE COLLEGES AND SOCIETIES—COLLEGE MEMBERS NOWHERE—HOSPITAL-REFORM ASSOCIATION — MEDICAL COUNCIL — SUBCLAVIAN ANEURISM — CLINICAL SOCIETY—DEATH OF MR. GREIG SMITH—OPHTHALMIC HOSPITAL—BEATTY VERSUS CULLINGWORTH.

LONDON, June 4, 1897.

THE rapidly approaching "Queen's day" is absorbing public attention to a degree that is itself a remarkable "second." Of course the profession participates in the excitement. Loyal addresses are the order of the day in all the medical societies. The royal colleges have passed solemn resolutions to affix their seals to such documents—I should perhaps rather say the governing bodies of these corporations. The meeting of the College of Physicians is limited to fellows—the members having no vote. The surgeons are still more restricted. Only the council act in the name of the college. The absurdity of the position is patent on the face of it, for the address begins, "We, the president, vice-president, and council, etc." So the twenty-four councillors address the Queen, as if they constituted the college or in any way represented the twelve thousand members who are allowed neither part nor lot in the proceedings.

The fellows of the College of Physicians had a slight discussion on the memorial of the Hospital-Reform Association. Some questioned the facts stated in the document, some held that the mattter did not concern the college, some talked of exaggerations, and some spoke of hospital abuse as practically *nil*. The president admitted he was unable to come to a conclusion in his own mind, for, while he saw animus in the memorial, he felt that if a *prima-facie* case were made out the college should look into the matter. Eventually it was agreed *nem. con.* to refer the matter to the council; so we shall see—what we shall see.

The Reform Association is making better play in the provinces. The Manchester meeting was presided over by Mr. Walter Whitehead and a resolution was passed, declaring the time to have arrived for inquiry into the administration of medical relief in the hospitals and dispensaries. Dr. Horder gave an address, in which he laid down in forcible terms that outpatients should be admitted only on the recommendation of competent medical advice. It is hardly likely that managers are prepared for so sweeping a change. The next meeting is to be held at Bristol on the 18th.

There is not much further to report on the session of the Medical Council. A gratuity of £1,000 was voted to Mr. Millar, who has resigned the registrarship on account of ill health. Mr. H. E. Allen was appointed registrar for one year at a salary of £500 a year, and the office is henceforth to be an annual one. The assistant registrarship is at the same time abolished.

There was an excited talk about the Scotch universities not desiring increased disciplinary powers. It appeared that the executive committee had had communications with the university commissioners, who would do nothing, and now the council determined to follow their example, in spite of a vigorous attempt to make a move. It then transpired that a letter from the privy council on the subject, dated July, 1896, had not been communicated to the commissioners, although it stated that the universities could obtain disciplinary powers by ordinance. The council nevertheless negatived a proposal to bring this letter to the notice of the commissioners, and so it remains pigeonholed. Truly "how not to do it" is well understood in the council chamber. A worse blunder, in most people's view, was the council's action as to the examiners for the Dublin Apothecaries' Hall. Obliged by order of the privy council to appoint examiners, the medical council revenged itself by rejecting the two eminent Dublin surgeons nominated by the hall. One of the gentlemen imposed on the hall is a Scotch surgeon of nine years' standing, and already there is an outcry that Irish surgeons are insulted by the council. Certainly the two refused by the council are not complimented, but their reputations are so high they may well join in the contemptuous laugh at an act which is characterized as "too spiteful for a committee of angry old women."

In refusing the nomination of the gentlemen in the front line of Dublin hospital surgeons, whose names must have been familiar to all the members, the council cannot shift the blame on to its subcommittee, but every member must be responsible for his share in the transaction. Another strange proceeding occurred. The privy council having requested the opinion of the medical council on the midwives bill, a letter was sent asking whether it was desired that the opinion should be given in the present session. An affirmative reply was received, whereupon it was resolved to postpone the subject until next session. Is this to be considered as an attempt to snub the superior authority, or is it to be regarded as a declaration that Bacon's dictum, that "manners makes the man," does not apply to councils?

The session terminated on Monday with an unusual expression of thanks to and admiration of Sir R. Quain as president.

At the last meeting of the Royal Medical and Chirurgical Society Mr. H. H. Clutton related a case of aneurism of the third part of the right subclavian artery, for which the first part of the artery was ligatured twice, and a few days after the second occasion a distal ligature was applied to the first part of the axillary artery. On March 18, 1896, a ligature prepared from gold-beaters' skin was applied on the proximal side at the junction of the first and second part of the subclavian artery, and tied by means of the "stayknot," recommended by Ballance and Edmunds, with sufficient tightness to arrest the circulation, but without rupturing the coats. The superior intercostal artery was also tied at the same time and in the same manner. At the end of five or six weeks the aneurism and the radial artery were pulsating as they did before the operation, probably due to the ligature becoming absorbed. On June 10th the first part of the subclavian artery was tied with floss silk on the proximal side of the first ligature, and the internal mammary and thyroid axis were also tied with the stayknot, the walls of the vessels being approximated without sufficient tightness to rupture the coats. On June 17th the aneurism was again pulsating. The first part of the axillary artery was therefore immediately tied in the same manner with floss silk, so as to cut off all the collateral vessels from the intercostals in the axilla. After this operation the aneurism ceased to pulsate and gradually disappeared, so that the patient left the hospital on August 8th without any swelling above the clavicle. Mr. Barwell had urged fifteen years ago that it was dangerous to rupture the coats of a vessel so near the heart as the subclavian artery and so exposed to strong unavoidable pulsation: even if the ligature held, an aneurism might form at its seat. He agreed it was not safe to ligature the artery in two places and divide it.

Mr. Bernard Pitts had met with a very similar case a short time since. He tied the first part of the subclavian artery with a floss-silk ligature, and tried, unsuccessfully as it proved, to avoid rupturing the coats.

The pulsation and pain returned after a time, and Mr. Ballance in his absence ligatured the first part of the axillary artery, but hemorrhage from the site of the exploration occurred a few weeks later, and it was found that at the first operation the coats of the artery had been ruptured, owing to their being unusually soft, and that an aneurism had formed on the proximal side of the ligature.

The annual meeting of the Clinical Society was held last Friday. The report shows prosperity in the accession of new members and an increased bank balance. The retiring president, Dr. Buzzard, received a cordial vote of thanks. Mr. J. Langton is the incoming president.

Deep regret is widely felt at the death of Prof. Greig Smith, of the Royal Infirmary and University College of Bristol, aged only forty-two years. His name was as familiar on your side the Atlantic as here, for his surgical work was of the highest order and his successes in abdominal operations were great. When the British Medical Association met at Bristol (1894) he delivered the address in surgery, and his other contributions to societies and journals were numerous and always valuable. For some time he edited the *British Medical Journal*. His "Abdominal Surgery" has reached a fifth edition and is regarded as of permanent value.

The Prince of Wales, accompanied by the Princess, laid the foundation stone of the new buildings of the Royal London Ophthalmic Hospital on the 28th ult., and made a neat speech on the occasion.

Miss Beatty's petition for leave to bring her case before the House of Lords *in forma pauperis* has been rejected. So an appeal against the decision in Beatty *vs.* Cullingworth can only be had on the usual terms.

DEFORMITIES OF THE HARD PALATE IN DEGENERATES—A CRITICISM OF DR. WALTER CHANNING'S STUDY.

To the Editor of the Medical Record.

Sir: In your issue of June 5th is an editorial entitled "The Significance of Palatal Deformities in Idiots," which is a summary of a paper with the same title published by Dr. Walter Channing in the *Journal of Mental Science* for January, 1897. If the writer of the editorial had read Dr. Channing's paper with extreme care, he would have found that the author does not really discuss the palatal deformities of idiots, although his paper bears that title. I say "with extreme care," because Dr. Channing does not make it plain that his study is of something quite different.

He read this same paper before the American Medico-Psychological Association at Boston in May, 1896, and an abstract with the discussion is printed in the transactions of that body. He illustrated the paper with a fine collection of casts of the palates of a large number of idiots and normal children, and also with charts and diagrams. I was present at this meeting and discussed the paper. My remarks, which are printed in the transactions referred to, were as follows:

"I think there must be a good deal of confusion as to what is meant by the hard palate. I may be wrong in this matter, but I have taken the view that the hard palate is composed of the palatal bones and the palatal portions of the superior maxillary bones. As far as I can learn, Dr. Channing calls the hard palate the teeth and alveolar processes. In describing the arch he always means the dental arch and not the arch of the palate. In my illustrations here [taken from my paper on The Hard Palate in Degenerates] which are selected because of the very great deformity of the hard palate, there is no particular deformity in the dental arch. I do not note the dental arch [in my investigations], but the vault of the palate only. If you examine Dr. Channing's casts of the hard palates of normal and idiotic children, you will observe great differences in the palatal arch, very marked deformities in many of his idiots. If you look at the dental arch only, as Dr. Channing has done, I agree with him that there are no particular differences."

Two months later the doctor's paper was read before the Medico-Psychological Association of Great Britain, and seven months subsequently printed in the *Journal of Mental Science*, but without giving more explicit details as to the real object of his study, which was deformity of the horizontal arch made by the upper row of teeth (though why the dental arch of the lower row should have been neglected I do not know).

For instance, in one place he gives what he calls "a classification of the *palates* of pathological individuals" (italics mine) as follows:

1. V-shaped.
2. Partial V-shaped.
3. Semi-V-shaped.
4. Saddle-shaped.
5. Average or U-shaped.

One would hardly suppose from his introductory words to this classification that he is classifying merely the shapes of the dental or alveolar arch, yet such is the case. This classification has nothing to do with the shapes of the palate.

Again he quotes my classification of deformed hard palates, evidently under the impression that I, too, was classifying the shapes of the arch made by the upper row of teeth. Thus, in reference to the second in my series, the "palate with horseshoe arch," he observes: "The palate with the horseshoe arch, which is entirely different from that figured in Dr. Peterson's article, is usually regarded as the type of the normal palate" (!!).

Yet in the illustration the deformity of the hard palate thus described by me is very distinct, and any one in examining it would observe its extreme abnormality. Dr. Channing was looking merely at the arch made by the row of teeth.

There has been some confusion, especially in odontological literature, in the use of the word arch. Some of the dentists imply by this the dental arch, but, as far as I know, all medical writers in mentioning the palate, the hard palate, and the arch of the hard palate, mean the roof of the mouth, using the terms in their definite anatomical sense. Dr. Channing is an exception.

The conclusions to his paper, quoted by the Medical Record, must therefore bear a widely different construction when read as Dr. Channing ought to have written them.

Note his conclusions again, but substitute for the word "palate" the words "dental arch:"

1. Two-fifths of the palates of idiots are of fairly good shape.
2. Palates of normal individuals may be deformed.
3. In the idiot it is a difference in degree, and not in kind.
4. In either case it shows irregular development anatomically.
5. Palates of average children and idiots under eight years of age probably do not in the majority of cases markedly differ.
6. There is no form of palate peculiar to idiocy.
7. The statement that a V-shaped or other variety of palate is a "stigma of degeneracy" remains to be proved.

Interpreted in this way, and this is Dr. Channing's actual meaning, though the words do not reveal it, it is clear that his investigation does not militate against the results of any studies of the hard palate hitherto made, for the reason that his work does not relate to

the hard palate at all. The title of his paper is therefore incorrect and misleading. I do not deny that he has made a very thorough and painstaking study, and it is in a new field, which thus far he has almost entirely to himself, but the real value of his research has been obscured by a misuse of terms.

FREDERICK PETERSON.

60 WEST FIFTIETH STREET,
June 10, 1897.

THE TREATMENT OF TIC DOULOUREUX.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I beg to enclose the following account of the treatment of a case of tic douloureux, which account was sent me by Dr. Josiah Swinney, of Floris, Iowa. The story is told with unornamented directness, and it seems to me to be worth placing on record.

CHARLES L. DANA, M.D.

NEW YORK.

"DEAR DOCTOR: I wrote you some time in August or September last in regard to a case of tic douloureux, a patient of mine. Before I received your answer to my letter my patient became despondent and made moves that showed suicidal intent, he having suffered for many months with but short spells of rest, but none of any moment for about three months. He had rubbed his face until the skin on that side and on the nose was entirely gone. He presented so pitiable an aspect that as a matter of relief I operated by dividing the nerve. That only afforded temporary relief. He had most of his teeth extracted, and all the modern modes of treatment were of no avail. I placed him on the following, which entirely stopped the pain:

℞ Fluid extract black cohosh ..... ℥ iss.
Fluid extract gelsemium ..... ℥ iss.
Fluid extract valerian ..... ℥ i.
M. S. One teaspoonful every four hours.

This stopped the trouble in twenty-four hours. My patient was resting quietly. I then commenced the injections of one-sixtieth of a grain of strychnine sulphate, gradually reducing the dose of the former and increasing the latter until one-twentieth of a grain was reached, my patient staying at his home in the country and acting as doctor by using the hypodermic himself, I visiting him only about twice a week. About this time I found he had been out of the strychnine several days, and was out building a hogpen when I called. I again put him on the strychnine, going back to one-eightieth of a grain and increased to one-fifteenth of a grain. Characteristic symptoms being present, treatment was stopped. I then put him on one-fiftieth of a grain strychnine nitrate in tablet three times a day before meals. Patient gained rapidly in flesh; spirits good; made an eighteen-miles drive all winter once a week to the city with farm produce; can now chew on that side of his mouth; can whistle; can touch the teeth and gums or rub his face on that side without the least pain, all of which he could not do for two or three years before. All that now remains of the old trouble is a shrunken condition of the tissues on that side of his face, due, I think, to the rubbing and adhering of the soft parts firmly to the bones of the face; and a slight twitching at the point of my incision, which may be due to it. This has existed ever since the operation. It is only just perceptible to the patient and is without any pain. He is now overseeing a large farm and laboring himself, and says he feels better than ever before in his life. I write you this long letter of description in appreciation of your kindness to me, etc., thinking perhaps it would be of some interest to you. This is from memory, not notes, and I sincerely hope you will pardon its length."

New Instruments.

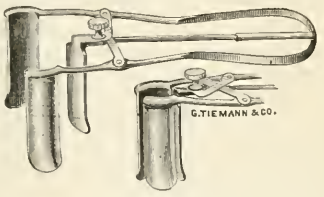
A TRIVALVE NASAL SPECULUM.

BY HERMAN L. ARMSTRONG, M.D.,

SURGEON TO MANHATTAN HOSPITAL, BROOKLYN, NOSE AND THROAT DEPARTMENT.

SURGEONS who operate under general anæsthesia within the nasal cavity have realized, no doubt, the inadequacy of all forms of nasal specula now in general use, not only as to their inability to dilate the parts in a satisfactory manner, but also their liability to be continually slipping out of the orifice.

With these deficiencies in my mind, I have devised the instrument a cut of which is here given, which will



admit of more light being thrown upon the field of operation than any other instrument of like character now in use. Especially will this instrument be found useful in operations upon the nasal septum, as it can be so inserted as to leave the same entirely free for saw, trephine, or drill; besides it is self-retaining, which will enable the surgeon to use both hands in the employment of instruments necessary to the operation in hand.

It is so constructed as to admit of any degree of dilatation, from the minimum to the maximum, and these degrees can be maintained throughout the operation by means of a set screw upon the cross hinge bar. Another advantage is that it feels perfectly comfortable to the patient when used without either local or general anæsthesia. It can be inserted or removed from the orifice instantaneously, and cannot be made to injure the parts with which it comes in contact.

It is manufactured by George Tiemann & Co.

777 DE KALB AVENUE.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 19, 1897:

	Cases.	Deaths.
Tuberculosis	153	108
Typhoid fever	7	3
Scarlet fever	182	10
Cerebro-spinal meningitis	1	3
Measles	234	6
Diphtheria	256	43
Laryngeal diphtheria (croup)	7	3
Small-pox	1	3
Chicken-pox	26	0

Reciprocity in Medical Licensure.—Dr. William Warren Potter, of Buffalo, president of the national confederation of State medical examining and licensing boards, chose this for the subject of his annual address at the eleventh annual meeting of that body, held at Philadelphia, May 31, 1897. He first paid tribute to the memory of Dr. Perry H. Millard, of St. Paul; then in an introduction reviewed some of the essential points of progress that had been made in

State control of medical practice, and finally considered his subject.

The problem: The most important question now to be discussed pertains to the interstate exchange of licenses, and every friend of State control is interested in establishing this principle. It is one of the objects this confederation is laboring to accomplish, but a most difficult problem for solution. A national registration bureau is desirable, where legally qualified and reputable physicians may be recorded — physicians whose names appear on this register to be allowed to pass from State to State in the enjoyment of all privileges pertaining to the practice of medicine. Those chiefly agitating the question of reciprocity, however, are specialists who desire to spend profitable vacations at summer resorts, and do not relish the idea of taking State examinations in the localities chosen for their holiday practice. Another class of men, compelled by circumstances to change residence, is more deserving of sympathy; they take the examinations uncomplainingly. Shall a State require of its own citizens a compliance with its practice laws, while granting to thrifty summer specialists exemption from their operation? As the State laws forbid discrimination against the inhabitants of each, there is both a legal and a moral bar to such exemptions.

Obstacles to reciprocity: Equality of standards for admission to the study and practice of medicine is the only enduring basis on which reciprocity can be established. When the several States adopt a uniform level of preliminaries; a uniform period of collegiate training, including uniformity of methods of teaching; and, finally, an absolute similarity in the methods of conducting State examinations and granting licenses —then reciprocity will be equitably and permanently established. It is important for the State medical examiners to come to an agreement on these several points, that they may act with intelligence on a common platform. The State imposes a post-graduate examination, and none should be admitted to it who are not holders of diplomas legally obtained from registered and recognized colleges. It is understood, of course, that there must be established a uniform system of recognizing and registering medical schools in the several States.

The solution—legislative enactments: The remedies lie in legislative enactments. Those who most loudly and persistently demand interstate indorsement aim their criticisms at examining boards; whereas these have nothing to do with the question. The statutes in States that have established licensure prohibit interstate exchange except between such as have equality of standards. The demands of the restless and migratory doctors must be taken to the State legislative halls. Meanwhile, the members of this confederation may assist in bringing the matter to a more speedy conclusion by acquainting their legislatures with the difficulties to be overcome, and by urgently recommending the adoption of such amendments to existing laws as will meet and remove the present defects. Great care must be exercised, however, in the preparation of amendments; the State laws are for the public weal, reciprocity is only for the few. Amendments to existing statutes should be proposed only through State medical examining boards or State medical societies; they are familiar with defects, and best know the remedies needed. When legislatures can be persuaded to turn a deaf ear to all amendments that are proposed outside of official sources, it will be a happy day for the friends of State license. The object of this discussion is to divert into the proper channel further criticism of the delay of reciprocity. If legislators could be made to appreciate the fact that public health interests are involved in the question of State license, that every attempt to weaken the principle is a blow at public sanitation, and that higher standards of medical education mean better health for the people, then perhaps it would be easier to obtain and maintain the necessary laws to protect the commonwealths against that kind of ignorance, superstition, or superrefinement that always lurks in the environment of quackery.

The Mud Baths of New Mexico. — The hot springs of New Mexico are on the Santa Fé Railroad, six miles from Las Vegas, and they are situated in a basin about thirty acres in extent, surrounded on all sides by hills rising to a height of from three hundred to four hundred feet, shielding the place from wind and sand storms. The mud baths which are famous for their curative effects are to be had in only two places in the world, here and at Carlsbad, Germany, and it has been shown that the mud found at the hot springs of New Mexico, and which is used in giving the baths, is of the same chemical composition as that of Carlsbad. It is very interesting to note the formation of this mud or peat. It is formed by the vegetation which has been washed down from the hills probably a century ago, and which, settling among the rocks, has become decomposed and formed into a substance which is practically carbon impregnated with salts, magnesia, soda, lithia, and various other ingredients. This peat is gathered from the rocks, dried, and put through a fine sieve in order to remove the silicates, and after this treatment it is as soft as flour. It is then taken to the mixing-room, where it is put in large tubs and the water from the hot springs mixed with it until it is of about the consistency of mush. The mud is now ready for use and it is taken into the bathing-room, where the patient is placed in a tub and covered, with the exception of the head, and allowed to remain in the mud for from ten to thirty-five minutes. The application of the mud has an effect similar to a mild poultice and draws the impurities from the body through the pores of the skin. The patient is then removed from the bath, placed upon a slab, and submitted to a vigorous rubbing, the chemical composition of the mud being such that it can be rubbed from the body with a dry towel, leaving the flesh in a clean condition. A great many people come to this place to take the mud-bath treatment, and some marvellous cures are effected; in one instance I remember to have seen a man who was all drawn up with rheumatism, and after two weeks of this treatment he had been relieved. The treatment is said to be especially beneficial to persons afflicted with neuralgia, rheumatism, and skin diseases.—*Denver Republican.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE VERTEBRATE SKELETON. By S. H. Reynolds. 12mo. 559 pages. Illustrated. The Macmillan Company, New York. Price, $3.00.

THE LIFE AND TIMES OF THOMAS WAKLEY. By S. S. Sprigge, M.B. 8vo, 509 pages. Longmans, Green & Co., New York.

THE EYE AS AN AID IN GENERAL DIAGNOSIS. By Dr. E. H. Linnell. 8vo, 248 pages. Illustrated. The Edwards & Docker Company, Philadelphia, Pa.

REFERENCE BOOK OF PRACTICAL THERAPEUTICS. Vol. II. By various authors. Edited by Dr. Frank P. Foster. 8vo, 618 pages. D. Appleton & Co., New York.

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